EDITORIAL

Digital Media and the Academic World

The entry of digital electronics in life and economy, which is often called the digital revolution, or third industrial revolution began in the latter half of twentieth century. During this period, the transformation from traditional methods of communication shifted to digital computing with advanced communication technologies. The leading global companies such as Alphabet, Amazon, Apple, Microsoft, Facebook are based on digital platforms and they have captured the personal and professional spaces of individual users.

The research on digital societies developed as an important sub-discipline of sociology that focuses on understanding the use of digital media as part of society and how it is affecting the life of humans and their environment. Digital media research also grew as an academic interest over digitalization of newsrooms, advertising, public relations, and news consumption. The research in digital media or digital communication can be largely divided into – new media studies, digital culture, digital marketing and trends and digital behaviour (audience studies). The epistemological and ontological understanding of the role of the traditional media and its impact on its audience and society has inspired the digital media studies.

The entry of spaces with user generated, or orientated content has become an important turn in media and communication research. The growth of digital technology and end user enabled media spaces like social media, social knowledge websites started the shift. The shift from senders of message to channel happened during the previous decades where the focus was on medium over messages. Now, digital media research focuses more on its users (receiver). The user is a liberated audience who is no more a passive viewer or listener. They can respond, react, create, distribute the content which often challenges the established mainstream media. The concept of citizen or user journalism or content is now more of gate watching, which questions the theories of gatekeeping and agenda setting.

The academic interest in digital media lies in areas like use of social media spaces for news creating and distribution, misinformation and fake news, digital literacy, digital reach and penetration, news making and policies. The market research on digital media always fascinated researchers to understand the trends of business. From using digital spaces to run business to running business on digital spaces – opened a huge opportunity for media and communication researchers in industry. The ongoing pandemic made most of the lives stuck at which led to Work from Home (WFH), and now it is moving towards Everything from Home (EFH) – which is again a challenge for digital media researchers in coming days. But all these scenarios also present an opportunity for media scholars world over to study various aspects digital media and add new knowledge to Digital Media Research.

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ENTREPRENEURIAL INTENTION AND THE PERFORMANCE OF DIGITAL STARTUPS: THE MEDIATING ROLE OF SOCIAL MEDIA

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ABSTRACT

The purpose of this study is to investigate the effect of entrepreneurial intention on performance development mediated by social media in digital start-ups. The study population includes the managers of 416 digital start-ups. Based on Cochran's formula and with an error level of 5% at 95% confidence level, the minimum number of samples for this study was estimated to be 199. To collect data, a standard 29-item questionnaire was distributed online in 2020. This research has investigated the relationships between variables by using PLS3 software and structural equation modelling. The results indicate that the components of entrepreneurial intention including knowledge sharing, reputation, social relations and identity have a positive effect on the performance of digital start-ups mediated by social media. Furthermore, the results show that successful companies are constantly creating and distributing new knowledge and rapidly applying it to new technologies and products.

Keywords: Entrepreneurial intention, performance, social media, digital start-ups.

INTRODUCTION

Changes in today's business conditions have led to changing in their attitudes (Tajpour, Hosseini, & Alizadeh ,2021). Therefore, entrepreneurship is one of the essential elements in economic development, so paying close attention to it increases job opportunities and competition; it improves productivity and increases the level of economic and social welfare of society (Hosseini, Tajpour, & Lashkarbooluki ,2020). Entrepreneurship is also a type of behavior planned to achieve a goal (Autio & Acs, 2010). Assessing the role and importance of models and patterns, mind maps and cognitive traits can clarify how the entrepreneurial intention is formed and the process of turning this intention into behavior (Salamzadeh, Tajpour, & Hosseini, 2020). For this reason, in psychological studies, intention is often referred to as the best predictor of behavior (Ajzen, 1991). Entrepreneurial intention can also be developed by providing a better understanding of the deep assumptions that underlie that intention (Krueger Jr, 2007). Thus, businesses with an entrepreneurial approach are always ready and able to modify fundamental changes in their external environment and plan their strategies to change environmental needs (Tajpour, Moradi, & Moradi, 2015). In such cases, entrepreneurial intention can significantly help businesses in recognizing and understanding entrepreneurial behavior.

This has led to a fundamental shift in communication and information that has presented researchers with a completely different perspective on the concept and function of social networking influence (Schroeder, Pennington-Gray, Donohoe, & Kiousis, 2013). Social media is a set of databases that provide equipment so that users can share their thoughts, interests, and activities with others, and others can share these thoughts and activities with them as well (Nowiński & Haddoud, 2019). Additionally, a social network allows individuals to create public or private profiles for themselves or to communicate with other members of the network (Boyd & Ellison, 2007).

Accordingly, some researchers have examined the development factors of the innovative technology-based businesses in the first three years of launching through social media. They have identified success factors in three main items, that is to say, the uniqueness of the benefits of innovation, the organizational characteristics of the digital start-ups, and the entrepreneur and innovator(Groenewegen & de Langen, 2012). Hence, there is a meaningful relationship between entrepreneurship, company performance, innovation, growth and social networking (Servantie, Cabrol, Guieu, & Boissin, 2016). Therefore, a successful technology-based business has more development potential than a mature company, i.e. it can have more labour, or more development than the old companies with less capital (Blank, 2012). Then, more years of work experience, analysis of tough competitors' strategies, use of innovation as a business idea and risk-taking are influential factors for the prosperity of technology-based business (Brem, 2011).

In recent years, with the emergence of digital start-ups in Iran, there has been an increase in the number and variety of innovative products. Besides, along with the great development of these businesses in Iran and the lifting of sanctions, various activities have been carried out. Foreign investment companies, launching business support associations, inviting Iranian investors and creating a suitable environment for business elites and investors have been the outcomes of launching digital start-ups in Iran (Salamzadeh, Kawamorita Kesim, & Karami, 2019). Creating entrepreneurial opportunities in Iran paves the way for shaping a bright future for the country in economic, political, and social domains. Moreover, although entrepreneurial intention plays a crucial role in advancing and promoting the activities of companies, especially business development; but unfortunately, as far as the authors are aware, limited research has focused on the issue of entrepreneurial intention. In addition, relevant research shows that entrepreneurial intention in digital start-ups has not been considered so far. Given the above issue and the fact that different studies on entrepreneurial intention and social networks have been conducted separately, the purpose of this paper is to investigate the effect of entrepreneurial intention on performance development mediated by social media in digital start-ups.

LITERATURE REVIEW

Entrepreneurship is one of the critical factors in achieving economic development and social change, which solves part of the current crisis of human society, that is due to the inefficiency of the economy. Therefore, it is necessary to found technology-based business by creating public awareness about the results of entrepreneurial activities and increasing the ability of the workforce to take advantage of current opportunities (Landström, Harirchi, & Åström, 2012). In such cases, entrepreneurial intention can help people to understand and comprehend entrepreneurial behavior. In psychological studies, intention is the motivation of an individual to make an effort based on a conscious plan or decision (Westaby, Probst, & Lee, 2010). Accordingly, entrepreneurial intention is a state of mind that drives a person to start a business (Bird, 1988). Measuring entrepreneurial intention and identifying the factors affecting it as one of the critical factors in the occurrence of entrepreneurial phenomenon, provides a more accurate forecast of its occurrence (Landström et al., 2012).

In most organizations worldwide, managers are always looking to improve and modify the performance of their organizations. In other words, nowadays, if organizations want to maintain their position and act in a way that leads to their survival, development and success, it requires them to reconsider their performance and fulfil their commitments properly (Tajpour, Hosseini, & Moghaddm, 2018). It should be taken into account that one of the conditions for the survival of any organization is to try to improve the performance in terms of components of growth and profitability, on the one hand; it also prevents organizational decline, on the other hand. Therefore, it can be said that one of the most important factors affecting the performance of organizations is entrepreneurial intention (Muñoz-Pascual, Galende, & Curado, 2020).

Modern technology, including social media, plays a crucial role in supporting how companies and customers interact with each other. Social media is a context in which customers participate in production and support mutual relationships (Solem, 2016). Social media is also highly interactive, allowing managers to communicate with their customers and share and exchange information (Sashi, 2012). According to the above, the main hypothesis of the research is as follows:

H0: Entrepreneurial intention has a significant effect on the performance of digital start-ups mediated by social media.

One of the most important parts of entrepreneurship is knowledge sharing. Knowledge must be shared and distributed in the company (Lin, Wu, & Lu, 2012). Knowledge sharing among employees is a vital factor in the emergence of entrepreneurial behaviours (Gaál, Szabó, Obermayer-Kovács, & Csepregi, 2015). Furthermore, knowledge sharing is recognized as a critical element in the entrepreneurial process that leads to improved and enhanced company performance and competitive advantage. One of the main reasons for knowledge sharing in technology-based business is the access to experts with new knowledge at the right time (Chang, Chang, Lian, & Wang, 2018). Meanwhile, knowledge sharing plays a critical role in transforming social knowledge into individual knowledge and public knowledge into secret knowledge (Ma & Chan, 2014). Consequently, organizations can improve their performance by being aware of their strengths and weaknesses (Wang, Yang, Chen, & Tsai, 2016). Improving performance leads to increasing employee motivation towards the company's goals. Through social media, companies implement two goals: development tools to share employees' insider knowledge and motivation to use new technologies (Behringer & Sassenberg, 2015). It can be said that social media is considered as a means of connecting and interacting with people and creating new forms of dynamic and participatory communication. Also, when people spread their knowledge, skills and expertise among members of their organization, performance improves and companies become more innovative. Consequently, effective and efficient knowledge management seems essential for success in this regard (Al-Kurdi, El-Haddadeh, & Eldabi, 2020). Therefore, organizations strive to manage knowledge more effectively and efficiently to improve their performance (Hatefi & Rousta, 2019). In the same vein, it can be said that one of the significant responsibilities of organizational leaders is to increase the performance of companies through knowledge sharing (Shaw, Park, & Kim, 2013). This issue is vital in addition to private companies in the case of governmental and non-governmental organizations, because the poor performance of a company results in dissatisfaction of the client of that organization, and it leads to the failure to achieve the intended goals for that company. Therefore, the optimal performance of technology-based business increases the productivity of the organization and enhances the level of services of that organization and improves the economy (Gomez-Mejia, Berrone, & Franco-Santos, 2014). So, knowledge sharing meets the future challenge of technology-based business . In other words, not only training and learning of new skills is realized, but also attitudes are changed and, thereafter, it can expand individual self-efficacy, so that individuals' behavioural, emotional, social, and cognitive skills will be coordinated and individual efficiency activate cognitive and emotional and affective currents (Moghadari-Koosha et al., 2020). Therefore, the first hypothesis of the research is as follows:

H1a: Knowledge sharing has a significant effect on the performance of digital start-ups.
H1b: Knowledge sharing has a significant effect on the performance of digital start-ups through mediating of social media.

Social media creates a unique opportunity for managers to develop relationships with their customers (Laroche, Habibi, Richard, & Sankaranarayanan, 2012). Customer communication and participation are fundamental factors in promoting loyalty, trust and reputation. Social media facilitates exchange and communication with customers (Harrigan, Evers, Miles, & Daly, 2017). Because of its broad domain, social media, also satisfies the desire of customers to interact with a company and leads to improving the performance of companies by creating partnerships, introducing audiences and engaging them (Enginkaya & Yılmaz, 2014). Optimizing the mental image and reputation is one of the most essential and inevitable issues in the development and success of organizations and corporates' development infrastructures (Ha, Janda, & Park, 2009). Reputation is a value estimate that in its meaningful content creates the conditions for positive thinking, feeling and behavior of the stakeholder group (Jackson, 2004). The effect of reputation on helping organizational stability, employee performance and loyalty, ease of attraction, and reducing transaction costs has been confirmed in numerous studies, all of which are attractive features for companies to encounter financial and political pressures (Harvey & Morris, 2017). Reputation is the external evaluation of a company that is performed by external stakeholders and has dimensions such as the company's perceptual capacity to meet the expectations of its stakeholders and the rational dependence of a stakeholder on the organization (Waddock, 2000). Organizational reputation is a critical factor in increasing customer satisfaction and motivating their behavioural goals. Whenever a company arrives at a specific point about the image it wants to convey and confirms that it can present itself based on that image, then it must follow public perceptions (Gardberg, Zyglidopoulos, Symeou, & Schepers, 2019). Thus, reputation is influenced by what one is known for, beliefs about what is expected of the future, and perceptions of one's overall desirability (Lange, Lee, & Dai, 2011). Because without a good reputation, the survival and development of a company are impossible, managers can play a crucial role in improving employee performance and achieving organizational goals. Based on this, the second hypothesis of the research is as follows:

H2a: Reputation has a significant effect on the performance of digital start-ups.
H2b: Reputation has a significant effect on the performance of digital start-ups through social media mediation.

When a person decides to acquire, present and transfer knowledge, there is, in fact, an interaction to share knowledge (Munar & Jacobsen, 2014). Social interactions have a positive effect on the perception of social media users and, as a result, the users will be more motivated to social interactions and they will be committed to maintaining relationships with other members (Chai & Kim, 2012). Social relationships are a structure that can build loyalty through a solid and lasting psychological connection with experiences. Social relationships affect essential aspects of knowledge, perceptions, and attitudes (Sprott et al., 2009). So, understanding how to organize and facilitate online communities is a crucial domain that many digital start-ups are looking for. However, few of these companies are skilled in developing social media advertising communities (Pongpaew, Speece, & Tiangsoongnern, 2017). Therefore, organizations need communication to survive in order to improve the effectiveness of organizations (Turaga, 2019). Communication means transmitting and sharing thoughts, ideas and facts in such a way that the recipient receives and understands them. Thus, the goal of communication is to achieve coordinated action between the sender and the receiver of the message (Labelle & Waldeck, 2020). Weak communication processes reduce the effects of well-organized and well-documented information (Abbas et al., 2020). Thus, the first and most crucial step in developing performance is to establish communication in the organization. Employee communication plays a vital role in improving performance, so that the lack of effective communication prevents the improvement of individual and organizational performance (Crawford & Strohkirch, 2006). Because communication determines the development, organizational learning and knowledge sharing that ultimately leads to better performance of companies. The third hypothesis of the research is as follows:

H3a: Social relationships have a significant effect on the performance of digital start-ups.
H3b: Social relationships have a significant effect on the performance of digital start-ups mediated by social media.

Identity for a person is a quality that distinguishes him/ her from other people and is determined by a person's appearance, behavior, and values. An individual's identity is a trait that describes his/her nature and distinguishes him/ her from others and expresses the continuity of these traits over time (Whetten, 2006). Identity represents the transformation of common beliefs vis-a-vis stakeholders (Sarason, 1997). Identity is a set of common characteristics of individuals, pursuing collective goals through specific activities and using a limited number of operational principles (Kress & Elias, 2000). Companies, which are considered as creators of an identity, shape their identity through symbolic and linguistic behaviours used in specific organizational contexts (Hosseini et al., 2020). Therefore, identity is formed based on its customs (Liu et al.,2020). Identity plays a pivotal role in regulating behavioural norms. Therefore, the biggest and most vulnerable asset of any organization is its identity.

Identity gives the organization a personality that determines the image and perception that stakeholders have of the organization (Chang & Hung, 2021). Organizational identity is considered as a strategic source of building credibility and support against various stakeholders and gaining a competitive advantage in any new business environment. Newcomers to the organization experience their social identity over time and in distinct stages (Bernardi & Exworthy,2020). In sum, members' identity formation makes them closer to the organization, and this causes the distance between the members of the organization, at each level of the organization, to be shorter. The fourth research hypothesis is as follows:

H4a: Identity has a significant effect on the performance of digital start-ups.
H4b: Identity has a significant effect on the performance of digital start-ups through mediating of social media.

METHODOLOGY

Research setting

To sum up, based on articles regarding the relationship between entrepreneurial intention and performance in digital start-ups, this study examines whether entrepreneurial intention affects performance in digital start-ups while considering the mediating role of social media in digital start-ups in Iran. According to the literature review in this domain, the conceptual model can be drawn as follows:

Sample

The statistical population of the study includes digital start-ups which are defined and categorized according to the evaluation regulations of Iranian companies and knowledge-based institutions. A private company or institution has been created to develop and apply inventions and innovations and to commercialize the results of research and development (including the design and production of goods and services) in the field of high technology. Accordingly, the population of this study includes the managers of 416 digital start-ups. Based on Cochran's formula and with an error level of 5% and a 95% confidence level, the minimum number of samples for this study was estimated to be 199. Given that structural modelling has been used in this study, the sample size should be 5 to 10 times greater than the questionnaire items; therefore, the obtained value is sufficient (Ishtiaq, 2019). To collect data, a 29-item researcher-made questionnaire based on research literature was distributed online in 2020. This research has investigated the relationships between variables by using PLS3 software and structural equation modelling. The justification for using this software is the lack of need for normal distribution and its ability to run for a sample size of less than 200 compared to other available software (Kline, 2015).

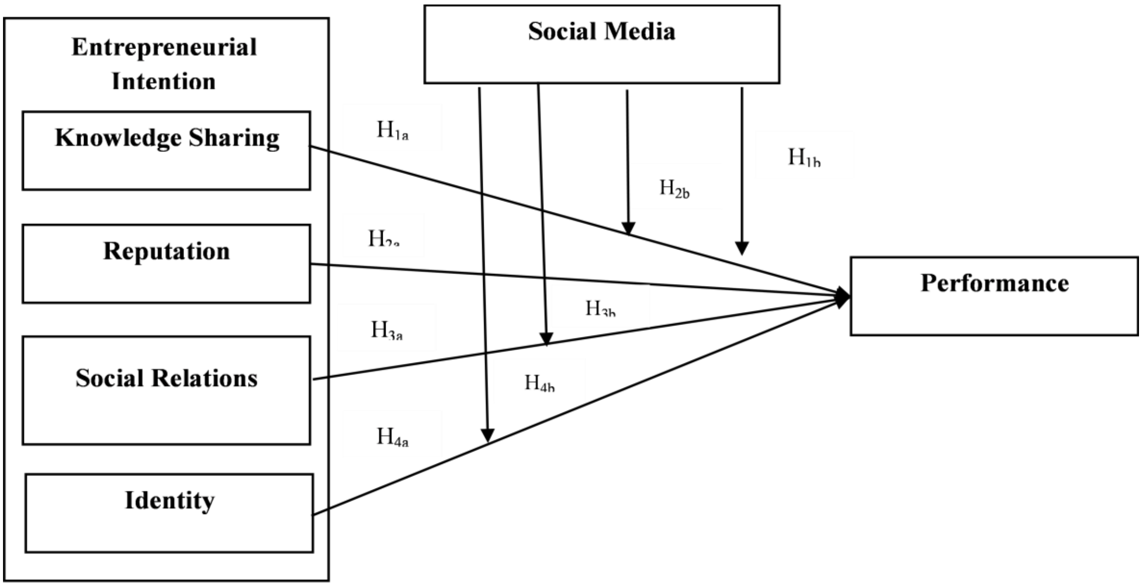

Figure1. Conceptual framework
(Source: Authors' elaboration)

Assessment, reliability, validity

In order to assess the relationships between the variables of the conceptual model, data were collected by using a researcher-made 29-item questionnaire with a 5-point Likert scale (1- strongly disagree, 2- disagree, 3- have no opinion, 4- agree and 5- strongly agree). In this study, entrepreneurial intention is considered as an independent variable, and the performance of digital start-ups is considered as a dependent variable and social network is considered as a mediating variable. In order to ensure the accuracy of the research results, the technical characteristics of the questionnaire were evaluated in two parts: validity and reliability by applying different criteria. The validity of the questionnaire has been evaluated and confirmed through content and structure validity. To evaluate the content validity of the instrument, the opinions of professors and experts aware of the subject have been taken into account. To measure the validity of the structure, the model of structural equations of convergent and divergent validity has been applied. In order to determine the convergent validity, the Average Variance Extracted (AVE) was used and to measure divergence, the root mean index of the extracted variance was used (Sabokro,Tajpour,& Hosseini 2018). The mean standard deviation extracted for the variables in this change is higher than 0.5 and indicates its high validity. The reliability of the questionnaire was also measured by using Cronbach's alpha coefficient and composite reliability. According to Table 1 and based on the appropriateness of these coefficients, it can be concluded that the research tool has acceptable validity and reliability. Studies also show the value of Cronbach's alpha coefficient and the composite reliability of all structures is higher than the minimum acceptable, i.e. 0.7. Therefore, the structures of this study have the desired reliability. Based on the results of Table 1, all indicators have good validity and reliability.

As Table 2 shows, the root mean values of the extracted variance are higher than the acceptable minimum of 0.5; therefore, research variables have divergent validity. Additionally, regarding that the values of the root mean of the extracted variance are higher than the correlation of the variable with other variables, divergent validity is acceptable if the numbers in the original diameter are higher than their lower values (Fornell & Larcker, 1981). Thereafter, it can be said that the variables are valid and their divergent validity is also confirmed.

Based on the above table and the results obtained from the output of Smart PLS 3 software in Tables 1 and 2, the validity models (convergent and divergent) and reliability (reliability, composite reliability coefficient and Cronbach's alpha) are at a satisfactory level.

Table 1. Composite reliability, Cronbach's alpha and AVE

No.	components	variables	items	Cronbach's alpha	rho	C.R	AVE	R^2	Q^2
1	Entrepreneurial intention	knowledge sharing	aq1-aq5	0.900	0.908	0.926	0.716	---	---
		reputation	bq1-bq5	0.902	0.920	0.928	0.721	---	--
		Social relations	cq1-cq5	0.951	0.952	0.963	0.837	---	---
		identity	eq1-eq4	0.846	0.847	0.897	0.687	--	--
2	Social media	---	fq1-fq5	0.943	0.944	0.956	0.814	0.968	0.914
3	performance	----	dq1-dq5	0.922	0.923	0.943	0.768	0.872	0.805

(Source: Authors' elaboration)

Table 2. Divergent validity

variables	1	2	3	4	5	6
social media	**0.902**					
identity	0.791	**0.889**				
knowledge sharing	0.899	0.846	**0.938**			
performance	0.828	0.876	0.876	**0.881**		
reputation	0.849	0.783	0.821	0.816	**0.942**	
Social relations	0.819	0.766	0.779	0.870	0.855	**0.915**

(Source: Authors' elaboration)

FINDINGS

The fit of the model at three levels of measurement, structural and general was investigated. To evaluate the fit of the structural model of the research which has been done by means of partial least squares method, several criteria are used, the first and most basic of which is the coefficients of significance coefficients or the values of t-statistics (Tajpour, Hosseini, & Salamzadeh, 2020). The fit of the structural model using t-coefficients is such that these coefficients must be higher than 1.96 in order to confirm their significance at the 95% confidence level (Thomas, 2003). The results of this criterion show that the obtained values whose critical value is more than the critical value (1.96) at the 95% confidence level have been confirmed (Figure 2).

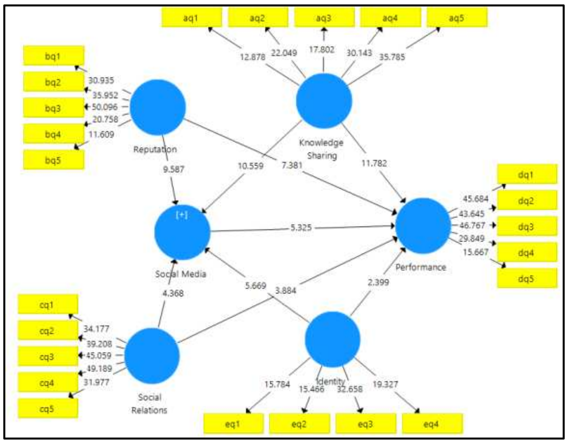

Figure 2: t-test

(Source: Authors' elaboration)

Coefficient of determination (R^2)

The second criterion for examining the fit of a structural model in research is the R^2 coefficients related to the latent endogenous variables of the model. This criterion is used to examine the intensity of relationships between structures, which only applies to dependent structures and not independent ones. R^2 is a criterion that indicates the effect of exogenous variables on an endogenous variable and three values of 0.19, 0.33 and 0.67 are considered for weak, medium, and strong values of R^2 (Hosseini et al., 2020). In this study, the criterion is for developing the performance of digital start-ups (0.872) and social media (0.968); therefore, a structural model from the perspective of this criterion has a good fit at an intense level. The results have been represented according to Figure 3.

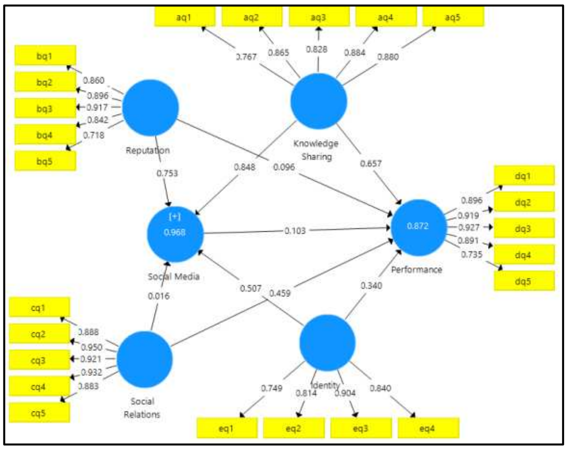

Figure 3: Model of Standardized Factor Loading Coefficients

(Source: Authors' elaboration)

Criterion Q^2

The Q^2 criterion is calculated for all dependent structures and represents the product of the combined values of the research structures in the values of the coefficient of determination related to them. Introduced by Stone-Geisser (1975), this criterion determines the predictive power of the model in dependent variables. According to them, models that have an acceptable structural part fit should be able to predict the characteristics of the endogenous structures of the model. This means that if in a model, the relationships between structures are appropriately defined, the structures will have a good effect on each other's characteristics and thus the hypotheses are correctly confirmed. The value should be 0.2, 0.15 and 0.35 for all endogenous structures as low, medium and strong predictive power (Kline, 2015). This criterion in the present study is to develop the performance of digital start-ups (0.768) and social media (0.814). This result represents the high appropriateness and fine structure of the research model.

Overall Fit of the Model

The general model includes both parts of the measurement model and the structure, and by confirming its fit, the fit of the model is checked. Hence, the overall fit of the model is possible with the help of the good of fitness (GOF) criterion. According to the value obtained 0.918 for GOF, the overall fit of the research model is very appropriate and approved. According to the three values of 0.01, 0.25 and 0.36, which are weak, medium and strong values for GOF, the value of 0.918

for this criterion indicates a strong fit of the overall research model.

GOF = √average (Commonality) × average (R^2)

Another indicator is the standardized root mean residual index (SRMR). According to Byrne (1998) the value of 0.05, according to Hu and Bentler (1999) the value of 0.08 and according to Ringle (2016) the value of SRMR less than 0.10 indicate an acceptable fit of the overall model. According to Table 3, this index is also at an acceptable threshold, so it can be claimed that the current research model has a perfect fit. Normed fitness index (NFI) has also been used to measure fit. The acceptance range of this index should be between 0 and 1 and the NFI should be higher than 0.9 (Kline, 2015). As a result, as shown in Table 3, this value is equal to 0.933, which is also confirmed as a result of this index.

Table 3. Fitness indexes *(Source: Authors' elaboration)*

		SRMR	NFI
	Acceptable values	≤0.10	≥0.9
	Calculate values	0.087	0.933

VAF test was used to investigate the mediating role of motivation in the development of technology-based businesses. The value of 0.124 obtained in this test indicates the role of partial mediation for the motivation construct.

VAF= (a×b) / (a×b) +c

a: The amount of the mediator and independent variable pathway coefficient: 0.531
b: The amount of the mediator and dependant variable pathway coefficient: 0.103
c: The amount of the dependant and independent variable pathway coefficient: 0.388

Hypotheses Testing
Finally, t-test has been used to investigate the hypothetical relationships between variables. Eight sub-hypotheses have been used to test the primary hypothesis, which according to Table 4, the t-coefficient for the eight existing relationships has been confirmed. To determine the effect of predictor variables on dependent variables, standardized factor load coefficients related to the paths of each hypothesis are examined. These coefficients indicate that changes in dependent variables are justified by independent variables up to a few percent.

DISCUSSION
According to the main purpose of this study, which was about the entrepreneurial intention investigation regarding the performance improvement of digital start-ups by mediating of social media, the main purpose has been investigated based on eight hypotheses. The results of Smart PLS 3 software showed that

Table 4. T-test and Research Influence Coefficients

Path	t-test	Influence coefficient	result
Knowledge sharing has a positive effect on the performance of digital startups.	11.782	0.657	Accepted
Knowledge sharing has a positive effect on the performance of digital startups through mediating of social media.	10.559	0.848	Accepted
Reputation has a positive effect on the performance of digital startups.	7.381	0.096	Accepted
Reputation has a positive effect on the performance of digital startups through mediating of social media.	9.587	0.753	Accepted
Social relations have a positive effect on the performance of digital startups.	3.884	0.459	Accepted
Social relationships have a positive effect on the performance of digital startups through mediating of social media.	4.368	0.016	Accepted
Identity has a positive effect on the performance of digital startups.	2.399	0.340	Accepted
Identity has a positive effect on the performance of digital startups through mediating of social media.	5.669	0.507	Accepted

(Source: Authors' elaboration)

entrepreneurial intention has a positive and significant effect on improving the performance of digital start-ups through social media. Therefore, it can be said that successful companies are those that are constantly creating new knowledge, disseminating it widely throughout the organization and rapidly applying it to new technologies and products. This is because digital start-ups are considered as the driving force for the knowledge-based economy. In these companies, more research and development have been done and their growth more based on the development of new technology and knowledge. In addition, their competitive advantage is mainly innovative in technologies and, finally, these companies are conquering new markets as soon as possible.

Therefore, according to the first hypothesis, i.e. knowledge sharing on the performance of digital start-ups and its sub-hypothesis, knowledge sharing have a positive effect on the performance of social media-mediated companies. Moreover, it can be said that knowledge-sharing companies are the axis of development and transformation in the economy of societies, especially developing societies. The employees of these companies are the main capital and can be valuable when the knowledge of individuals is shared with the members inside and outside the company. Such knowledge sharing leads to the interaction of experiences and perspectives, and, consequently, it triggers learning at the company and member level. Information sharing is usually more efficient through social media because it delivers information quickly and uniformly to individuals. Due to the formation of new relationships, it leads to a resource for empowering the company and, ultimately, gaining a competitive advantage by creating knowledge and creating synergies in a dynamic environment. It also leads to improved performance, the formation of innovative processes, the creation of opportunities and the survival of the company. Social media fosters the socialization of managers, which facilitates interaction and collaboration between learners and leads to various activities. Therefore, the stronger the managers' desire for knowledge-sharing behavior, the more they share their values and beliefs. The results of this hypothesis are consistent with the results of research by Chang et al. (2016), Hatefi and Rousta (2019) and Moghadari-Koosha (2020). Thereafter, it is suggested that laws protect the capital of digital start-ups, including inventions. In order to share knowledge among companies, the required flexibility should be done to avoid administrative bureaucracy. Furthermore, it is recommended that managers participate in webinars and workshops formed through social media to share their experiences with other colleagues and find new ideas.

Regarding the second hypothesis, i.e. reputation on the performance of digital start-ups and its sub-hypothesis on reputation on the performance of digital start-ups which were both confirmed through social media, it can be said that regarding environmental dynamics as well as economic and cultural effects, reputation has a special place in improving and developing the performance of companies. In such a competitive environment, companies that cannot compete with others are quickly eliminated from the environment. In such circumstances, reputation optimization is one of the most indispensable and unavoidable issues in the development of companies. This is because most of the value of companies does not only include tangible assets, but also the value of the company is in its intangible assets. Thus, shaping the company's reputation in human resources will attract and retain talented employees and the company's optimal performance. The existence of social media to create new connections leads to the elimination of negative decisions and actions in many cases for greater awareness of various issues. Reputation increases the value of companies' end products or services when entering new markets. Accordingly, the relationship between the reputation and performance of the company is bilateral. If managers instil the value of reputation in employees, they can instil this positive image in others as well, and ultimately the performance of companies will be improved. The results of this hypothesis are consistent with the results of research by Harrigan et al. (2017), Harvey et al. (2017) and Gardberg et al. (2019). Therefore, it is suggested that managers and officials increase their credibility in the community by creating the ground for the company's progress and improving performance. Also, to maintain informal participation and cooperation manager should strengthen the positive perception of the company so as to increase the initiative and thus the ability to solve problems and, therefore, they can achieve more effective decisions.

Regarding the third hypothesis, i.e. social relations on the performance of digital start-ups and its sub-hypothesis, social relations on the performance of digital start-ups which were both confirmed through social media, it can be said that in the new information age, social media has been transformed from a source of entertainment to an influential and significant communication tool considering the exchange of knowledge and experiences that has accelerated the exchange of information and increased levels of efficiency and trust among company managers. Through diverse social relationships, company managers can organize the activities of their employees and coordinate management systems and determine their success and failure in the labour market. Actually, the greater the diversity of people in terms of culture, education, skills and age in social relationships, the better the results of starting an entrepreneurial business can be achieved since experiences of different people in different fields and domains are not the same. Also, workplace social relationships provide access to various resources, including work knowledge, career counselling, strategic information, and social support, which ultimately leads to increased corporate performance and productivity. Allowing employees to talk through social media creates a motivating atmosphere for ideas and opinions. The results of this hypothesis are consistent with the results of research by Pongpaew et al. (2017), Turaga (2019), Abbas et al. (2020) and LaBelle and Waldeck (2020).

Regarding the fourth hypothesis, i.e. identity on the performance of digital start-ups and its sub-hypothesis of identity on the performance of digital start-ups which were both confirmed through social media, it can be said that the close relationship between identity and organizational performance has made people feel united and have cohesion and continuity towards the company and consider themselves as part of the issues and problems of the organization. It can be said that the more identity a person has on social media, the more she/he seeks to create entrepreneurial businesses. Definite identity and intensification of a familiar and inner feeling towards one's goals motivates entrepreneurial activities. Social identity is a part of one's self-concept that results from perceived membership in a related social group that leads to one's participation in creative businesses. People with high social identities sacrifice their interests for group and organizational interests, so they will exchange ideas and ideas to achieve the company's goals, provide solutions for progress. The findings of these hypotheses are consistent with the results of research by Liu et al. (2020), and Chang and Hung (2021). In this regard, company managers are suggested to improve their identity to improve the performance of the organization by increasing the improvement of salaries and benefits of employees.

Finally, according to the confirmation of all hypotheses, it can be concluded that the main purpose of the research is confirmed. Accordingly, other suggestions are made by researchers such as the use of virtual social media because the efficient use and development of new technology tools lead to a sustainable reduction of advertising costs and promotion of products and services and helps to meet the needs customers are properly considered. The needs of visitors should be addressed, including creating a personal approach, establishing intelligent, creative, and interactive communication that includes empathy and emotion. Since entrepreneurs' social networks are recognized as one of the key parts of entrepreneurial opportunities, managers should pay more attention to the expansion, development and formation of relationships with network members, which will facilitate, guide and advise them.

SUGGESTIONS AND LIMITATIONS

Since this research has been done in Iranian digital start-ups, the results should be generalized to other companies with caution. Thus, it is suggested that the subject of this study be done for other companies and the results be compared with the present study.

REFERENCES

Abbas, J., Zhang, Q., Hussain, I., Akram, S., Afaq, A., & Shad, M. A. (2020). Sustainable innovation in small medium enterprises: The impact of knowledge management on organizational innovation through a mediation analysis by using SEM approach. *Sustainability, 12*(6), 2407. doi:https://doi.org/10.3390/su12062407

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211. doi:https://doi.org/10.1016/0749-5978(91)90020-T

Al-Kurdi, O. F., El-Haddadeh, R., & Eldabi, T. (2020). The role of organisational climate in managing knowledge sharing among academics in higher education. *International journal of information management, 50*, 217-227. doi:https://doi.org/10.1016/j.ijinfomgt.2019.05.018

Autio, E., & Acs, Z. (2010). Intellectual property protection and the formation of entrepreneurial growth aspirations. *Strategic Entrepreneurship Journal, 4*(3), 234-251.

Behringer, N., & Sassenberg, K. (2015). Introducing social media for knowledge management: Determinants of employees' intentions to adopt new tools. *Computers in Human Behavior, 48*, 290-296. doi:https://doi.org/10.1016/j.chb.2015.01.069

Bernardi, R., & Exworthy, M. (2020). Clinical managers' identity at the crossroad of multiple institutional logics in it innovation: The case study of a health care organization in England. *Information Systems Journal*, *30*(3), 566-595. https://doi.org/10.1111/isj.12267

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review, 13*(3), 442-453. doi:https://doi.org/10.5465/amr.1988.4306970

Blank, S. (2012). How to Build a Great Company. *Step by Step, the Common Wealth Club of California, 14*.

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of computer-mediated Communication, 13*(1), 210-230. doi:https://doi.org/10.1111/j.1083-6101.2007.00393.x

Brem, A. (2011). Linking innovation and entrepreneurship–literature overview and introduction of a process-oriented framework. *International Journal of Entrepreneurship and Innovation Management, 14*(1), 6-35. doi:https://doi.org/10.1504/IJEIM.2011.04082

Chai, S., & Kim, M. (2012). A socio-technical approach to knowledge contribution behavior: An empirical investigation of social networking sites users. *International journal of information management, 32*(2), 118-126. doi:https://doi.org/10.1016/j.ijinfomgt.2011.07.004

Chang, I.-C., Chang, C.-H., Lian, J.-W., & Wang, M.-W. (2018). Antecedents and consequences of social networking site knowledge sharing by seniors. *Library Hi Tech*. doi:https://doi.org/10.1108/LHT-11-2016-0144

Chang, T. W., & Hung, C. Z. (2021). How to Shape the Employees' Organization Sustainable Green Knowledge Sharing: Cross-Level Effect of Green Organizational Identity Effect on Green Management Behavior and Performance of Members. *Sustainability*, *13*(2), 626. https://doi.org/10.3390/su13020626

Crawford, C. B., & Strohkirch, C. S. (2006). The critical role of communication in knowledge organizations: Communication apprehension as a predictor of knowledge management functions. *Journal of Knowledge Management Practice, 7*(4).

Enginkaya, E., & Yılmaz, H. (2014). What drives consumers to interact with brands through social media? A motivation scale development study. *Procedia-Social and Behavioral Sciences, 148*, 219-226. doi:https://doi.org/10.1016/j.sbspro.2014.07.037

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. In: Sage Publications Sage CA: Los Angeles, CA.

Gaál, Z., Szabó, L., Obermayer-Kovács, N., & Csepregi, A. (2015). Exploring the role of social media in knowledge sharing. *Electronic Journal of Knowledge Management, 13*(3).

Gardberg, N. A., Zyglidopoulos, S. C., Symeou, P. C., & Schepers, D. H. (2019). The impact of corporate philanthropy on reputation for corporate social performance. *Business & society, 58*(6), 1177-1208. doi:https://doi.org/10.1177%2F0007650317694856

Gomez-Mejia, L. R., Berrone, P., & Franco-Santos, M. (2014). *Compensation and organizational performance: Theory, research, and practice*: Routledge.

Groenewegen, G., & de Langen, F. (2012). Critical success factors of the survival of start-ups with a radical innovation. *Journal of Applied Economics and Business Research, 2*(3), 155-171.

Ha, H. Y., Janda, S., & Park, S. K. (2009). Role of satisfaction in an integrative model of brand loyalty. *International Marketing Review*. doi:https://doi.org/10.1108/02651330910950420

Harrigan, P., Evers, U., Miles, M., & Daly, T. (2017). Customer engagement with tourism social media brands. *Tourism Management, 59*, 597-609. doi:https://doi.org/10.1016/j.tourman.2016.09.015

Harvey, W. S., & Morris, T. (2017). Changing organizational reputation in management consulting.

Hatefi, M. M., & Rousta, A. (2019). Relationship between Knowledge Management, Management Styles and Organizational Performance. *Quarterly of Order & Security Guards, 12*(45), 231-252.

Hosseini, E., Tajpour, M., Lashkarbooluki, M. (2020). The impact of entrepreneurial skills on manager's job performance. *International Journal of Human Capital in Urban Management, 5*(4), 361-372.

Ishtiaq, M. (2019). Book Review Creswell, JW (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches . Thousand Oaks, CA: Sage. *English Language Teaching, 12*(5), 40. doi:https://doi.org/10.5539/elt.v12n5p40

Jackson, K. T. (2004). *Building reputational capital: Strategies for integrity and fair play that improve the bottom line*: Oxford University Press.

Kline, R. B. (2015). *Principles and practice of structural equation modeling*: Guilford publications.

Kress, J. S., & Elias, M. J. (2000). Infusing community psychology and religion: Themes from an Action-Research project in Jewish identity development. *Journal of Community Psychology, 28*(2), 187-198. doi:https://doi.org/10.1002/(SICI)1520-6629(200003)28:2%3C187::AID-JCOP6%3E3.0.CO;2-B

Krueger Jr, N. F. (2007). What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship theory and practice, 31*(1), 123-138. doi:https://doi.org/10.1111%2Fj.1540-6520.2007.00166.x

LaBelle, S., & Waldeck, J. H. (2020). *Strategic communication for organizations*: University of California Press.

Landström, H., Harirchi, G., & Åström, F. (2012). Entrepreneurship: Exploring the knowledge base. *Research policy, 41*(7), 1154-1181. doi:https://doi.org/10.1016/j.respol.2012.03.009

Lange, D., Lee, P. M., & Dai, Y. (2011). Organizational reputation: A review. *Journal of Management, 37*(1), 153-184. doi:https://doi.org/10.1177%2F0149206310390963

Laroche, M., Habibi, M. R., Richard, M.-O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior, 28*(5), 1755-1767. doi:https://doi.org/10.1016/j.chb.2012.04.016

Lin, T.-C., Wu, S., & Lu, C.-T. (2012). Exploring the affect factors of knowledge sharing behavior: The relations model theory perspective. *Expert Systems with Applications, 39*(1), 751-764. doi:https://doi.org/10.1016/j.eswa.2011.07.068

Liu, A. X., Hsu, C. H., & Fan, D. X. (2020). From brand identity to brand equity: a multilevel analysis of the organization–employee bidirectional effects in upscale hotels. *International Journal of Contemporary Hospitality Management*.32(7),22-85. https://doi.org/10.1108/IJCHM-08-2019-0680

Ma, W. W., & Chan, A. (2014). Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment. *Computers in Human Behavior, 39*, 51-58. doi:https://doi.org/10.1016/j.chb.2014.06.015

Moghadari-Koosha, M., Moghadasi-Amiri, M., Cheraghi, F., Mozafari, H., Imani, B., & Zandieh, M. (2020). Self-Efficacy, Self-Regulated Learning, and Motivation as Factors Influencing Academic Achievement Among Paramedical Students: A Correlation Study. *Journal of allied health, 49*(3), 145E-152E.

Munar, A. M., & Jacobsen, J. K. S. (2014). Motivations for sharing tourism experiences through social media. *Tourism Management, 43*, 46-54. doi:https://doi.org/10.1016/j.tourman.2014.01.012

Muñoz-Pascual, L., Galende, J., & Curado, C. (2020). Human resource management contributions to knowledge sharing for a Sustainability-Oriented performance: a mixed methods approach. *Sustainability, 12*(1), 161. doi:https://doi.org/10.3390/su12010161

Nowiński, W., & Haddoud, M. Y. (2019). The role of inspiring role models in enhancing entrepreneurial intention. *Journal of Business Research, 96*, 183-193. doi:https://doi.org/10.1016/j.jbusres.2018.11.005

Pongpaew, W., Speece, M., & Tiangsoongnern, L. (2017). Social presence and customer brand engagement on Facebook brand pages. *Journal of product & brand management*. doi:https://doi.org/10.1108/JPBM-08-2015-0956

Sabokro, M., Tajpour, M., Hosseini, E. (2018). Investigating the knowledge management effect on managers' skills improvement. *International Journal of Human Capital in Urban Management, 3*(2), 125-132. doi:10.22034/IJHCUM.2018.02.05

Salamzadeh, A., Kawamorita Kesim, H., & Karami, M. (2019). *Media business models: A holistic approach*. Paper presented at the Proceedings of the 2nd International Conference of Research in Innovation and Technology.

Salamzadeh, A., Tajpour, M., & Hosseini, E. (2020). Exploring the Impact of Social Networks on Entrepreneurial Intention. *Media Studies, 15*(48), 111-124.

Sarason, Y. A. (1997). *Identity and the Baby Bells: Applying structuration theory to strategic management*: University of Colorado at Boulder.

Sashi, C. M. (2012). Customer engagement, buyer-seller relationships, and social media. *Management Decision*. doi:https://doi.org/10.1108/00251741211203551

Schroeder, A., Pennington-Gray, L., Donohoe, H., & Kiousis, S. (2013). Using social media in times of crisis. *Journal of Travel & Tourism Marketing, 30*(1-2), 126-143. doi:https://doi.org/10.1080/10548408.2013.751271

Servantie, V., Cabrol, M., Guieu, G., & Boissin, J.-P. (2016). Is international entrepreneurship a field? A bibliometric analysis of the literature (1989–2015). *Journal of International Entrepreneurship, 14*(2), 168-212. doi:https://doi.org/10.1007/s10843-015-0162-8

Shaw, J. D., Park, T. Y., & Kim, E. (2013). A resource-based perspective on human capital losses, HRM investments, and organizational performance. *Strategic management journal, 34*(5), 572-589. doi:https://doi.org/10.1002/smj.2025

Solem, B. A. A. (2016). Influences of customer participation and customer brand engagement on brand loyalty. *Journal of Consumer Marketing*. doi:https://doi.org/10.1108/JCM-04-2015-1390

Tajpour, M., Hosseini, E., & Moghaddm, A. (2018). The Effect of Managers Strategic

Thinking on Opportunity Exploitation. *Scholedge Int. J. Multi. Allied Stud, 5*(2), 68-81. doi:http://dx.doi.org/10.19085/journal.sijmas050602

Tajpour, M., Hosseini, E., & Salamzadeh, A. (2020). The effect of innovation components on organisational performance: case of the governorate of Golestan Province. *International Journal of Public Sector Performance Management, 6*(6), 817-830. doi:https://doi.org/10.1504/IJPSPM.2020.110987

Tajpour, M., Hosseini, E., & Alizadeh. R., . (2021). Entrepreneurship Opportunities: The Effect of Social Entrepreneurship on the Presence of Afghan Immigrant Youth in Iranian Universities. In *Migration Social Entrepreneurship and Social Inclusion* (Vol. 1, pp. 261-284). https://doi.org/10.26321/5976.020.3.261

Tajpour, M., Moradi, F., & Moradi, N. (2015). Identify the impact of emotional intelligence on corporate entrepreneurship. *Int. J. Manage. IT. Engn, 5*(11), 66-75.

Thomas, R. M. (2003). *Blending qualitative and quantitative research methods in theses and dissertations*: Corwin Press.

Turaga, R. (2019). Effective Communication in Organizations. *IUP Journal of Soft Skills, 13*(1).

Waddock, S. (2000). The Multiple Bottom Lines of Corporate Citizenship: Social Investing, Reputation, and Responsibility Audits [This artic]. doi:10.1111/basr.2000.105.issue-3

Wang, J., Yang, J.-m., Chen, Q., & Tsai, S.-B. (2016). Collaborative Production Structure of Knowledge Sharing Behavior in Internet Communities. *Mobile Information Systems, 2016*. doi:https://doi.org/10.1155/2016/8269474

Westaby, J. D., Probst, T. M., & Lee, B. C. (2010). Leadership decision-making: A behavioral reasoning theory analysis. *The Leadership Quarterly, 21*(3), 481-495. doi:https://doi.org/10.1016/j.leaqua.2010.03.011

Whetten, D. A. (2006). Albert and Whetten revisited: Strengthening the concept of organizational identity. *Journal of management inquiry, 15*(3), 219-234. doi:https://doi.org/10.1177%2F1056492606291200

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THEORETICAL EXTENSION OF THE NEW EDUCATION POLICY 2020 USING TWITTER MINING

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ABSTRACT

In 2015, India adopted the UN's Agenda for Sustainable Development Goal 4 which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". As the existent educational system was inadequate to meet the desired sustainable goal, the Indian government introduced the New Education Policy (NEP) in 2020. Considered as an inclusive education policy that focuses on fostering knowledge and value-based education, this study aims to evaluate the paradigm of NEP in the higher education sector. The study collected data from official policy documents (from the Ministry of Human Resource Development website) and Twitter to explore the critical areas in the NEP. By adopting the qualitative analysis method, the data were analysed using computer-assisted qualitative data analysis software. After mining the data from tweets and policy documents, sentiment analysis and other forms of graphical representations were conducted. The study identified three themes namely students, language and discipline. The sentiment analysis revealed that the majority of the people were optimistic about the implementation of the NEP in the higher education sector. The study suggests practical implications for the higher educational institutes (HEIs), teachers and researchers.

Keywords: Qualitative analysis, New Education Policy (NEP), Sentiment Analysis, Twitter Mining, MAXQDA, India

Introduction and Literature Review

Countries develop their education systems to progress further and bring societal advancement (Rizvi & Lingard, 2009). To promote inclusive and equitable educational system in the country, India's Government (GoI) devised the National Policy on Education (NPE) in 2020 (Kaurav, Suresh, Narula, & Baber, 2020). The fundamental goal of imparting education is to enable individuals to realize their full human potential. It further creates a society of equal opportunities for everyone and subsequently promote national growth. Thus, universal education is the key to India's continued ascension, and bringing social justice, and national integration in the longer run. High-quality of educational infrastructure, easy access to schools and colleges, and flexibility in meeting the needs of students would create an unprecedented path toward excellence. This would further advance and optimize the skills of human resources in India, and generate socio-economic benefits for individuals, community, the nation, and even to the world. As India's young population is expected to rise constantly in the coming decade, the quality of its educational system will determine the country's destiny.

We're in the world of a tremendous transformation in the terrain of information. Computers and software will replace certain tasks currently done by humans, such as truck driving and bar tending, while the need for workers skilled in mathematics, computer science, and data science will increase in conjunction with multidisciplinary abilities in multiple fields, such as the sciences, social sciences, and humanities. People who require more training to tackle the challenges of climate change, increased pollution, and decreasing natural resources include those in biology, chemistry, physics, agriculture, climate science, and social science. The increased emergence of crises (COVID-19, MERS, SARS, Tsunamis etc.) further alerts the need for multidisciplinary and interdisciplinary learning (Wen et al., 2020). As India transitions into a developed country and ranks among the three most important economies in the world, the demand for humanities and the arts will increase.

The Indian national government's declaration of its commitment to making universal education and lifelong learning available to all citizens by the year 2030 was manifested in Goal 4 of the Sustainable Development Goals, enacted in 2015. Changing the educational system so that all of the 2030 Agenda's targets and goals can be reached will be a difficult task, but is an extremely worthwhile education. Moreover, as India aims to become a trillion-dollar economy by 2030-2032, concrete foundation in building human resources is a prerequisite. Bilateral focus on economic growth and promoting of the knowledge economy would help India achieve its objective of becoming the third largest economy in a decade. The introduction of the NEP is considered to transform the Indian conventional practices in the education system. It aims at imparting quality education at all economic levels and developing a knowledge based educational system (NEP, 2020).

India's new education system is outlined in the National Education Policy (NEP, 2020), which was adopted by the Union Cabinet on July 29th, 2020. The new education policy supersedes the earlier National Policy on Education, which was instituted in 1986. The framework includes educational guidance and assistance for early schooling through secondary school, as well as instruction in advanced vocational training in both rural and urban India. The aim of the school reform plan is to revolutionise India's education system by 2021.

It's become more important than ever that students learn, but also learn how to learn as their profession rapidly changes and the global ecosystem evolves. Less is more when it comes to education. School subjects must transition from emphasising content to emphasising learning about new thinking, problem solving, creativity, and innovation. Educational pedagogy must continue to adapt to meet educational objectives like increased experiential learning, holistic education, integration, inquiry-based instruction, student-centred learning, and flexible learning. In addition to science and mathematics, the curriculum must include arts, crafts, humanities, games, sports, fitness, languages, literature, culture, and values, in order to help students to develop all of their capabilities and achieve a well-rounded education. An education that makes learners capable of being ethical, rational, compassionate, and caring, while also helping them get good jobs is one that is valuable.

To close the gap between current learning outcomes and what is required, educational systems will need to undergo significant reforms, such as applying high-quality, equitable, and ethical standards to early childhood education and care through to postsecondary education. The goal is for India to have an education system that is second to none by the year 2040, where learners from all socioeconomic backgrounds have equitable access to the best education possible. This national education policy, which is also referred to as National Education Policy 2020, is the first education policy of the 21st century and addresses many of the country's evolving developmental priorities. This education policy is about completely revamping the system education is governed and regulated in order to better support aspects' new goals, such as SDG 4.

Education Policies of India

Post-independence, the challenges faced by the Government of India were manifold. These included low mortality rate, illiteracy, poverty, and issues related to national security due to border conflicts. Strategies and committees were developed to resolve each of the major issues. To overcome the challenge of poverty, the GoI introduced several plans and policies. Some of the commissions formed by the central government and the then Education Minister of India, Maulana Abul Kalam Azad included: University Education Commission, Secondary Education Commission, the University Grants Commission (UGC) in 1956, and the famous Kothari Commission (1964-66). These commissions were formed to propose recommendations towards improving the literacy ratio and develop a steady education system in the country.

The first educational policy was adopted in 1968 based on the recommendations proposed by Kothari Commission. The first National

Education Policy focused on bridging the gap between rural and urban population by creating equal opportunities in the field of education. This policy was considered a radical reform in the Indian education system owing to the integration at the national level. The policy promoted cultural and economic development through education and proposed the use of and learning of the Hindi language throughout the country. This specific recommendation of making Hindi a common language among Indians was largely criticized and seemed ignorant of the regional and dialectal diversity in the country. The first NEP suggested increasing the expenditure on education to 6 per cent of the national expenditure (Govt. of India, 1968).

Known for "Elimination of inequalities and equalization of educational opportunities", the second National Education Policy was adopted in 1986. The policy followed an indifferent approach in imparting education to students belonging to different casts, gender, religion and economic status. The second NEP followed a social integration as opposed to the national integration approach in the first NEP. It encourages the expansion of merit-based scholarships, subsidies to financially backward students, and promoted adult education. As many Indians remained uneducated in the pre- and post-Independence era, the second NEP took the initiative to equip adults with basic education (Govt. of India, 1986). The policy equally emphasized on improving the education quality at primary schools in the country. It also supported the distance education by launching the Indira Gandhi National Open University (IGNOU) in Delhi in 1985. Some revisions were also made in the second NEP to include vocational courses at the national level.

New National Education Policy 2020 and the Higher Education

The third and the current National Education Policy 2020 is a progressed adaption of the former two education policies. Kumar, Prakash, & Singh (2020) highlighted that the new NEP 2020 has the potential to be a 'lodestar' in transforming the future generation of the country. The policy is comprehensive and has adapted recommendations proposed in the former policies. It has appropriately considered national as well as social integration to build a comprehensive educational ecosystem in India. The new NEP took a considerate step by recognizing the diversity amongst learners in India and supported the use of native languages- as opposed to the first NEP that called for the use of Hindi language only. Moreover, the policy is drafted in a manner to address several new and unacknowledged paradigms in the pre-existing education system.

The use of ICT and internet-based e-learnings in the learning and teaching practices would enhance the quality of education, thereby, making Indian students and teachers competitive at international levels. The utilization of retired professors through mentoring young faculties is another step that would promote collaborative working spaces at the higher education level (Aithal & Aithal, 2020a). The NEP 2020 promotes the idea of a One Education system throughout the country to reduce complexities, corruption, and increase coherence at all levels in the education ecosystem. The policy has adopted the integration of vocational courses at all levels of education which is similar to the recommendation proposed by the preceding NEP 1986. Some of the key recommendations of Nep in higher education are hybrid learning model, promotion of research and development, equipping HEIs with necessary infrastructure (incubation centres, centre for academic-industry linkages etc.) multi- and inter-disciplinary knowledge to students, Faculty Development Programs, inviting global universities to set up their campus in India, and incentives for HEIs imparting higher quality of education.

Methodology

Computer-Assisted Qualitative Data Analysis Software (CAQDAS) was employed to learn the concerns and focus of NEP 2020 in India. According to Reeves, Kuper, and Hodges (2008) and Holloway & Galvin (2016) the qualitative method provides in-depth, socio-contextual, and elaborate descriptions along with insightful interpretations. MAXQDA Analytics Pro was used for further analysis.

The present study follows the inductive approach which allows the development of categories and identifying from other theories before coding processes begin (Perry and Jensen, 2001). The main source of data was Twitter. Web Collector, a utility offered by MAXQDA, was utilized to capture the tweets for analysing the sentiments about the policy. The string used for the search was **((“new education policy” OR “NEP”) AND “2020”)**. In total, 3,607 tweets were found in the first instance, within one week of the policy releases. The authors removed the tweets with abusive language, non-English language, and other purposeful promotional post. Finally, 3247 tweets were used in the final study. The process of analysing the textual content using NLP is demonstrated in Figure 1. The specific research questions for this paper are as follows:

RQ1. How do people sentimentally/ emotionally responded to NEP 2020?

RQ2. Can Twitter communications be classified for different types of sentiments?

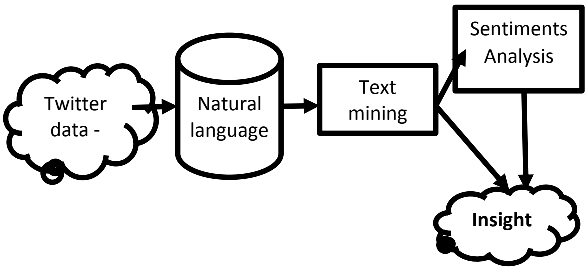

Figure 1: An Approach of Using Natural Language Pre-processing for Understanding Tweets

Data Analysis

To allow rigor and efficiency to the findings of the research, MAXQDA software was extensively used throughout the data analysis process. The data set (was downloaded from Twitter) revealed that the GOI has well-analysed the requirements from higher education. The data indicated that public opinion was also considered and the international education system is also well-taken care of by making this policy.

Word Cloud

For better visualization of the results, Word Cloud and Tree Map was generated, based on frequency and percentage of words. Figure 2 shows a Wordcloud where the keywords are represented according to their frequency in the dataset (Sinclair & Cardew-Hall, 2008).

In a word cloud, different keywords are represented based on their frequency in the dataset (Sinclair & Cardew-Hall, 2008). Figure 2 indicates the most frequent words on NEP. These frequencies have been derived from the data extracted from the Twitter. Higher size of word indicates the highest frequency. No surprise in NEP2020 as highest size. Figure 2 represents the word cloud of standard words in relation to higher education. The term NEP 2020 dominates because of its repeated usage. It is surrounded by preferential words associated with policy (university, plan, commencement, India), technology and software (education software, app, web, STPI, Parks, Twitter, Android.) and Centricity (personal, autonomous, society).

Figure 2: Wordcloud Based on the Policy Document of NEP 2020

Sentiment Analysis

Sentiment analysis is an emerging field of study which analyses public opinions, viewpoints, attitudes, emotions, and evaluations (Liu, 2012) about a specific product, service or issue. Mustafa (2018) stated that sentiment analysis identifies and extracts subjective information (available either offline or online) and combines the unstructured information using advanced techniques. These techniques include data mining, NLP, machine learning, knowledge management, and information retrieval. These views and opinions are often made in different languages, and researchers attempt to uncover the emotions of people by analysing their words. Usually, these emotions or views are regarded as either positive or negative or neutral (Yang & Yu, 2013). Sentiment analysis is widely preferred in analysing people’s views and feedback on brands and services (Ainin et al., 2020). However, it is equally relevant to study a policy implementation (Kumar, Prakash, & Singh, 2020).

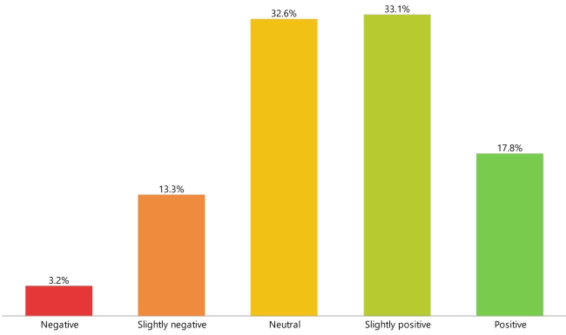

Figure 3: NEP (2020) Sentiment Analysis based on the tweets

Figure 3 represents the bar chart of tweets posted by different stakeholders about the NEP 2020. The chart highlights that a very small number of tweets decoded 'extremely negative' emotions. The 'slightly negative' tweets were higher than the 'extremely negative' tweets on NEP and almost equals to neutral. It is evident from the column chart that the good number of tweets are positive – indicating that general public (stakeholders of the policy) are optimistic about the introduction of the NEP 2020. The overall analysis indicates that the positive views concerning the NEP were largely shared on Twitter as compared to negative views. However, this analysis contradicts the findings of Saini et al. (2021) who reported negative emotions in few Indian states. The reasons are also very specific, concerning to the respective state's policy and their educational infrastructure.

With the present perspectives this paper has made an attempt to decipher the important themes and concerns of general publics and stakeholders. There deep level The text of the tweets was segregated into two files and the data was further analysed using the MAXQDA qualitative analysis software (Kuckartz & Rädiker, 2019). The two documents were named Positive and Negative and further themes were generated based on the content being analysed using content analysis based on the inductive data driven approach (Perry and Jensen, 2001). Some important themes and the major concerns are listed in Table 1 and 2. The table 1 enlists the positive comments and their major theme of discussion and Table 2 enlists the negative comments and their major themes of concern.

Table 1: Positive comments and their themes

Very positive	Major themes
The New Education Policy 2020 has especial emphasis on Inclusion and Equity and provision for creating a Gender Inclusion Fund...	inclusion and equity
A truly remarkable day in the history of Indian education system!	praiseworthy efforts
Known for working tirelessly to achieve grand goals, PM Shri @narendramodi exuded confidence that NEP-2020 is meant for the needs of 21st century and make India a global leader in science & technology.	India a global leader in science & technology
NEP 2020 says "HEIs will have clearly defined, independent, and transparent processes and criteria for faculty recruitment"- In order to implement this screening criterion for Vice-Chancellors should be displayed on a public platform !!	defined, independent, and transparent processes and criteria for faculty recruitment
NEP 2020 will create quality skilled manpower that will create quality jobs & will increase the livelihood of Indian youth...!!!	skilled manpower quality jobs livelihood
Happy to be talking about Globalisation of Education in India post NEP 2020 with some distinguished colleagues from across the globe!	globalisation of education
#NEP2020 is a revolutionary initiative to infuse multi-disciplinary paradigm in the learning process, ingrain technology as an enabler for universal access of education, encourage collaboration between industry & academia; focus on research; innovation.	encourage collaboration between industry & academia focus on research & innovation
#NEP will prepare Indian youth for new challenges in the ever evolving sphere of employment and jobs because this policy is focuses on learning rather than study and enhances critical thinking	jobs learning critical thinking
Moderately positive	**Major concerns**
NEP-2020 will make India as the global hub of quality education:	global hub of quality

Governor #NationalEducationPolicy2020 #NEP2020 #DrTamilisaiSoundararajan	education
Effective implementation of the NEP 2020 is likely to restore India's glory as a great centre of learning.	India's glory as a great centre of learning
The NEP 2020 document mentions nearly 20 great scientists, saint-scholars and thinkers from ancient India.	though on ancient India
Respecting the spirit 'Ek Bharat Shreshtha Bharat', the NEP 2020 includes systems to promote Indian languages, including Sanskrit.	Inclusion
Eminent experts from Indian and global academia deliberated on policy recommendations for @EduMinOfIndia towards the internationalization of Indian higher educational institutions in the light of the #NEP2020 (1/n)	Internationalisation
We hope NEP 2020 is implemented soon, It's really a great initiative to raise the standards of education at national level.	improvise the standards of education
Promoting Bharat Centric Education, Holistic Education, Knowledge-based Society, and Quality Education is at the centre of NEP 2020 and MyNEP Competition.	Holistic Education, Knowledge-based Society, and Quality Education
Among different approaches to make the NEP 2020 a success, the internationalisation of universities and educational institutions holds key importance.	Internationalisation
The NEP 2020 aims at making "India a global knowledge superpower"	global knowledge superpower

Table 2: Negative comments and their themes

Very negative	Major concerns
This lady is so sick of her mind who is creating so called #hindiimposition waala drama in 2020 when 3rd language is completely optional under NEP	Person specific
Need of the hour is radical change in our education system & not cosmetic one which has recently happened in the name of #NEP 2020!	No cosmetics on policy
So not a big deal if I send my kid to non eng med school	Confusion
I am just hating Indian Education system	Hatred
A re-enacted 2020 NEP for 2021 in the time of COVID-19 is simply unconscionable.	Confusion
Yet we'll face a lot of problems during implementation of the new policy.	Challenges in implementation
NEP 2020 should include plan for jail inmates education, yoga & skill development.	Equal opportunities skill development
Moderately negative	**Major concerns**
Mafias of underground eating the essentials of society in education sector & perhaps a stumbling block in the implementation of NEP 2020.	Challenges in implementation
2020 NEP has bought new revolution in education but I am sure that 100% it is not going to work out now, because 99% management of schools and teachers are not committed for new changes and they are not willing to tran	Challenges in implementation
The aversion towards English is inbuilt feature of R.S.S. It is the reason why NEP 2020 undermines English, promoting Hindi and Sanskrit.	Confusion
If we teach students today, as we taught yesterday, we rob them of tomorrow.	Confusion

Table 3 very well summaries the sentiments of general public with different themes. The positive themes are global, internationalization, inclusion, equity, livelihood, and related themes. Whereas, most negative node is confusion and challenges in implementation. This very clearly indicate that along with the policy the leaders need to think on how to implement the policy and how to remove the confusions. If the general public is confused, then it will be a challenge to implement the policy. The ways and means of implementation need to be well thought.

Table 3: Sentiment based categories of themes

Major themes	Positive	Negative
global hub of quality education	56	
India's glory as a great centre of learning	68	
inclusion and equity	39	
Internationalisation	178	
improvise the standards of education	67	12
Holistic Education, Knowledge-based Society, and Quality Education	56	
livelihood	48	8
encourage collaboration between industry & academia	82	
focus on research & innovation	59	23
skill development	12	34
Challenges in implementation		121
Confusion		157

Discussions and Implications

The National Education Policy 2020 introduced by the Indian government is the third education policy since Independence. The transformation of the educational ecosystem is a prerequisite to advance the growth and development of India to meet future obligations, especially to achieve the SDG 4, UN Agenda for Sustainable Development by 2030. The NEP reflects a comprehensive paradigm of the Indian educational system that aims to foster quality education, develop research background, equip students and teachers with necessary skills, and support HEIs. This would lead to the overall development of the education system and the advancement of human resources in the longer run.

The study analysed the concerns and issues at the higher educational levels i.e., graduation, post-graduation and PhD. The analysis highlighted that major higher education focuses mainly lie in three dimensions- course, students and language. The courses are divided as basic, professional and vocational with multiple exit points in pursuing the courses. These courses would be designed to develop critical skills among students, and help them get jobs or start their enterprise. The lectures and curricula shall aim to offer interdisciplinary and multidisciplinary knowledge to students so that they explore more opportunities after completing their education. For example, a psychology stud ent will also be able to study tourist behaviour or big data analysis. This will help that student to develop a broader understanding of different subjects. Moreover, the NEP is distinct from its preceding policies in terms of the significance given to the integration of vocational courses at different levels. Tiwari et al., (2020) also reported the significance of vocational skills in equipping students with industry-level skills. The study confirms that the NEP lays a strong foundation for future generations by providing holistic development of students at different stages of education.

Secondly, the policy stressed augmenting the educational system around the needs and interests of students. Early selection of subjects, promoting fun activities at school and college levels, adopting ubiquitous digitalization strategies, online distance learning opportunities, learning-by-doing curricula, and competency-based assessments would help students to realize their full potential. Aithal & Aithal (2020) suggested that the Indian government should consider providing merit-based scholarships and education loans to students irrespective of their socio-economic background. Lastly, the policy is considered favorable owing to the initiative undertaken to promote Indian languages in the education system. Creating a student-centric education system also requires giving them the flexibility to choose the language for learning and writing. India is a country that has more than 200 dialects and they change every few miles. The new NEP allows students to opt for their regional languages at higher educational levels also. This concern has manifold benefits- students can freely express their views and write exams in their regional language at HEIs, gives them pride in their regional individuality, and promotes the regional culture of Indian states at the national level. Moreover, students will also have an option of third language which could be used as a bridging language. Overall, the policy documents signify that the GoI is primarily concerned to transform the pre-existent educational system and develop a unified education framework in the country.

Tholath (2021) identified that the NEP positively influences the artistic, cultural, and historic heritage of India. The policy ensures that Indian values and culture are not lost in adapting to the western educational systems (Tholath, 2021). The NEP 2020 transforms the existent education system by broadly focusing on three sub-themes namely, development of curriculum, student and courses. Courses and curriculum would be developed to enhance students' aptitude and equip them with multidisciplinary knowledge and skills. This policy will have post-COVID-19 implications for the stakeholders. The post-crisis education system requires teachers to develop their pedagogical skills, incorporate technology in the delivery of lectures, and update themselves to meet the evolving needs for benefitting the larger society. Curriculum design will play a central role in building a strong foundation for students as an unprecedented shift from theoretical learning to real-world application of theories would be required. The policy's idea of embedding regional language for students at HEIs would make higher education accessible to the young population in tribal and rural areas of the country (Kaurav et al., 2020). Moreover, the objective of NEP to increase the gross enrollment ratio to 50 per cent would subsequently increase the employment ratio in future. However, there are a few challenges that should be considered to ensure feasibility in the long run. Firstly, the educators should also proficient in regional languages to impart education to specific students. Secondly, curriculum design is a vital part of ensuring the quality of education, and thus creating committees (either discipline wise or grade-wise) of experienced teachers and policymakers would help bring better knowledge outcomes among graduates/postgraduates. This would also lead increase the probability of creating industry-ready professionals and entrepreneurial mindset amongst them.

The world cloud demonstrated the emerging use of technology-related terminologies – indicating the NEP's emphasis on incorporating technology and digitisation in the education system. Considering that e-learning is the need of the hour (Kaurav, Rajput, & Baber, 2019), the policy frequently stressed using ICT in pedagogy (Tholath, 2021). The post-COVID-19 scenario is likely to accelerate the way the world will operate, and technology would become the epicentre of individuals' lives. Certainly, the NEP's futuristic vision envisaged the post-crisis phase and developed the policy framework to ensure quality education includes advanced ICT. Even the students (at school and university level) would benefit from a variety of digital learning tools, technology centres for conducting quality research, online digital learning courses, digital libraries, and ICT-enabled infrastructure at HEIs. Imparting technical languages would expand students' knowledge in the field of technology, biotechnology, big data analysis, nanotechnology and so on. NEP mentioned introducing a National Education Technology Forum where students can share their ideas on using and developing technologies. While the crisis amplified several issues faced by HEI, students and teachers- one of them being the 'digital divide', Dutta (2020) stated that effective implementation of SWAYAM would bridge similar situations. The initiatives like SWAYAM and Swayamprabha would develop the digitisation process in the education ecosystem and help students from backward socio-economic background to join the knowledge economy (Dutta, 2020).

From the mind map, the NEP's aim of building an Indian higher education system with advanced facilities was evident. A greater emphasis on critical assessment, Indian languages, community benefit, and stakeholders' development would broaden the horizons for the educational sector. Moreover, welcoming foreign universities in higher education, offering international level pedagogy, and student exchange programs demonstrate the larger aim of making India an educational hub in the future. To attract foreign universities and foreigners, GoI must strategize to make India a safe place for foreigners. Further, the policy has suggested putting a cap on the fees charged by private HEIs, the upper end is still uncertain. Lastly, the NEP has encouraged the world's top HEIs to set up their campus in India however, adequate infrastructure, land availability, and inculturation concerns would predominantly challenge the implementation.

Behavioral responses towards policy implementation provide a prima facie overview that can be evaluated in future to monitor the policies. This study also conducted a sentiment analysis using Twitter mining to examine the degree of emotions among different stakeholders. In contradiction to the research by Saini et al. (2021), stakeholders showed positive emotions and welcomed the NEP 2020. Saini et al. (2021) pointed out that some states had negative emotions in accepting the NEP, thereby, policymakers should attempt to bring awareness about the related benefits of the policy. The positive emotions are influenced by the comprehensive nature of the NEP which is built on five pillars- Accessibility, Equity, Quality, Accountability, and Affordability (Kumar, Prakash, & Singh, 2020). These pillars considered the requirements of three prominent stakeholders- students, teachers, and HEIs by ensuring holistic development. Furthermore Aithal & Aithal (2020) suggested following the top-down approach for effective implementation of the policy. Likewise, Lissen & Bautista (2020) proposed maintaining a balance between global and local; and contemporary and conventional areas for achieving long-term sustainability in education.

Conclusions

The radical reform proposed by the third National Education Policy 2020 covers broad dimensions of ensuring sustainability in achieving quality education in the coming decades. The extensive framework focuses on the holistic development of learners, educators, HEIs and the nation. The policy draft aptly imbibes the contemporary trends and adequately adapted the features of the western educational system while keeping the Indian-ness at the core of the proposed education system. Even though the NEP 2020 offers a futuristic vision to transform the educational ecosystem in India, adoption of the policy is not a compulsion for HEIs and schools. This study aimed to qualitative explore the crucial paradigms of the NEP 2020 through sentiment analysis using Twitter mining and extracting themes from policy documents. The study is a theoretical extension of the evolution of educational systems in India.

Academic courses, student centricity, and language came out as the key excerpts from the policy documents of NEP 2020. The increasing emphasis on incorporating ICT in the learning and teaching environment, and HEIs infrastructure was significantly evident in the graphical representations. Similarly, the NEP aims to foster community development by imparting knowledge-based education amongst the students at all levels. At the HEIs, the policy proposed substantial changes to ensure that these institutes equip students with industry-level and entrepreneurial; skills in graduates and post-graduates. Another theme on stakeholders' development was also reported in the analysis-ensuring teachers are trained through online and offline FDPs, and HEIs promote research culture among students and teachers. The flexibility of using native or regional language in classrooms is another parameter that will encourage students from remote locations to pursue higher education, and become a part of the knowledge economy. The wide range of courses at higher educational levels (from agriculture to technical advancements), integration of vocation courses at all levels, digitisation of education, accessibility and affordability for learners, and reshaping the curriculum and pedagogical practices indicate radical renovation of the Indian education system.

The NEP 2020 promotes quality education through the channel of transformation in the educational ecosystem. Staring from schools up to higher-level courses, the experiential learning process is encouraged. Assessment based on students' aptitude, competency to apply theories to solve real-world problems, and extra co-curricular activities would allow students to be more creative and innovative. As the NEP 2020 open the gates for the world's top universities to set up their campuses in India, students and teachers would get better opportunities. It would also prevent the issue of 'brain drain' in the longer run. However, the Government of India should equally strategize to create employment opportunities for future generations.

To summarize, the essence of the policy lies in its comprehensiveness. It takes a 360-degree approach to improvise the conventional educational practices in India. Perhaps, this could be the reason behind positive sentiments from stakeholders. The NEP is a radical revolution in the Indian educational ecosystem which must be implemented incrementally to witness the effectiveness in the short run. Certainly, the policy is futuristic and meet the demands of teachers and students at large, however, its implications would vary in different states.

The main issue is that the general public and stakeholders appear to be positive, however, they are apprehensive about the execution of the policy. They are enthusiastic about the concept, but the document is perplexing to them. The policy is inclusive and fair opportunity while yet looking for methods to internationalize. Positive views are reported on livelihood and holistic education, but unfavourable sentiments are reported on skill development and developing a good ecology for research and innovation mechanisms. Overall, many people are optimistic about the policy, and fewer are unable to express their dissatisfaction. But, it is equally desirable that the GoI resolve the concerns raised among general publics. This would help in the effective implementation of the policy in the long run.

REFERENCES

Ainin, S., Feizollah, A., Anuar, N. B., & Abdullah, N. A. (2020). Sentiment analyses of multilingual tweets on halal tourism. *Tourism Management Perspectives, 34*(February), 100658. https://doi.org/10.1016/j.tmp.2020.100658

Aithal, P. S., & Aithal, S. (2020a). Analysis of the Indian National Education Policy 2020 towards Achieving its Objectives. *International Journal of Management, Technology, and Social Sciences,* 19–41. https://doi.org/10.47992/ijmts.2581.6012.0102

Aithal, P. S., & Aithal, S. (2020b). Implementation Strategies of Higher Education Part of National Education Policy 2020 of India towards Achieving its Objectives. *International Journal of Management, Technology, and Social Sciences*. https://doi.org/10.47992/ijmts.2581.6012.0119

Alhojailan, M. I. (2012). Thematic analysis : a critical review of its process and evaluation. *West East Journal of Social Sciences*, *1*(1), 8–21.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: a tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, *26*(13), 1802-1811.

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9(2)*, 27-40. https://doi:10.3316/QRJ0902027

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Chima, J. S. (2020). Are participants in ethnonationalist movements rational-choosers, socially-embedded actors, or psychologically-instinctive beings?: motivations and worldviews of Sikh separatists from India. *Studies in Conflict and Terrorism*, *0*(0), 1–22. https://doi.org/10.1080/1057610X.2020.1711604

Dalkin, S., Forster, N., Hodgson, P., Lhussier, M., & Carr, S. M. (2021). Using computer assisted qualitative data analysis software (CAQDAS; NVivo) to assist in the complex process of realist theory generation, refinement and testing. *International Journal of Social Research Methodology, 24*(1), 123–134.https://doi.org/10.1080/13645579.2020.1803528

Dutta, D. A. (2020). Impact of Digital Social Media on Indian Higher Education: Alternative Approaches of Online Learning during COVID-19 Pandemic Crisis. *International Journal of Scientific and Research Publications (IJSRP), 10*(05), 604–611. https://doi.org/10.29322/ijsrp.10.05.2020.p10169

Govt. of India (1968). National Education Policy, 1968. https://web.archive.org/web/20090731002808/http://www.education.nic.in/policy/npe-1968.pdf

Govt. of India (1986). National Education Policy, 1986. https://web.archive.org/web/20090619075631/http://education.nic.in/cd50years/g/T/49/0T490401.htm

Govt. of India (2020). National Education Policy 2020. https://www.mhrd.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Holloway, I., & Galvin, K. (2016). *Qualitative Research in Nursing and Healthcare*. John Wiley & Sons.

IGNOU (1985). The Indira Gandhi National Open University Act 1985 (No. 50 of 1985). http://www.ignou.ac.in/userfiles/IGNOU_ACT(Amended%20till%2024_09_19).pdf

Kaurav, R. P. S., Rajput, S., & Baber, R. (2019). Factors affecting the acceptance of e-learning by students: A study of e-learning programs in Gwalior, India. *South Asian Journal of Management, 26*(1), 76-95.

Kaurav, R. P. S., Suresh, K. G., Narula, S., & Baber, R. (2020). New education policy:

qualitative (contents) analysis and Twitter mining (sentiment analysis). *Journal of Content, Community and Communication, 12*(1), 4-13.

Kumar, K., Prakash, A., & Singh, K. (2020, September). How National Education Policy 2020 can be a lodestar to transform future generation in India. *Journal of Public Affairs*. doi:https://doi.org/10.1002/pa.2500

Lissen, E. S., & Bautista, A. S. (2020). National Education Policy 2020. Building a new Educational System in India. *Revista Española De Educación Comparada, 37,* 356–370. doi:10.5944/reec.37.2021.29048

Liu, B. (2012). Sentiment analysis and opinion mining. *Synthesis Lectures on Human Language, 5*(1), 1-167.

Maurya, A., & Ahmed, A. (2020). the New Education Policy 2020 : Addressing the Challenges of Education in Modern India. *International Journal of Multidisciplinary Educational Research, 514*(12), 31–38.

MHRD (1986). Available: https:// www.mhrd.gov.in/ sites/ upload_files/ mhrd/ files/ upload_document/ npe.pdf. [Accessed: 02- May- 2021].

Mustafa, M. M. (2018). Mining and mapping halal food consumers: A geo-located Twitter opinion polarity analysis. *Journal of Food Products Marketing, 24*(7), 858-879.

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*(1), 1–13. https://doi.org/10.1177/1609406917733847

O'Leary, Z. (2014). *The Essential Guide to Doing Your Research Project* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Percy, W. H., Kostere, K., & Kostere, S. (2015). The qualitative report generic qualitative research in psychology recommended APA citation generic qualitative research in psychology. *The Qualitative Report, 20*(2), 76–85. http://nsuworks.nova.edu/tqr85.%5Cnhttp://nsuworks.nova.edu/tqr/vol20/iss2/7

Perry, C. & Jensen, O. (2001), Approaches to combining induction and deduction in one research study, Conference of the Australian and New Zealand Marketing Academy, Auckland, New Zealand.

Rizvi, F., & Lingard, B. (2009). *Globalising Education Policy*. Routledge.

Silova, I., Rappleye, J., & Auld, E. (2020). Beyond the western horizon: rethinking education, values, and policy transfer. In *Handbook of Education Policy Studies* (pp. 3-29). Springer, Singapore.

Sinclair, J., Cardew-Hall, M. (2008). The folksonomy tag cloud: when is it useful? *Journal of Information Science 34(1)*, 15–29.

Singh, H., & Dey, A. K. (2020). Listen to my story: contribution of patients to their healthcare through effective communication with doctors. *Health Services Management Research.* https://doi.org/10.1177/0951484820952308

Smith, J., Bekker, H., &Cheater, F. (2011). Theoretical versus pragmatic design challenges in qualitative research. *Nurse Researcher*, *18*(2), 39–51.

Tiwari, P., Séraphin, H., & Chowdhary, N. R. (2020). Impacts of COVID-19 on tourism education: analysis and perspectives. *Journal of Teaching in Travel and Tourism.* https://doi.org/10.1080/15313220.2020.1850392

Wen, J., Wang, W., Kozak, M., Liu, X., & Hou, H. (2020). Many brains are better than one: the importance of interdisciplinary studies on COVID-19 in and beyond tourism. *Tourism Recreation Research,* 1–4. https://doi.org/10.1080/02508281.2020.1761120

Yang, D.-H., & Yu, G. (2013). A method of feature selection and sentiment similarity for Chinese. *Journal of Information, 39*(4), 429-441. doi:10.1177/0165551513480308

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IMPACT OF DIGITAL MEDIA ON STUDENTS' ENGAGEMENT VIA E-LEARNING: A CRITICAL LITERATURE REVIEW USING BIBLIOGRAPHIC ANALYSIS

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ABSTRACT

The conventional learning style and engagement of students has changed since the inception of digital media. The present paper purpose is to delve into the literature of the last decade and to track the progression of digital media in context to student's engagement in e-learning through critically accessing the literature. The study was conducted with 300 published articles based on the selected keyword '*Digital Media*', '*Students Engagement*', and '*E-Learning*' in the last 10 years. Researchers systematically analyzed the articles, following type and period of publication; publisher wise; citations, publishers, and years; authors; titles; and top journals to identify the impact of Digital Media. The finding provides the role of Digital media and its impact on E-Learning patterns of students. Furthermore, it is accommodating in comprehending the students in putting the knowledge gained through Digital Media to optimal use. Based on finding this platform can be enlarged to serve all streams of learning materials. Confiding Digital Media only for Learning of Students could be considered a narrow approach, hence part from selected keyword studies could also be conducted. The present research will help future researchers and academician to have a clear understanding of Digital Media to utilize it as learning.

Keyword: *Digital Media; E-Learning; Students Engagement; Communication; Internet; Bibliometric.*

INTRODUCTION

The spread of the Internet has led towards providing an opportunity to digital media. Since its inception digital media is becoming huge, everything is being united. By providing multiple channels, to communicate across, one-way communication digital media has made it a two-way communication (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013; Johri, Teo, Lo, Dufour, & Schram, 2014; Kalorth & Verma, 2018; Lupton, 2017; Narula & Shiva, 2020; Van Leer & Connor, 2012). For any business digital media is of getting the right message to the right person at the right time with the right media (Bimber, 2017; Gershon, 2013). Digital media is providing a platform to reproduce, put the matter out there, and made a difference (Abou-Khalil et al., 2021). Digital media is about the power and the ability to tell the story, in a way that it can interact and contribute to the whole world (Boulianne, 2020; Verma, 2015). Digital media is not only doing it but it is doing it cheaply and anyone can do it if they want to (Kalorth, Verma, & Sagar, 2020; Lupton, 2017). Tonini, Albizzati, & Astrup, (2018), has said that through digital media you tell a story to a customer while maintaining consistency, you must engage them, and you must repeat the message repeatedly.

Verma, (2015) considered the internet as one of the prime things to reiterated and the digital media have provided public relation with a new facilitator to gather information and keeping an eye on the public concerning issues. Digitalization of the media has an association with all the parallel factor to the world of web, concerning the learnings of the students, engagements of the users, and its impact on daily life (Chen, Lambert, & Guidry, 2010; Huang-Saad, Gibson, Goebel, Sheridan, & McNaughton, 2016; Narula, 2016; Siregar, 2021; Tran et al., 2020). Initially, learning through media seems to read some dystopian novel and bizarre at some point, but through the use of technology, they are searching for the remedy (Dawadi, Giri, & Simkhada, 2020;

Taylor & Parsons, 2011). Traditionally, many critiques believe that traditional lectures provide the optimal form of learning and it turns out that this is an online learning argument aside from just a blatantly wrong statement (Kaur, Bir, Chandran, & Deepak, 2021; Verma, 2015). In 1984, Bloom did experiment on various types of teaching-learning system and saw that traditional classroom setting was the least effective ways of disseminating knowledge to the students, he added it with a quote;

"It makes no sense to expect all students to take the same amount of time to achieve the same objectives."

Benjamin S. Bloom

On the other hand, Strasser (2011), believes that digital learning has exposed students to a wide Sources of superficial information but ignoring the core pieces of learning that the students encounter during learning breakdowns. Boutzoukas, Akinboyo, Wong, Benjamin, & Zimmerman, (2021), have concluded in their paper that digital learning has a long-lasting impact on the significant intelligence of the learners, García-Peñalvo, Figuerola, & Merlo, (2008), have clearly expressed their concern about the ensured and equitable access to the educational services. Students Engagement with Digital learning and its understanding to sustain the involvement towards the learning content could give a different approach to study these variables (Abou-Khalil et al., 2021). Thus, the mixed responses on Digital Media and E-Learning have introduced the parameter of Students Engagement (Song, Singleton, Hill, & Koh, 2004), Also, during recent developments, the impact of digital media over the engagement of students through E-Learning has expanded immensely (Khan, Vivek, Nabi, Khojah, & Tahir, 2021).

In the present research paper, three variables were considered all the three variables i.e., Digital Media, E-Learning and Students Engagement variedly, and used in the bibliometric analysis to comprehend the published literature. To develop the generalized framework, the Impact of Digital Media on the Students Learning through the E-Learning. In this study, the four databases are used to summarize the publication on the considered variables.

The paper is divided into four parts: the first part represents the methodology applied in the study: the second part represents the result of the literature review considered; the third part focusses on the application of Sankey and word cloud, and the fourth part consists of conclusion and direction for future research.

RESEARCH METHODOLOGY

Data Extraction:

An ample amount of research has been done on Digital Media, E-Learning and Students Engagement. The review has been done systematically. In this research paper the following database are searched:

- Scopus.
- Web of Science.
- Taylor and Francis.
- Elsevier's Science Direct.

The number of related papers on databases were countless and not possible to read. Hence, the period set for the selection of the published paper is from 2011-2020. Only those papers were targeted which had the keyword of Digital Media, E-Learning and Students Engagement are considered for the study. To access and evaluate the information the authors used basic computation tools following by a third-party tool for the Sankey and Word cloud. The incorporation of Sankey will lead to better visualization of the factors used which depicts the Journal-Year wise flow with Citations. This will help the readers to establish the growth/decline in the publishing of a particular keyword. The word-cloud figures will explain the frequency of repetition of the keyword throughout the last 10 years, this explains the dominancy of each keyword all over the period considered. After the selection of the documents, the paper was distributed based on the keyword selected for the present study.

RESULTS

Based on the above-mentioned criteria and available database a total of 300 articles were selected for the study. Based on the keyword selected that is Digital Media, E-Learning and Students Engagement 100 articles selected from each. The paper selected were analyzed on the following parameters:

- type and period of publication.
- publisher wise.

- citations, publishers, and years.
- authors.
- titles.
- top journals

Distribution of articles based on types and period of publication

The study of this paper is divided into the various period and the type of paper. The period of 10 years is divided into five different phases:

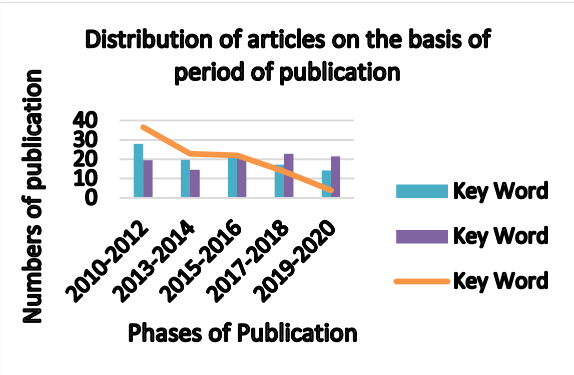
Table 1 Distribution of articles based on phases

Year/ Keyword		Digital Media	Students Engagement	E-Learning
Phase 1	2011 – 2012	37	28	19
Phase 2	2013 – 2014	23	20	15
Phase 3	2015 – 2016	22	21	22
Phase 4	2017 – 2018	14	17	23
Phase 5	2019 – 2020	4	14	21

Source: Author's Calculation

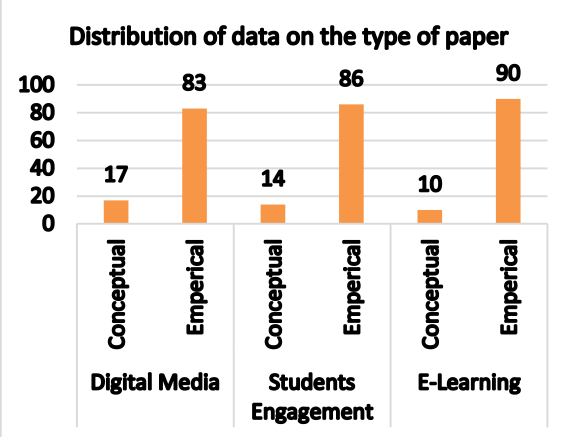
Based on the above study, it is apparent that enormous research was conducted in keyword 'Digital Media' but gradually it starts declining steeply in the subsequent years. However, in the case of the keyword 'Student's Engagement,' the research pattern is in a declining phase but in the case of the keyword 'E-Learning,' it is rather growing (Figure 1). Along with that, it is also clear that more than 85 per cent of research is based on empirical analysis, which is almost constant from the last decade (Figure 2).

Figure 1: Distribution of data based on period of publication



Source: Author's Calculation

Figure 2: Distribution of data based on types of paper



Source: Author's Calculation

Distribution of articles in terms of publishers

Publisher wise distribution of the articles is shown in Table 2. This table shows that out of 300 articles considered for the present study, we can identify only 16 publishers. Out of 16, only 6 publishers have published more than 25 research articles. These are namely, Elsevier (66 articles), Sage Publication (44 articles), JSTOR (25 articles), Springer (35 articles), Taylor & Francis (73 articles) & Wiley Online Library (27 articles). All these publishers published 90 per cent of the research articles considered for the present study.

Table 2: Distribution of articles publisher wise

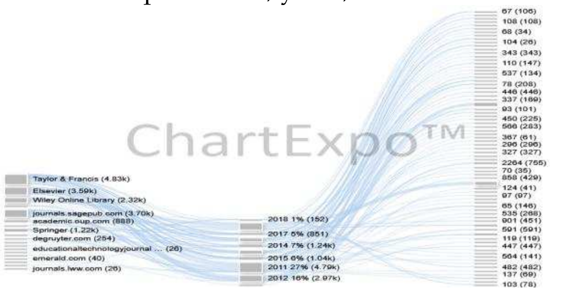
Publishers	**Number of articles**
Oxford Academic Journal	5
American Academy of Paediatrics	1
Cambridge University Press	2
De Gruyter	1
Educational Technology Journal	1
Elsevier	66
Emerald	3
ERIC	4
IEEE Xplore	5
University of South California	1
Inderscience Online Publishers	7
Sage Publication	44
JSTOR	25
Springer	35
Taylor & Francis	73
Wiley Online Library	27
Total	300

Source: Author's Calculation

Distribution of articles based on citations, publishers, and years.

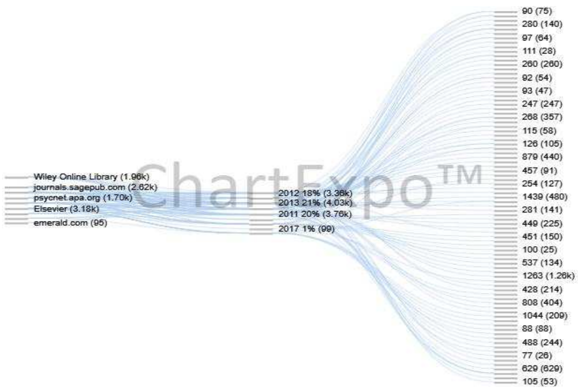
The analysis based on Citation, publishers, and year-wise distribution for keyword *'digital media'* is shown in Figure 3, for the keyword *'student's engagement'* in Figure 4, and for the keyword, *'E-Learning'* is in Figure 5. The width of the arrows in the Sankey diagram represents the size of the respective publishers and the years published. The Sankey diagram of the citations for the publishers followed by the years published. Since the Sankey diagram for the keyword *'digital media'* and *'E-Learning'* looks like each other in terms of the years published, regarding the proportions to the arrow to another. The publishing weightage for both the keywords is more on 'Taylor and Francis' and 'Elsevier' respectively, that too in the initials years of the considered period. However, in the case of the keyword *'student's engagement'*, the width of the arrows is uniform and almost equally distributed, which makes the distributions even in the case of publishers as well as in the years.

Figure 3: Distribution of digital media articles based on publishers, years, and citations



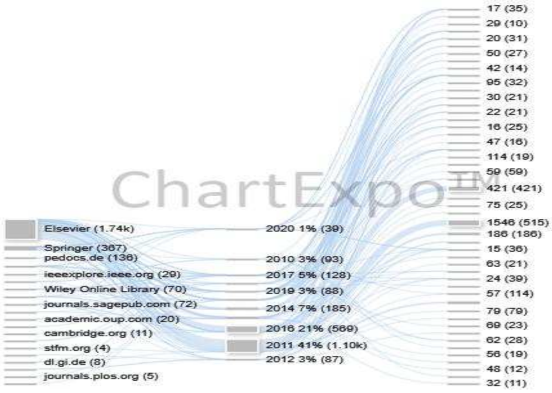
Source: Author's Calculation

Figure 4: Distribution of Student's engagement articles based on publishers, years, and citations



Source: Author's Calculation

Figure 5: Distribution of E-Learning articles based on publishers, years, and citations



Source: Author's Calculation

Distribution of articles based on authors

Amongst all the 300 papers considered for the present study. The list of authors who have published at least 2 number of paper publications, is presented in Table 3, with a total of 10 such authors. However, J Reeve is at the top of the list with 4 papers published on the keyword *'student's engagement'*, remaining 9 authors are at the same number of 2 paper publications.

Table 3: Author-wise distribution of the articles

Keyword	**Authors**	**Number of Published Papers**
Students Engagement	J Reeve	4
Students Engagement	D Alt	2
Digital Media	D Lupton	2
Students Engagement	E Huhtamo	2
Digital Media	ER Kahu	2
Students Engagement	JT Guthrie	2
Students Engagement	MT Wang	2
Students Engagement	R Junco	2
Digital Media & E-Learning	S Quinton	2
Digital Media	WL Bennett, A Segerberg	2

Source: Author's Calculation

Distribution of articles based on titles

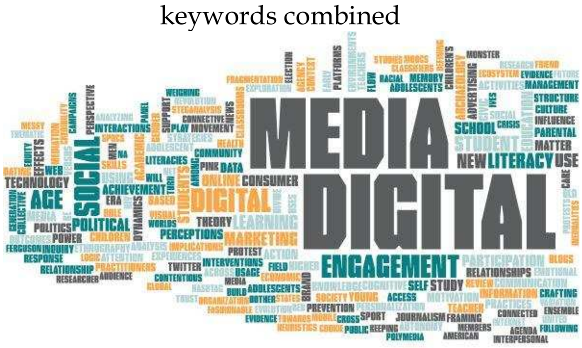
During the studies of the keyword and selection of a total of 300 papers, we considered the title of each research paper is being considered for the frequency evaluation through a word cloud. For the word cloud (Figure 6) a total of 350 words from the titles of each keyword was taken into consideration for the word cloud. From the study, it is evident that the author's study revolves around the keywords selected by us along with those authors also paid attention towards social, political, literacy, development etc.

Figure 6: Distribution of article's title based on keywords

Source: Author's Calculation

It has been inferred from the combined word cloud that; Digital media is the dominating variable considered by an author. Further social, literacy, age, technology, community, classrooms, students, marketing, learning are the others dominating variable taken for the Digital Media studies.

Figure 7: Distribution of titles based on all the keywords combined



Source: Author's Calculation

Distribution of articles based on Journals

Journal wise distribution of articles is shown in Table 4. The results of the table reveal that there are very few journals specifically related to the keywords selected for the present study. Out of 300 articles considered for the study are published in 246 journals, three journals have published four or more than four articles. These journals are namely Computers & Education (7 articles), Journal of cleaner production (7 articles), Computers in Human Behavior (5 articles), Educational psychologist (4 articles), Information, Communication & Society (4 articles), and Sustainability (4 articles). Twelve research journals have published more than three research articles.

Table 4: Journal wise distribution of the articles

Name of the Journals	**Number of Published Papers**
Computers & Education	7
Journal of cleaner production	7
Computers in Human Behavior	5
Educational psychologist	4
Information, Communication & Society	4
Sustainability	4
Active learning in higher education	3
Business horizons	3
Contemporary Educational Psychology	3
Handbook of research on student engagement	3
Journal of educational psychology	3
Learning and Instruction	3
Media Archaeology	3
Paediatrics	3
Public relations review	3

Source: Author's Calculation

CONCLUSION

The authors reviewed 300 research articles available in four renowned databases from 2011 to 2020. The result is divided into 6 subdivisions i.e. type and period of publication; publisher wise; citations, publishers, and years; authors; titles; and top journals, to identify them different methodologies are used. The observations of Table 1 depicted that distribution of articles based on the year of publication covered majorly the theme of Digital Media for the first half of the tenure considered and afterwards declined steeply; which represents the inclination of the researchers over novel themes, the focus needs to be on the remaining keywords along with digital media in a constant. Along with it, the authors are leaning more towards empirical papers. The need of undertaking the key aspects of study results into planning and implementation is required which can be done through conceptual work. The Sankey diagram shows that the major papers are published by the established publishers in the initial years with the highest citations. The need for acceptance and novelty is required by the researchers and the publishers so that more readers can be benefitted and could lead to more dissemination of knowledge.

Besides, the word cloud analysis results have showcased that digital media had a crucial role to play in students' engagement through e-learning. The involvement of digital media has positively impacted and the usage of the internet could be made more effective. Present research analyses the Digital Media in a decade and it is useful to utilise this platforms for E-Learning and to engage the youth that is students through it in a better and rational way. Besides, the word cloud analysis results have revealed that digital media has a crucial role to play in students' engagement through channelized e-learning. Further, future research can validate the factors considered with different other variables and in a large audience with focused groups. The present situation of the pandemic demands a higher focus on E-learning with the help of digital media and engaging the students towards a better and directed wisdom. The role of digital media can never be demeaned. The cooperation of digital media with E-learning in tune with student engagement is the need of the hour and can work towards the development of the nation towards prosperity and growth.

The literature review indicated the complexity of student's engagement and digital media. The presence of meaningful and relevant learning community support is the basic foundation of the correlation between digital media, students learning and student's engagement strengthening the student's social learning relations. Student engagement is much more than a behavioural aspect. The literature review conducted indicated that the students of the 21st century are digital natives.
The digital media builds up a plethora of accessible educational materials changing the perspective of learning from face to face in-person learning to a complex but fruitful technology of online chat, web discussion, question and answer on board and engaging the students in the benefits of e-learning. The rare but the most important ingredients of digital media, e-learning and students engagement in the right proportion will impact the whole economy of India in a positive and build a sustainable education system.

REFERENCES

Abou-Khalil, V., Helou, S., Khalifé, E., Chen, M. A., Majumdar, R., & Ogata, H. (2021). Emergency online learning in low-resource settings: Effective student engagement strategies. *Education Sciences*, *11*(1), 1–18. https://doi.org/10.3390/educsci11010024

Bimber, B. (2017). Three Prompts for Collective Action in the Context of Digital Media. *Political Communication*, *34*(1), 6–20. https://doi.org/10.1080/10584609.2016.1223772

Bloom, B. S. (1987). A Response to Slavin's Mastery Learning Reconsidered. *Review of Educational Research*, *57*(4), 507–508. https://doi.org/10.3102/00346543057004507

Boulianne, S. (2020). Twenty Years of Digital Media Effects on Civic and Political Participation. *Communication Research*, *47*(7), 947–966. https://doi.org/10.1177/0093650218808186

Boutzoukas, A. E., Akinboyo, I. C., Wong, C. A., Benjamin, D. K., & Zimmerman, K. O. (2021). Impact of COVID-19-related School Closures on the Drivers of Child Health. *North Carolina Medical Journal*, *82*(1), 50–56. https://doi.org/10.18043/ncm.82.1.50

Chen, P. S. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: The impact of Web-based learning technology on college student engagement. *Computers and Education*, *54*(4), 1222–1232. https://doi.org/10.1016/j.compedu.2009.11.008

Dawadi, S., Giri, R., & Simkhada, P. (2020). *Impact of COVID-19 on the Education Sector in Nepal - Challenges and Coping Strategies* (Vol. 3). https://doi.org/10.31124/advance.12344336

Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2013). Embracing Digital Technology: A New Strategic Imperative | Capgemini Consulting Worldwide. *MIT Sloan Management Review*, *55*(1), 1–13. Retrieved from https://www.capgemini-consulting.com/SMR

García-Peñalvo, F. J., Figuerola, C. G. de, & Merlo, J. A. (2008). *Open Knowledge Management in Higher Education*.

Gershon, R. A. (2013). Digital media innovation and the apple IPAD: Three perspectives on the future of computer tablets and news delivery. *Journal of Media Business Studies*, *10*(1), 41–61. https://doi.org/10.1080/16522354.2013.11073559

Huang-Saad, A., Gibson, M., Goebel, J., Sheridan, R., & McNaughton, B. (2016). Student Learning Outcomes From a Multidisciplinary Capstone Entrepreneurship Course. *Journal of Engineering Entrepreneurship*, *7*(1), 13–23. https://doi.org/10.7814/jeenvp

Johri, A., Teo, H. J., Lo, J., Dufour, M., & Schram, A. (2014). Millennial engineers: Digital media and information ecology of engineering students. *Computers in Human Behavior*, *33*(33 (2014)), 286–301. https://doi.org/10.1016/j.chb.2013.01.048

Kalorth, N., & Verma, M. (2018). Anatomy of fake news: On (mis)information and belief in the age of social media. *Journal of Content, Community and Communication*, *4*(8), 9–14. https://doi.org/10.31620/JCCC.12.18/03

Kalorth, N., Verma, M., & Sagar, M. (2020). Information and User: Social Media Literacy in Digital Societies. *Journal of Content, Community and Communication*, *12*, 263–269. https://doi.org/10.31620/JCCC.12.20/24

Kaur, S., Bir, M., Chandran, D. S., & Deepak, K. K. (2021). Adaptive strategies to conduct participant-centric structured virtual group discussions for postgraduate students in the wake of the COVID-19 pandemic. *Advances in Physiology Education*, *45*(1), 37–43. https://doi.org/10.1152/advan.00136.2020

Khan, M. A., Vivek, Nabi, M. K., Khojah, M., & Tahir, M. (2021). Students' perception towards e-learning during the covid-19 pandemic in India: An empirical study. *Sustainability (Switzerland)*, *13*(1), 1–14. https://doi.org/10.3390/su13010057

Lupton, D. (2017). Digital media and body weight, shape, and size: An introduction and review. *Fat Studies*, *6*(2), 119–134. https://doi.org/10.1080/21604851.2017.1243392

Narula, S. (2016). Role of Youth in Peace Building via New Media: A Study on Use of New Media by Youth for Peace Building Tasks. *Journal of Mass Communication & Journalism*, *6*(5). https://doi.org/10.4172/2165-7912.1000311

Narula, S., & Shiva, A. (2020). Editorial Pandemic and Role of Media. *Journal of Content, Community and Communication*, *12*, 1–3. https://doi.org/10.31620/JCCC.12.20/01

Siregar, F. A. (2021). *the Impact of the Covid-19 Pandemic on the Effectiveness of Learning Mathematics for Senior High School Students*.

Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *Internet and Higher Education*, *7*(1), 59–70. https://doi.org/10.1016/j.iheduc.2003.11.003

Strasser, T. (2011). *Moodle im Fremdsprachenunterricht-Blended Learning*.

Taylor, L., & Parsons, J. (2011). Improving student engagement. *Current Issues in Education*, *14*(1), 1–33.

Tonini, D., Albizzati, P. F., & Astrup, T. F. (2018). Environmental impacts of food waste: Learnings and challenges from a case study on the UK. *Waste Management*, *76*, 744–766. https://doi.org/10.1016/j.wasman.2018.03.032

Tran, T., Hoang, A. D., Nguyen, Y. C., Nguyen, L. C., Ta, N. T., Pham, Q. H., … Nguyen, T. T. (2020). Toward sustainable learning during school suspension: Socioeconomic, occupational aspirations, and learning behavior of vietnamese students during COVID-19. *Sustainability (Switzerland)*, *12*(10), 1–19. https://doi.org/10.3390/su12104195

Van Leer, E., & Connor, N. P. (2012). Use of portable digital media players increases patient motivation and practice in voice therapy. *Journal of Voice*, *26*(4), 447–453. https://doi.org/10.1016/j.jvoice.2011.05.006

Verma, M. (2015). Public relations: Scope and challenges in digital era. *Media Watch*, *6*(1), 148–152. https://doi.org/10.15655/mw/2015/v6i1/55399

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mHEALTH FROM THE PERSPECTIVES OF INDIAN RURAL POPULACE; URGENT NEED TO MAINSTREAM MHEALTH WITH THE EMERGENCE OF COVID-19

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ABSTRACT

mHealth now, more than ever, need to be integrated with existing health systems to further contactless healthcare and health delivery solutions. Studies have reported that mHealth can ensure enhanced health outcomes, ample patient care and offer quality support for professional health workers. Several studies have examined the potential of mHealth from various stakeholder perspectives. However, a serious dearth of studies exists that examine the advantages and challenges of using this technology from mHealth users' perspective especially in the rural context. This study examines the use of mobile phones for health-related purposes from the perspective of rural people belonging to the South Indian state of Karnataka. The focus is on their use of mobile phone to seek medical assistance, health information and services. The study also seeks to understand the barriers and challenges faced by the rural folk in accessing health related services, information and assistance through mobile phones. A qualitative research approach using in-depth interviews as data collection tool, was applied. Mobile phones are reported as useful by the rural mobile phone users for receiving health-related messages as well as for accessing help during emergency health conditions. However, to enable equity of use of this technology in the rural scenario and also for government to use this technology for providing responses during public health emergencies such as COVID-19, challenges such as the existing mobile phone infrastructure, digital illiteracy and perceived health concerns of mobile phone use among rural folk need to be addressed.

Key words: COVID-19, mHealth, mobile health, mobile phones, rural, healthcare

INTRODUCTION

The second wave of COVID -19 in India witnessed complete crumble of health infrastructures across the country. The number of deaths shot up to 1,85,000, with the total number of infected cases reaching over 15.9 million by April 2021. (Jain, Iyengar & Vaishya., 2021). Many state governments are planning to strengthen health infrastructures with new health facilities and construction of new oxygen plants (Bhuyan, A., 2021). From the time World Health Organization (WHO) declared the novel corona virus outbreak as a global pandemic, health systems worldwide have been grappling with the challenge of providing contactless care and health delivery services (Jordan, 2020). Amidst this pandemic, mHealth or mobile health seem to have emerged as the way forward for health systems, enabling response and health delivery solutions without the fear of cross-contamination during outbreaks and other emergency health situations (Ye., 2020).

Several mHealth initiatives in response to the pandemic was launched in India too, to help increase public awareness of the virus and to enact measures to reduce its spread. However, a sound amalgamation of mobile phone use and smartphone applications with health service delivery, public health systems and healthcare administrations could have achieved a better management of the spread of the virus and better pandemic management (Pai, & Alathur.,2020).

The use of mobile technology such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices in the field of medical and public health practices is called mHealth or Connected Health (WHO,2011). Evidence exists that mHealth can help in dispersing health information to rural and remote areas (Sharma, Shinde, &Kar, 2017), serve reminders, provide an appropriate response to an emergency, monitor and bestow support (Sondaal et al.,2016). mHealth can help the user consult and seek an appointment with health professionals, access both test result as well as personal health information (Hoque,2016).

In India, large scale variations in health literacy, healthcare inequity and poor risk perceptions exists (Kar, Ransing, Arafat, & Menon.,2021). Hence effective integration of mHealth solutions into existing public health systems would require deeper examination of the socio-economic aspects as well as existing infrastructural conditions. Further, successful implementation of mHealth tools would require evaluation of end user acceptability. Designing mHealth interventions to ensure successful outcomes would require among other things, analysis of perceptions of mHealth tools and its use among various stakeholders involved in the health sector. While the potential for the implementation of the technology has been examined from the health care and health care professionals' perspective, there is a dearth of studies that have examined the perceptions of mHealth from the users' perspective. Such studies would bring forth various unique aspects into the open which can then be addressed to design successful health tools, interventions and programs. This paper is based on an exploratory study conducted among rural mobile phone users belonging to the villages around the Udupi Taluk, Karnataka, India. In south Asia 'Taluk' is a term used for an administrative district, comprising of a number of villages. The research focuses on the rural mobile phone users' perspective of mHealth, the perceived advantages and barriers of mHealth technology especially the use of mobile phone to acquire medical help and health services by the rural populace.

METHODS

Context

Udupi district boasts of a good healthcare and human development indices. It also has a strong system of surveillance, monitoring and reporting (Umakanth, Bhat, Jagadeesha & Shetty, 2021). Despite this ,the district was one among the 17 districts of Karnataka that witnessed a steep increase in Corona virus cases in May 2021(India Today, May 16, 2021).

Selection of sample

Though data saturation is likely to occur within the first twelve interviews (Guest et al), a sample size of sixteen participants was taken from villages belonging to the Udupi Taluk using convenience sampling. This was done to balance the number of men and women participants in the sample.

The eligibility criteria for choosing the villages from where the participants were selected, was that the village had to be at a minimum of 10 Km distance from the nearest multispecialty medical facility. The participants were selected based on their access to mobile phones as well as their ability to communicate in either English, Hindi or Kannada. Participants not fluent in English were interviewed in Kannada, the local language of Karnataka, with the help of a translator. All the participants had verbally consented to the interview and to the recording of the same.

Data Collection

An interview guide was used to understand the perceptions of mHealth among the participants for period of two weeks. The primary areas covered through the interviews are

i. Present healthcare management and the challenges faced by the rural populace with the health system.
ii. Current use of mobile phones.
iii. Current use of mobile phone for health purposes

iv. Perceptions of benefits in the use of mobile phones for healthcare management
v. Barriers and challenges in the use of mobile phones.

A review of mHealth literature enabled in curating questions to explore and elicit information in the above areas. Field notes of the in-depth interviews were made. All the conversations were between 30 to 45 minutes duration and were conducted in the residences of the participants or at their places of work.

ANALYSIS

The data analysis was conducted using grounded theory methodology. Grounded approach is usually followed to understand social processes and allows for theory formation based on the data which is collected and analysed (Noble & Mitchell., 2016). A thematic analysis was conducted alongside data collection to help constant comparison of data. New themes that arose from the raw data were then compared with previous interview data to identify and develop key inductive themes. No new codes were added after the tenth interview as data saturation was attained by then.

RESULTS

Healthcare management and the challenges faced within the health system.

Preference of private clinics/health facility over government health centres

Almost all the participants interviewed preferred going to private institutions for their health requirements. Nine of the participants prefer going to a clinic near their place of stay, and six of them prefer to go to a significant multi-specialty private health facility near their area. Only one participant from the study said that he and family visit the PHC in his village whenever required.

The reasons given by the participants for preferring private medical facility over government medical facilities (PHC/UHC) ranged from the shortage of doctors, coverage under the medical scheme offered by the employer as well long waiting time. About half the participants of this study were employed and were covered by the Employees' State Insurance scheme (ESI) as well as the health schemes offered by their employer. One participant informed that during her pregnancy though she was registered at the local PHC and received regular SMS reminders for intake of iron& folic acid tablets and for periodic antenatal check-ups etc. from the health workers. Though she still chose to deliver her baby at a private facility due to overcrowded PHC as well as the non-availability of doctors most of the time. Many participants expressed that the doctors are either not allocated by the government, or have too many patients waiting for consultations or are just not available for them as they are busy attending to other medical emergencies.

"Whenever my children, husband or I have a fever or any other medical problem, I visit this clinic which is more convenient than visiting the PHC where the doctor might not be available or if available might have too many patients to attend "(Participant number 8, Feature phone user)

The only participant of the study who visits the local PHC for his medical requirements, opined that the situation has improved in the PHC of his area lately. According to him, this could have happened due to increased governmental focus on improving the situation.

Use of mobile

Preference of basic feature phones over smart phones

Most of the nine participants belonging to the age group 40 -60 years used basic mobile feature phones. Only one participant belonging to this age group was a graduate while the rest had just completed various levels at school. All the seven participants belonging to the age group 20-40 years used smartphones. Among these seven participants, four were women. Two out of the seven smartphone users were post-graduates, while three among them were graduates. Out of the remaining two smartphone users, one had a diploma in teaching, while the other had just completed school.

Dominant use of making & receiving calls

Participants using feature phones reported their use of mobile mainly for the primary purpose of making or receiving calls, only two of them said they use their feature phones for sending and receiving SMS messages as well.

"…my mobile phone is only for making & receiving calls…" (Participant number 10, Feature phone user)

Most participants who used feature phones prefer only voice calls over SMS for any purpose. The reasons for this preference was found to be mostly due to technical illiteracy, lack of interest to use the device for texting purpose as well as a perceived lack of time for texting or reading text messages. However, some participants felt that text messages are advantageous over calls as text messages can be read at their convenience and can be re-read for clarifications and can also be forwarded to others when required.

Use of internet or internet based apps by smart phone users.

None of the feature phone using users reported use of internet or internet based apps. While most participants using smartphones reported using their device to access the internet and also informed that they use web-based applications such as WhatsApp, Facebook, and shopping apps such as flip kart along with other regular purposes of the mobile phone such as contacts, calendar etc. The internet is reported to be used for downloading work-related files and documents, for accessing news and listening to music, seeking health information, for uploading documents to government sites (Income tax, passport office), Bank, Taluk office, etc.

Many participants felt that mobile phones were very useful in accessing relevant health information as well as for receiving essential messages from the government such as tax-related reminders, submission of pertinent documents to authorities, communication from their children's schools, as well as for booking cooking gas cylinders etc. Most participants informed that mobile phones help them to keep in touch with family, relatives and friends and one participant said that it also helps in reporting ahead when she gets late for work. Almost all the participants felt that mobile phone had become an essential part of their lives.

"On my mobile phone, I get information about what is available at the ration store for a particular month, I also get messages from the cable operator. I send and receive SMS from my children, this is important because, I am aware of their whereabouts. Today mobile phone for me has become important, without mobile phone everything comes to a standstill" (Participant number 8, Feature phone user)

Current use of mobile phones in healthcare and management

Use of mobile phone to contact health system

All the participants of the study expressed that mobile phones helped them contact medical help in times of emergency, to call doctors for medication or first aid, for ambulance, cabs, auto as well as their neighbours, friends and family for assistance to transport the sick or injured.

"When my father became suddenly ill, I was able to summon an ambulance and medical help by dialling 108 through my mobile phone."(Participant number 6, Smart phone user)

Some participants opined that mobile phones are useful in calling medical facilities ahead to check the availability of doctors before travelling to the clinic or in fixing appointments for consultations.

"My 83-year-old mother also uses her mobile phone to call the doctor to fix appointment beforehand."(Participant number 7, Feature phone user).

Need for physical consultation

While some participants call their physicians during an emergency (sick child/adult, fracture etc.) to confirm medicine and dosage with their regular doctors, many believed in directly going in for consultations whether the requirement is urgent or otherwise, as they felt that consultation with doctors always had to be in person. The reason expressed for this was that through mobile phones they may not be able to convey their health issues accurately to the physician, and also receive the health advice given to them in its entirety.

Two participants from the study spoke about the SMS based health information, and reminders they received from the local PHCs during their pregnancy as part of the government initiated Mother and Child Tracking System (MCTS) program. The reminders were directed at expectant mothers reminding them to take iron and folic acid tablets, for regular intake of nutritious food, for tetanus injection and periodic antenatal check-ups. Also to young mothers for the need for timely immunization of babies. This service according to them was very useful and enabled in taking proper care of themselves during pregnancy and also regular vaccination of their babies.

Use of the Internet to access health information.

Smartphone users among the participants reported using the internet regularly to access and clarify health-related information such as side effects of medicines prescribed, banned medicines, symptoms of diseases and precautionary measures. One woman participant who was a smartphone user, spoke about how she used the internet to clear her concerns about her nutritional requirements, supplements during her pregnancy and later to clear concerns over the vaccination requirements for her child.

“I used to browse online while I was pregnant for calcium substitute, for the required haemoglobin count that I needed to maintain as well the required weight gain during each trimester. After the birth of my baby, I had a query regarding the BCG vaccination. On checking it was found that BCG which was to be given at birth was not administered to my baby. So I checked with the doctor too about the same…I also checked about optional vaccines of Chicken Pox and Rotavirus to understand if I have to have it administered to my child certainly".(Participant number 6, smart phone user)

One participant reported using WhatsApp for sending messages from blood donation camps to his regular donor groups on his contact list.

Benefits anticipated through mHealth

Improve accessibility to health information

All the participants of the study agreed that mobile phones have become a necessity of life and that almost everyone has access to this technology. Participants unanimously believed that mobile phones could enable better access to health-related information. When asked about the type of health information preferred, few participants opined that data from government health departments relating to the health schemes, programs and policies will be useful in creating more awareness of the facilities and provisions provided by the government. Such information can then be spread among those who do not have access to it. Participants also suggested that SMS information on communicable diseases such as dengue, malaria, HIV AIDS etc., the precautionary measures to be taken to avoid contracting the prevalent diseases as well as details on non-communicable diseases, healthy eating habits and nutritious diets during ailments will also be useful.

Suggestions from participants included periodic mobile based video messages from health departments on first aids in case of fracture, stroke, and care for patients undergoing physical/mental trauma etc. may enable better and informed caregiving by family members. Many participants preferred such messages in the form of either text messages or as pictorial or audio-video messages. Several participants using feature phones preferred SMSs in their local language, Kannada.

"Dietary information from medical centres for specific ailments through SMS will aid in recouping and taking proper care especially for diabetes, hypertension and cholesterol-related ailments." (Participant number 16, Smart phone user)

It was felt that regular SMS updates on local health centres with names of physicians and their phone numbers for specific medical emergencies by the government health department could be useful too. Information on banned medicines should regularly be sent by the government through SMS, as this can be read and forwarded to others and can also inform others who do not have access to the information.

“…. then we will know about banned medicines, why they were banned and why certain medicines are unavailable ...” (Participant number16, Smart phone user)

Provide Reminders

Some participants reported that the community health workers or nurses from the local PHC call them to inform them about upcoming government health programs. Two participants spoke about the reminders they received during their pregnancy period from the local PHC as part of the MCTS program, reminding them to take iron & folic acid

tablets, nutritious food as well as to tell them of an upcoming check-up. Hardly any reminders through mobile related to health management were reported by the other participants.
“If a reminder comes one week before the mandatory health check-up (for the wife, a heart patient) it will be beneficial, as both of us are working, it will help us schedule and plan for a check –up date much ahead…."(Participant number 16, Smart phone user)

Barriers and challenges to the use of mobile phones for healthcare management

Digital illiteracy

Among the sixteen participants of the study, majority were feature phone users, compared to the smartphone users. Participants using feature phones were only using their device for making or receiving calls and prefer just voice calls over SMS for any purpose. Only two of them reported the use of their feature phones for sending and receiving SMS messages. Some of the feature phone users exhibited digital illiteracy. They did not know to use their phone for any other purpose other than making or receiving calls.

Health fears

Some participants expressed concern over the effects of mobile phone use on their health. One participant who had a heart surgery feels that keeping mobile in his breast pocket could harm his health from the radiation that is emitted. Some participants were also concerned about the impact of excessive use on one’s eyesight. Few were worried about the effects of overuse of mobile phones by the young users.

“Mobile phones are problematic as it results in constant chatting, unnecessary messaging, sharing of pictures etc. among younger children which could lead to blackmailing, bullying etc.…..” (Participant number 3, Feature phone user)

Such predisposition and concern are likely to become a barrier to their use of mobile phones in healthcare.

Need for physical consultation

Many participants felt that physical consultation with a doctor cannot be replaced. Physical meetings help in clearly telling the doctor about one's health issue as well as in taking the health advice completely.

"In-depth conversation about the health problem is possible when I have an ailment say a cough, in detail explanation is possible in person…." (Participant number 14, Feature phone user)

Infrastructure challenges

Many participants spoke about the connectivity issues faced by them in their mobile phone use.

“Only mobile networks of BSNL and Airtel seem to work here. The calls get connected much better than the broadband connections, which is very slow here” (Participant number 5, Smart phone user)

Power cut was another big issue faced by the participants especially during rainy seasons when there is no electricity for two to three days in a row. Charging their handsets during such times becomes a challenge.

Nearly half the number of participants spoke about lack of public transport into the interiors of their village, which makes it especially difficult when someone falls sick at night or during adverse weather conditions.

"The place used to be like an island until about four years ago, no proper transport, communication facilities etc. Today roads are better, but transport facility at nights is still a problem. The coming of mobile phones has brought some relief to this situation" (Participant number 7, Feature phone user)

All participants unanimously agreed that emergencies are times when mobile phones come in handy. During medical emergencies, mobile phones help them connect with doctors or nurses to seek some remedy; to contact auto drivers; ambulance services; neighbours, friends with vehicles to help in transporting the sick person to the nearest medical help during an emergency. Some participants preferred rushing to a medical facility directly. Few informed that they stock up medicines for primary and other ailments on a regular basis. As the transport during nights as well as during rains become difficult, they call up nurses or doctors when situations arise, for advice on dosage of the medicines to be consumed.

"During night times when my children or any family member develop fever, cold or upset stomach, I call my doctor belonging to the clinic where I have been visiting since childhood and check the dosage of medicine to be given and administer accordingly" (Participant number 7, Feature phone user).

DISCUSSION

Under the current pandemic situation of COVID-19, mHealth has turned into a vital service(Neubeck et al., 2020). All the participants agreed that mobile phones can be put to use by the government to disperse crucial health-related information and messages. This fact translates to the high level of acceptance of mobile phones as a possible tool for health-related information as well as a tool that would enable them to some extent in self-management of health. This finding supports the findings of Smith et al., 2015. This finding also reinforces the fact that mobile phone is a plausible tool for sending health information as well as a device that can support health interventions, especially in the rural, remote communities (Ndayizigamiye & Maharaj, 2017; Feinberg et al., 2017). Further, use of mHealth during pandemics help solve problems related to social isolation and decreased physical activity (Neubeck et al., 2020).

An important finding of the study is that large number of rural mobile phone users were predominantly feature phone users, educated only up to high school and were using it for only making or receiving calls. Most of them were not even able to use all features of the phone including the use of texting services. So if mHealth use and applications have to improve, then steps to educate people about the use of all the features of the phone have to be initiated either by the government, service providers or health centres, both public and private. Access to the internet through mobile phones was found to be very insignificant, and there is hardly any use of internet-based apps. Most of them are not interested in accessing the internet and are content in using their phones for only the primary purpose of making and receiving calls. They were satisfied with their devices and showed no interest in switching to smartphones. This aspect can become a barrier in maximizing the use of this technology to access health information and services. While all the participants of the study using smartphones were graduates under the age of 40 years and were very comfortable using their smartphones to go about their daily information and communication requirements. This finding reinforces earlier mHealth findings that people under 40 years used technology with more ease and consistency (Boodoo et al., 2017). This inconsistency in technology use among the populace will pose a challenge in fulfilling needs of the target users and cannot be ignored while designing mhealth interventions (Alvarado, et al., 2017; Boodoo et al., 2017). Several other studies have identified such lack of acquaintance with technology as a barrier to mHealth adoption (Fischer et al., 2014; Granger et al., 2016). However according to Smith et al., 2015, this concern would be valid only for a short period as the technically literate generation moves on in age to become the more substantial part of the population. Hence this technological barrier regarding usability may lose its pertinence over the years.

However, for successful implementation of mHealth programs and interventions, the targeted population must be carefully examined for the attitude and perception of this technology and its use by them as that would have a direct influence on its adoption by them. Studies to understand the user acceptance, needs attitudes and behavior toward mobile phone technology will help in augmenting the health intervention design (Smith, et al., 2015; Boodoo et al., 2017) .

Three significant uses emerged from this study in which mobile phone technology can offer respite in the existing scenario of overburdened healthcare and health delivery systems as well as infrastructural challenges. They are the use of mobile for a) Disseminating varieties of health-related information b) As reminder tools for taking medications and appointments and c) For providing emergency medical services over the mobile phone.

Disseminating varieties of health-related information

All the participants of this study felt that mobile phones should be used by the government to disperse health information related to both communicable and non-communicable diseases, its preventive measures and other health-related information such as nutritional requirements across ages. Participants also pointed out the need to spread awareness and knowledge about diverse health issues, pertaining to all age groups, so that it could be beneficial to all. Participants also pointed out the need to be informed about banned medicines. When such information can be disseminated through mobile phones, people would be well-informed on banned drugs and avoid its use. Health messages especially information pertaining to first aid treatment in cases of grievous injuries, stroke, heart attack etc., in an audio-visual form also was suggested by some participants. Dissemination of information through mobile phones could lead to increased awareness of health-related aspects and issues which in turn can result in a healthier population with minor incidences and prevalence of preventable disease forms.

As reminder tools for taking medications and appointments

SMS reminders to take pills can be handy for maintaining continuity of drugs as well as to tackle forgetfulness which is a significant barrier to medical adherence (DeSouza et al., 2014). Studies have indicated the effectiveness of SMS reminders sent on mobile phones to keep up the adherence to medications and appointment attendance (Kannisto, Koivunen, & Välimäki, 2014).

Participants of this study also considered reminder messages through mobile phones for taking medicines, for health check-ups and upcoming consultations as highly useful. Though at present a few ventures such as the SMS program under the Indian government's Mother and Child Tracking System (MCTS) program, Kilkari, T.B Missed call service and M-Cessation. All of these programs were launched in the Northern states of India; there is hardly any much such facilities in the south except for the SMS program under MCTS. Under the MCTS program, mobile phones are being used to keep track of young mothers and infants among the urban and rural populace. A study conducted in Pune, Maharashtra to check the use of MCTS text message service found that unless a local language which is simple and easy to understand is used for SMS messages the reception and use of the same can be very insignificant (Sharma A et al., 2016). Several participants of this study also preferred text messages to be in their local language. A few suggested the need for audio-visual messages that would explain specific health information that would be useful for administering first aid care during accidents, emergency health situations such as heart attacks, strokes etc.

For providing emergency medical services over the mobile phone

In times of emergency, when access to medical help becomes difficult, mobile phones help in getting the necessary help which otherwise might have been challenging especially in adverse weather conditions. The study also unveiled how the technology becomes useful in these remote rural areas in times of emergency to eliminate travel and yet receive medical guidance over the mobile phone. To call for an ambulance or other forms of transport to take the patient to the hospital, the technology has enabled some relief which was not available before the coming of this technology. Efforts can be directed by the government to have emergency medical health services such as call-in services to receive essential initial treatment solutions through mobile phones which people can seek and access at all times including emergency situations.

The usability aspect of the mobile phones shows a difference with the age group. While the older participants used basic handsets and preferred calls over SMS, participants of the younger age group were comfortable in accessing the internet through their smartphones. They were found to seek health-related information on a regular basis from online sources. This aspect is noteworthy and has to be kept in mind while devising mobile based solutions for the older technologically challenged population. Though this concern would be valid only for a short period as the technically literate generation moves on in age to become the more substantial part of the population. Thus technological barrier regarding usability may lose its pertinence over the years (Smith et al., 2015).

Half the participants of this study were women and half out of these were employed. This device was found be useful unanimously by all the women who felt that mobile phones helped them to keep in touch with family and friends, helped them save time, energy as well as money and assist them in getting medical aid during times of emergency. These findings indicate that mobile phones not only has immense potential to supplement healthcare delivery and service to people living in remote rural areas but also can significantly empower women.

Concern about the adverse health effects such as radiation fears could act as a barrier to mHealth adoption. A review of the available epidemiological evidence indicates that mobile phone radiation could be carcinogenic (Hardell, 2017). Until the emergence of conclusive evidence on the effects of mobile phone radiation, this concern is likely to remain a barrier to its use.

Studies have reinforced the significance of face-to-face patient-physician contact in disease management (Chang et al.2013). The need for a physical check-up cannot be overlooked, as certain health conditions might require an analysis of signs and underlying context to enable a proper diagnosis. This study unravelled the extent of mobile phone use, types of health information sought by the people from this community as well as possible barriers to mHealth use. Successful awareness of health-related data can be achieved in this populace by factoring this information into mHealth intervention designs. Employing SMS based messages in the local language will also be highly received. Given the ubiquity of mobile phones in India, it makes it an available tool for supplementing the existing healthcare system (DeSouza et al, 2014) . However infrastructural challenges such as network coverage and power supply are still present as barriers to its full use.

Areas for future research

M-health shows potential to improve access and equity to health care delivery and services in remote rural areas by providing the much-needed support mechanism to the community health workers (Strachan et al., 2012). However, a deeper insight into beneficiary perceptions regarding mHealth in specific health issue categories might be beneficial to understand the full potential of the medium to supplement the existing health system. Similarly, an insight into physicians' perception of benefits and barriers of mobile phone use for health purposes also need to be considered for designing better mHealth interventions.

CONCLUSION

The study found that information regarding disease awareness, preventive measures and nutrition are some of the requirements among rural mobile phone users. Benefits such as reminders for adherence to medication and appointments with doctors seem to be well accepted by the rural mobile phone users. While the older groups preferred voice calls over text messages, the need to factor this into mHealth interventions might be required till most of the population become comfortable using the technology for purposes other than receiving and making calls.

Health communication addressed to women may help them in taking informed health-related decisions. Such communications will serve as action calls for advancing their health. Further research in mHealth can be directed towards examining the barriers faced by mobile phone users in certain health ailment categories. Research studies may also be directed to probe the perception of mHealth obstacles from the physicians' perspective

REFERENCES

Alvarado, M. M., Kum, H. C., Coronado, K. G., Foster, M. J., Ortega, P., & Lawley, M. A. (2017). Barriers to remote health interventions for type 2 diabetes: a systematic review and proposed classification scheme. Journal of medical Internet research, 19(2)

Bhuyan, A. (2021). Experts criticise India's complacency over COVID-19. The Lancet, 397(10285), 1611-1612.

Boodoo, C., Perry, J. A., Hunter, P. J., Duta, D. I., Newhook, S. C. P., Leung, G., & Cross, K. (2017). Views of patients on using mHealth to monitor and prevent diabetic foot ulcers: qualitative study. JMIR diabetes, 2(2), e22.

DeSouza SI, Rashmi MR, Vasanthi AP, Joseph SM, Rodrigues R (2014) Mobile Phones:

The Next Step towards Healthcare Delivery in Rural India? PLoS ONE 9(8): e104895. doi:10.1371/journal.pone.0104895

Feinberg, L., Menon, J., Smith, R., Rajeev, J. G., Kumar, R. K., & Banerjee, A. (2017). Potential for mobile health (mHealth) prevention of cardiovascular diseases in Kerala: A population-based survey. Indian Heart Journal, 69(2), 182-199.

Fischer, S. H., David, D., Crotty, B. H., Dierks, M., & Safran, C. (2014). Acceptance and use of health information technology by community-dwelling elders. International journal of medical informatics, 83(9), 624-635.

Granger, D., Vandelanotte, C., Duncan, M. J., Alley, S., Schoeppe, S., Short, C., & Rebar, A. (2016). Is preference for mHealth intervention delivery platform associated with delivery platform familiarity? BMC public health, 16(1), 619.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. Field methods, 18(1), 59-82.

Hoque, M. R. (2016). An empirical study of mHealth adoption in a developing country: the moderating effect of gender concern. BMC medical informatics and decision making, 16(1), 51.

Hardell, L. (2017). World Health Organization, radiofrequency radiation and health-a hard nut to crack. International journal of oncology, 51(2), 405-413.

Jain, V. K., Iyengar, K. P., & Vaishya, R. (2021). Differences between First wave and Second wave of COVID-19 in India. Diabetes & Metabolic Syndrome.

Kannisto, K. A., Koivunen, M. H., & Välimäki, M. A. (2014). Use of mobile phone text message reminders in health care services: a narrative literature review. Journal of medical Internet research, 16(10), e222.

Kar, S. K., Ransing, R., Arafat, S. Y., & Menon, V. (2021). Second wave of COVID-19 pandemic in India: Barriers to effective governmental response. EClinicalMedicine, 36.)

Neubeck, L., Hansen, T., Jaarsma, T., Klompstra, L., & Gallagher, R. (2020). Delivering healthcare remotely to cardiovascular patients during COVID-19: A rapid review of the evidence. European Journal of Cardiovascular Nursing, 1474515120924530.

Ndayizigamiye, P., & Maharaj, M. (2017). Determinants of Mobile Health Adoption in. The African Journal of Information Systems.

Noble, H., & Mitchell, G. (2016). What is grounded theory?. Evidence-based nursing, 19(2), 34-35.

Pai, R. R., & Alathur, S. (2020). Mobile health intervention and COVID-19 pandemic outbreak: insights from Indian context. International Journal of Health Governance

Rao, K., & Ramani, S. (n.d.). HUMAN RESOURCES FOR HEALTH IN INDIA: CURRENT CHALLENGES ... Retrieved November 11, 2016, from https://www.idfc.com/pdf/report/2013-14/Chapter-20.pdf

Smith, R., Menon, J., Rajeev, J. G., Feinberg, L., Kumar, R. K., & Banerjee, A. (2015). Potential for the use of mHealth in the management of cardiovascular disease in Kerala: a qualitative study. BMJ open, 5(11), e009367.

Strachan.D.L. et al,2012. Interventions to Improve Motivation and Retention of Community Health Workers Delivering Integrated Community Case Management (iCCM): Stakeholder Perceptions and Priorities.A m. J. Trop. Med. Hyg., 87(Suppl 5), 2012, pp. 111–119 doi:10.4269/ajtmh.2012.12-0030

Sharma, A., Shinde, A., & Kar, A. (2017). Prevalence in the utilization of text message services under the mother and child tracking system of India: a cross sectional study from Pune district, Maharashtra, India. International Journal Of Community Medicine And Public Health, 3(8), 2319-2324.

Sondaal, S. F. V., Browne, J. L., Amoakoh-Coleman, M., Borgstein, A., Miltenburg, A. S., Verwijs, M., & Klipstein-Grobusch, K. (2016). Assessing the effect of mHealth interventions in improving maternal and neonatal care in low-and middle-income countries: a systematic review. PloS one, 11(5), e0154664.

Umakanth, S., Bhat, P., Jagadeesha, G., & Shetty, A. (2021). Bracing for the pandemic: The udupi-manipal experience. Indian Journal of Respiratory Care, 10(4), 3.

WHO (World Health Organisation).2006. 'Working Together for Health—A World Health Report'. Geneva: World Health Organisation.

World Health Organization. (2014). mHealth: New horizons for health through mobile technologies: second global survey on eHealth. Geneva, Switzerland: World Health Organization, 2011.

Ye, J. (2020). The role of health technology and informatics in a global public health emergency: practices and implications from the COVID-19 pandemic. JMIR Medical Informatics, 8(7), e19866.

http://www.pib.nic.in/newsite/PrintRelease.aspx?relid=134503

www.livemint.com › Industry › Telecom

https://www.indiatoday.in/india/story/17-districts-in-karnataka-seeing-covid-19-cases-rise-pm-modi-to-chair-virtual-meet-with-dms-1803083-2021-05-16

https://www.google.com/search?q=covid+cases+in+india&rlz=1C1CHBD_enIN905IN905&oq=covid&aqs=chrome.2.0j35i39l2j0l5.5304j0j8&sourceid=chrome&ie=UTF-8

https://timesofindia.indiatimes.com/city/mangaluru/covid-19-cases-continue-to-surge-in-dk-udupi/articleshow/77043021.cms

https://www.bloombergquint.com/business/2017/05/22/indias-mobile-phone-subscriber-base-inches-close-to-a-billion

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LINKAGE OF SOCIAL MEDIA ENGAGEMENT WITH FOMO AND SUBJECTIVE WELL BEING

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ABSTRACT

This study is an attempt to examine interplay of fear of missing out (FOMO) between social engagement and subjective well-being in college going students. This fear of missing out (FoMO) is phenomenon of acting as a mediating role as in between social engagement and subjective well-being of college students. Data was collected from 324 undergraduate and post-graduate students of B.tech (IT, CS, CIVIL, ME, EN, EI) BBA, MBA, Pharmaceuticals courses. The research model develops for this study shows that the relationship between social engagement, FoMO, and SWB among the students. This study will lend credence to past researches done in this area by showing how robustly FoMO in the present age playing a mediating role in social engagement and affecting the subjective well-being of the student.

Keywords: Social media, engagement, college, students, subjective well-being, Fear of missing out, FoMO, social engagement, Social networking sites (SNS)

INTRODUCTION

The life of present college-going students starts and ends with checking their mobile phone's notification on social networking sites and messaging apps. Present-day youths are highly active on social media to establish as well grow their social connections. The fear of missing out (FOMO) have gain lot of attention in recent years. The term fear of missing out (FOMO) is defined as the gratification to stay connected with friends and groups through social network, which results frequently (and for some people, excessive) engagement on social media, and chatting applications (Przybylski et al. 2013).

FOMO, firstly introduced in the early 2010s in media (C., 2011; M., 2010), Social Networking Sites use had grown exponentially throughout the globe (P., 2018; Poushter J, 2018). This psychological tendency is increasing prominently and this is evident in number of studies which is exploring this phenomenon. Despite the increasing academic interest, no sincere attempts have been put to synthesize the extant knowledge on FoMO (Tandon, A.,et.al.; 2021)

The strong desire to check social network sites very frequently through smartphones is becoming accessible for everyone. With a smartphone in everyone's hand, it has become very easy for individuals to learn about his or her potential rewarding experiences (online and offline) that are missed by an individual in his life. In media, FOMO has been considered as an anxiety-provoking construct (C., 2011; M., 2010). A report says that one of the most popular networking applications among the youths of India is Facebook; Indian youths are leading the word in its usage. This popularity of Facebook among youth especially college-going students poses a question about what instigates and encourages them to use Facebook. One is social affiliation which has been considered as one of the foremost needs of a human being (Lai, 2013). To gratify their social needs individuals are becoming highly dependent on social network sites. The need to associate, the strong urge to develop and maintain significant interpersonal relationships, and to gain popularity among your network (Santor, 2000).

Many researchers have made attempts to study the relationship between social networking sites engagement and its effect on mental wellness arising out with social media engagement among college going students. The new term “Fear of Missing Out (FoMO)” reflects on extreme and frequent use of social media to feel connected socially. It is defined as the strong urge to stay connected with people without any miss of event or activity on social media. Engagement with social media interface which that paves an individual social media engagement to constantly keep a watch and opportunity to compare ourselves with others (Przybylski et al. 2013).

Some research has stressed that (Alt, 2015) FoMO serves as a mediating link in fulfilling and gratifying the psychological needs of an individual via social media engagement (Przybylski et al. 2013).

Several pieces of research have shown the potential harm of using social networking sites like Facebook on youth's well-being (Przybylski, Murayama, DeHaan, & Gladwell, 2013).

The deficit in fulfilment of psychological needs triggers person's sensitivity to fear of missing out on things, which consequently engage a person towards social media that provide a platform and effective tool to gratify their psychological needs (Przybylski et al., 2013). The objective of this research is to analyse the role of FoMO as a mediator in SWB and Social Engagement among the youths.

Life of millennial revolves around social media from dawn to dusk.

Numbers of social networking site users are increasing manifold and it's growing day by day as mobile phones are becoming approachable to everyone. Researchers paying a lot of attention on how social engagement through social media affecting the subjective well-being of an individual. As India is leading the world in terms of usage of the social networking sites' audience size. Around 310 million users of Facebook are in India and if this figure is put into context, India can be ranked fourth population -wise in terms of its users throughout the world (J.Clement, 2020).

Few studies have shown the negative side of social media and its effect on individual's well-being (Zaremohzzabieh et al. 2014). This study analysed less effortful think leads to more engagement on social media. This involvement leads to addiction which is affecting their feelings and behavior. This addiction to social media is resulting in distress in student's life affecting their academic result and work behavior also. To keep a check on student's behavior author suggested teaching self-regulating skills to counterbalance this addiction in student's life. This study has shown that excessive usage of internet behavioural addiction can result in high-level anxiety and depression among students (Alavi & Maracy, 2011).

Technical advancement, social media has provided an online platform of engagement through a lot of sites and software applications like Facebook, WhatsApp, Instagram, Twitter, Snapchat, etc. The online medium has made social engagement easy, accessible to connect, communicate, and share, and to grow your network. Advancement in technology has overcome the barrier of distance up to an extent, one can share pictures, real-time information, their views, or action. This study shows that social engagement through social networking sites has to affect lower academic performance among students (Junco & Cotten, 2012).

In the modern information society, social networking sites (SNSs) are playing an important role as online applications through which an individual stays connected with the outer world. These online applications have been widely used throughout the world, to make, connect and establish social networks (Su & Chan, 2017).

Quantitative research studies have found FoMO is associated with stress enhancers among social network site users (Beyens, Frison, & Eggermont, 2016; Fox & Moreland, 2015). It results in the deterioration of physical as well as mental health of individuals (Buglass, Binder, Betts, & Underwood,2017; Stead & Bibby, 2017).

Social network addiction harms individuals, FoMO influences it user's psychology in multiple manner. About cognitive mechanisms, people who are high in FoMO shows more tendency of attentional bias (Bradley, Mogg, White, Groom, & DeBono, 1999; Mogg & Bradley, 2002).

Folks who are on have high signs of FoMO are highly prone to threatening information available on the Social media. Secondly, in the context of motivational mechanisms, people with high in FoMO have more chances of trapping in maladaptive practices and distorted behavior to gratify their psychological needs by using their smartphone and showing more inclination towards social network sites which directly affect their lives academically as well as socially (e.g., Elhai, Levine, Dvorak, & Hall, 2016; Wolniewicz, Tiamiyu, Weeks, & Elhai, 2018). It directly affects the metacognition mechanism of an individual, people who have high tendency of FoMO have more positive metacognitions towards social networking site usage. It affects the cognitive state by directly affecting the thoughts and its process and emotions of a person when his addiction to social media increases it affects, controls and regulates the cognition and emotions of an individual (Casale, Rugai, & Fioravanti,2018). People who are active on social networking sites are ready to experiment and want to try new functions and applications of SNS which eventually vulnerable for their mental health. Individuals who have high tendency of FoMO have shown desperate behaviour and they have desire to stay in continual connected online through social networking sites (Przybylski et al., 2013).

People who have high tendency of FOMO have shown compulsive inclination towards social media engagement (Oberst, Wegmann, Stodt, Brand, & Chamarro, 2017; Wolniewicz et al., 2017), that effect their perception which have adverse effect on their cognitive states (Brand, Young, Laier, Wölfling, & Potenza, 2016; Lin, Tsai, Chen, &Koo, 2013), which directly affect the well-being of individual (Marino, Gini, Vieno, & Spada, 2018).

Theoretical Background and Literature Review

Relationship between Social Engagement and Subjective well-being (SWB)

With advancement in technology and available social media platforms has changed the modus operandi of our social engagement especially the lives of millennial. The social engagement through social media has changed our live continually and emerge as important parts and parcel of our lives (Saha, K. et.al.; 2021). Social engagement in various forms is the foundation of social relationships in the present context. It gratifies and fulfils an individual's sense of belongingness and feeling of social identity. Studies says that activeness in social engagement is associated with positive health behaviour in individuals as it provides the space of leakage emotions among busy lives of folks. The objective of social engagement is social support from society. When an individual is active socially, they get social support in many ways and due to social engagement human being gets a point of leakage which act as a stressbuster in human's life. Social support works as a foundation of psychological support to help the recipients to cope with stress in the present scenario (Cohen, 2004). This study asserts that social support enhances positivity which helps to strengthen the positivity in relations which eventually facilitates positive emotions, a feeling of self-acknowledgement, and to have someone who can give you shoulder when you need emotional support in life; work as stress buster by enhancing self-esteem and through positive attitude (Cohen & Wills, Stress, social support, and the buffering hypothesis., 1985).

Past studies evident that the benefits of stay connected, and social support are generous (for example, see Cohen & Wills, 1985; Schwarzer & Leppin, 1991; Uchino, Cacioppo, & Kiecolt-Glaser, 1997).

Past research find a positive relationship between well-being and social support, but few studies contradictory it and find negative relationship between social support and well-being. This study suggests that friendships among children and adolescents can lead to negativity in different forms such as conflicts, jealousy, competition in a negative sense at an very early age which is needed to be take care in special way (Berndt, 1989).

Various research shows that the higher the social engagement less is the depressive symptoms, better health conditions and leads an individual towards a better quality of life. This research says that (Lei P, BI, & Long Q, 2016) that social contacts are good, and it results in positively which can be associate with better quality of life. This research (SB, A, & A, 2015) says that size of your social network and its frequency of contact have positive impacts on the subjective well-being of an individual. A study analysed and affirms that wide range in social ties fosters positive emotions, irrespective of demographic factor and health conditions (Litwin & Shiovitz, 2011).

When a person is socially active, this often leads to his /her better connection in society, which in turn eventually results in good bonding, better self-esteem, belongingness, self-identity in society, and amalgamation of all this increased access to social support. Social activeness and networking provide access to emotional and functional support from your friends, family, neighbours, etc (Takagi, 2013). Thus, it has been hypothesized as:

H1: *Students who experience better* ***Social Engagement d****evelop higher Subjective Well Being.*

Relationship between FOMO and Subjective Well Being (SWB)

People with high engagement on social media has prompted a flurry of correlational studies between social media engagement and its effect on mental health. Studies have reported that social media and other networking application like Facebook, Twitter, Instagram have profound effects and results in symptoms like anxiety, sadness, depression and stress (Donnelly & Kuss, 2016; Lup, Trub, & Rosenthal, 2015; Rosen, Whaling, Rab, Carrier, & Cheever, 2013; Tandoc, Ferrucci, & Duffy, 2015). Near to 10% of each day on social media and other social media engagement many also now appear to be worried to limit the interruption of social media into their day to day lives (Bowden-Green, T.,et.al., 2021).

A study with data collected from large population (Twenge, Joiner, Rogers, & Martin, 2017) shows that the time a person spent on online social media were significantly correlated with symptoms like anxiety, dissatisfaction, depressive and high chance of suicidal risk outcomes, though the correlations shows that the SNS usage were specifically quite small it significantly affects an individual's behaviour.

Excessive usage of ICT can detrimentally effect well-being and an individual's psychology specially it affects youth, adolescents, and children (Brooks, 2015; Fox & Moreland, 2015; Kross et al., 2013; Rosen, Whaling, Rab, Carrier, & Cheever, 2013; Sampasa-Kanyinga & Lewis, 2015). Excessive and continuous use of social networking sites has identified as an infectious effect on mental wellbeing and often arises several mental issues and other related problems (Kuss & Griffiths, 2011). Parents are worried about the mental health of children by being "hooked on social networking sites" on their smartphones, which coherently affect their less involvement in a real-life environment. Thus, it has been hypothesized as:

H_2: Students who perceive FOMO develop lower Subjective Well Being.

Relationship between Social Engagement and FOMO

This research analysed the affect FOMO, adverse and detrimental effects of technological usage in adolescents. Past research evident that deviant behaviour of students in classroom due to the psychological fear or feeling of disconnected or missing out (FoMO) (Alt, 2015). FoMO is described as the continual urge to stay connected on social media. Social networking sites gives them a window to peek into and provide a constant opportunity to compare one with other (Przybylski et al. 2013). This research study has observed student's high involvement and increased interest in social networking sites and it's detrimental consequences on students' academic achievements (Juncoa and Cotten 2012; Kraushaar and Novak 2010; Wood et al. 2012; Wurst et al. 2008).

The special attribute of millennial students is their information technology-oriented mindset and a multitasking temperament (McMahon & Pospisil, 2005). IT-orientation is also very important in cascading better relations with friends to boost their relations with new acquaintances (Acquisti and Gross 2006; Ellison et al. 2007).). Millennials are commonly known as "digital natives" (Alam, T., 2021).

In the present scenario the role of social media is significant in staying connected with friends (Gemmill and Peterson 2006) some teacher see this engagement as a distractor for students in terms of studies and behaviour (Galagan 2010). Thus, it has been hypothesized as:

H3: Students who experience Social Engagement leads to perceive FOMO.

FOMO mediating the relationship between the SWB and Social Engagement

This study acknowledge that FOMO works as mediator in between the well-being and social media engagement (Przybylski et al., 2013). FoMO works as mediator between motivational factors and social media engagement (Alt, 2015). The result of this study go beyond the past findings which depicts that FOMO works as mediator in the relationship of SWB and Social Engagement through social network sites.

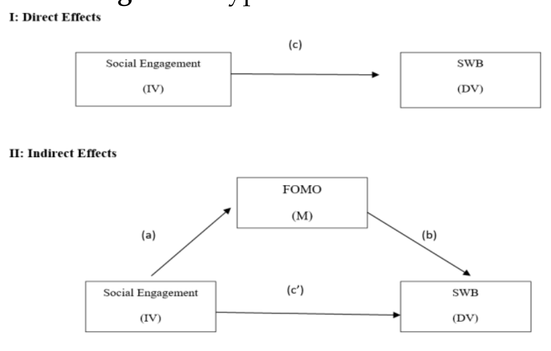
Przybylski et al. (2013) has connected FoMO with the deficits and in order to fulfil the psychological needs. The results of this study says that people who have shown high level of FoMO have higher engagement on social media as they have less satisfaction in terms of fulfilment of psychological needs (efficacy), autonomy, and relatedness. A recent study (Alt 2015) analysed people who have low levels of basic need satisfaction can correlated highly to FoMO and SME.

FOMO can be described as an anxiety develop where an individual has continuous urge to stay connected or rewarding experience, profitable investment, or other satisfying events. Abel et al. (2016) state FoMO as an irresistible desire to stay connected, to be at two or more places at one time, which has been gear up by the feeling of fear of missing out on some important event which leads to dissatisfaction or it can put a dent in one's positive emotion or life satisfaction.

Thus, theoretical, and empirical evidence allows hypothesizing as below and Figure 1 presents the hypothesized model:

H_4: FOMO mediates the association between the SWB and Social Engagement

Figure 1: Hypothesized Model



Note: SWB= Subjective well-being; SE= Social Engagement.

METHODS

Sample and Procedure

The sample for the research is students enrolled in B.tech (IT, CS, CIVIL, ME, EN,EI) BBA, MBA, Pharmaceuticals who currently pursue their courses. A convenient sampling method (easy to reach) was applied to collect a sample of **554 students**. Along with the questionnaires, there will be a Performa that will be completed by the employees regarding demographic variables as Name; Age; Gender; Educational Qualification and time spent on social media (Facebook, Messenger, Twitter, and WhatsApp etc).

Table 1: Demographical details

Demographic (n = 324)	**No. of respondents**	**Percentage (%)**
Age (in years)		
Young (18–21)	429	77.43
Middle age (22–26)	125	22.57
Gender		
Male	313	56.49
Female	241	43.51
Education		
Graduate	471	85.02
Postgraduate and above	83	14.98
Time Spent on social media		
Less Than 2 hours	75	13.53
2-5 hours	381	68.79
More than 5 hours	98	17.68

Measures

Social Media Engagement (SME): A Scale was developed with 9- items ranging from 1 = never to 5 = always to determine the amount to which students make use of social media during lectures in the classroom (Alt 2015a). The scale has three dimensions: 1. **Social engagement** - refers to sharing information via social media sites such as Facebook, Twitter, WhatsApp, and Instagram. 2. **News information engagement** - comprises events related to news, for example, responding to alerts or getting updates via social media sites(Gupta et al, 2020). 3. **Commercial information engagement** - refer to activities, such as getting or sharing updates (e.g. current discounts/sales, available coupons). The reliability of the scale for the present study was reported as 0.84.

Fear of Missing out Scale (FoMO): FOMO was measured on a 10-item scale developed by Przybylski et al. (2013), scored on a five-point Likert scale from 1 = not at all true of me to 5 = extremely true of me. The reliability of the scale for the present study was reported as 0.89.

Subjective Well-Being: The Well-Being of students was calculated via two scales, which claim to recognize the three dimensions of Subjective Well-Being as Life satisfaction, Positive Affect, and Negative Affect.

a. Life satisfaction was calculated with The Satisfaction with Life Scale (SWLS), developed by Diener et.al, (1985). This 5- item scale assesses an individuals' conscious evaluative judgment of his or her life by using the person's criteria. This is a 7-point scale and the scores on the scale range from 1=Strongly Disagree to 7= Strongly Agree. The reported reliability co-efficient of the scale is 0.78.

b. Positive Affect and Negative Affect
Affective disposition was calculated utilizing the Positive Affect and Negative Affect Scale (PANAS; Watson, Clark &Tellegen, 1988). Participants have to choose on a 5-point which was ranged from (1) Very slightly or Not at All to Extremely (5). The reported reliability co-efficient of the scale is 0.78 and 0.77respectively.

RESULTS
For analysing the data, first, all the preconditions of regression analysis were found true. Further, Mean, standard deviation, correlations are displayed in diagonal of correlation matrix with Alpha Coefficient in bold parentheses. Further, hierarchical regression analysis was applied to assess the hypothesis of direct effects such as SE on SWB (H1), SE on FOMO(H2), FOMO on SWB (H3), and indirect effects on SE on SWB via FOMO (H4) were computed.

Table 2: Mean, SD and Inter-correlations

Variables	**Mean**	**SD**	**QWL**	**Trust**	**EB**
SE	5.04	1.81	***(.87)***		
FOMO	6.07	1.92	.534*	***(.78)***	
SWB	5.57	1.92	.734**	.337**	***(.89)***

Notes: SD = Standard Deviation; SE = Social Media Engagement; FOMO= Fear of Missing Out; SWB=Subjective Well-Being significance at ***p* <. 01, **p* <. 05.

Table 3: Results of hierarchical regression for direct effects

	Predictors	**SWB (DV)** *B*		**FOMO (DV)** *B*	
		Step 1	**Step 2**	**Step 1**	**Step 2**
Step 1:	***Control Variables***				
	Age	.412*	.154	.363*	.121
	Gender	.391*	.143	.221**	.108
	Education level	.291*	.108	.211**	.170
	Time Spent on Social Media	.309*	.170	.217**	.181
Step 2:	***Predictor* (IV)**				
	SE		.531**		.445**
	ΔF	16.451**	48.211**	14.113**	46.623**
	R^2	.199	.351	.104	.222
	Adjusted R^2	.139	.352	.103	.237
	ΔR^2	–	.124**	–	.119**

Notes: N = 554; DV = dependent variables; IV = independent variables; β = standardized beta coefficients; SE= Social Media Engagement; FOMO= Fear of Missing Out; SWB=Subjective Well-Being; ***p*< .01; **p*< .05.

Hypotheses Testing
In addition to this, diverse approaches {causal steps strategy approach through ordinary least square proposed and popularized by Barron and Kenny (1986) were followed} in testing the mediating effect of variables.

For computing the direct effect, the process involved three steps, firstly control variables were inserted in block 1, and step 2 was followed by inserting independent variable (SE) in block 2. Similar steps were followed for testing the direct effect of SE on FOMO. Table 3 reveals the findings of hierarchical regression for direct effects.

In table 3, the findings of results showed that SE explained for 35.1% variance (ΔF (1, 554) = 48.211; adjusted R^2 = .352; ΔR^2 = .124, p < .01) in the perceptions of SWB. Also, the standardized coefficient beta (β = .531, t = *4.471*, p < .01) revealed significant direct effect on FOMO. Further, direct effect of SE on 'FOMO' was checked and results explained that 'SE' accounts for 22.2% variance (ΔF (1, 554) = 42.623; adjusted R^2 = .237; ΔR^2 = .119, p < .01) in FOMO. Also, the standardized coefficient beta (β = .445, t = *4.201*, p < .01) revealed significant direct effect on FOMO.

Above mentioned results in table recommended that SE is a significant influence on SWB and FOMO which support hypothesis H1 and hypothesis H3.

Further, the indirect effect of SE on SWB via FOMO was examined by conducting hierarchical multiple regression. In Table 4, results indicated that SE and FOMO collectively account for 43.1% variance (ΔF (2, 554) = 73.221; adjusted R^2 = .420; ΔR^2 = .421, p< .01) in perceptions of SWB. Also, the standardized coefficient beta for SE on SWB was reduced with the presence of FOMO in the regression model but remained significant (β = .411, t = 4.182, p < .01). Additionally, standardized coefficient beta for FOMO on SWB was significant (β = .381, t = 3.583, p < .01). Therefore, supporting hypothesis H2 that employees who developed loyalty towards organization develop higher SWB while hypothesis H4 was partially accepted for the mediating effect of FOMO on the association between SE and perceptions of SWB.

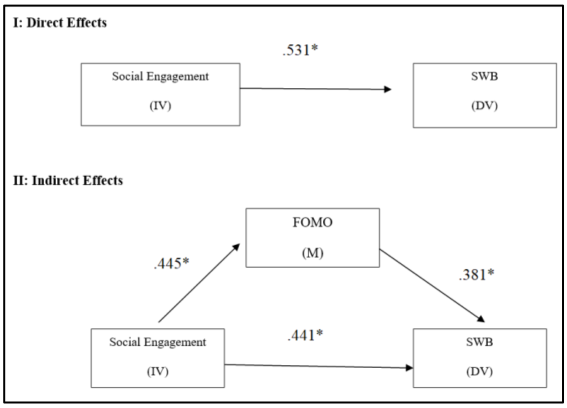


Figure 2: Results of the hypothesized model

Note: SE= Social Media Engagement; FOMO= Fear of Missing Out; SWB=Subjective Well-Being; β = standardized beta coefficients are reported; ***p*< .01.

Table 4: Results of Mediation Analysis

	Predictors	**SWB (DV)** *B*	
		Step 1	**Step 2**
Step 1:	***Control Variables***		
	Age	.324*	.187
	Gender	.291*	.143
	Education level	.211*	.121
	Time Spent on Social Media	.144**	.101
Step 2:	***Predictor* (IV)**		
	SE		.411**
	FOMO		.381**
	Δ *F*-Value	38.118**	73.221**
	R^2	.221	.431
	Adjusted R^2	.220	.420
	ΔR^2	–	.421**

Notes: N = 554; IV = independent variables; DV = dependent variables; β = standardized beta coefficient; ***p*< .01; **p*< .05

Further, **Table 5** reported the findings of regression analysis. All the study variables are related to each other significantly (p<.01). SE is noticed to be a significant influencer of FOMO (.445). Similarly, SE is found to be a significant influencer of SWB (.531). Also, FOMO is found to be significantly predicting SWB (.381). Thus, all the preconditions for mediation as suggested were met. In the present study, SE is independent variable, SWB act as dependent variable and mediating variable is FOMO. Based on **Table 5**, it can be deduced that the conditions for mediation are met as the relationship of SE and SWB when controlled for FOMO is reduced to .531 from .441, however, it remained significant (p<.01). Thus, the results support partial mediation, and hypothesis H4 is also partially supported.

media like Facebook, Instagram and others have found to correlate with strong symptoms of anxiety and depression (Donnelly & Kuss, 2016; Lup, Trub, & Rosenthal, 2015; Rosen, Whaling, Rab, Carrier, & Cheever, 2013; Tandoc, Ferrucci, & Duffy, 2015).

In addition to the above discussion, the study also investigates the relationship between FOMO and SWB which is consistent to the research studies which have found similar results that FoMO can be correlated with higher levels of stress among the user of social network site (Beyens, Frison, & Eggermont, 2016; Fox & Moreland, 2015). It results in the deterioration of the physical as well as mental health of an individual (Buglass, Binder, Betts, & Underwood,2017; Stead & Bibby, 2017).

Table 5: Mediation Results of SE on SWB via FOMO

Paths	Std Coefficient	SE	CI for Indirect Effect	P
Direct Effect SE –SWB $\{c^{i}\}$	.531	0.069		***
Direct effect SE-FOMO {a}	.445	0.039		***
Direct Effect FOMO -SWB {b}	.381	0.053	Lower Bound= 0.121 Upper Bound= 0.199	***
Total Effect SE-SWB {c}	.441			***
Indirect Effect SE-SWB {a×b}	0.169	0.034		***

DISCUSSION, CONCLUSION, AND IMPLICATIONS

The central aim was to study the connection between Social engagement to subjective wellbeing which is consistent with the study (Przybylski, Murayama, DeHaan, & Gladwell, 2013). It has been seen in several pieces of research that engagement on social media (Facebook, WhatsApp, Instagram etc) is increasing in the last decade which leads to social recognition and finally responsible for the wellbeing of youth. Further, the study deals with the social media engagement is related to the Fomo which signifies that incase, social recognition lacks in the life of humans than they have the fear of missing out from the society. Excessive and regular usage of social FoMO serve as a mediating linking in the fulfilment of psychological needs of an individual through social media engagement (Przybylski et al. 2013).

Above discussion proves that SE is directly related to FoMO and FoMO is related to SWB. Further, SE is significantly related to SWB and FoMO acts as a mediator of SE and SWB.

The study is relevant for all the academicians as the study related to the millennials, how to deal with the psychological health of students is a major concern nowadays. The students are the future of a nation. The study is also important for corporates houses the reason as well behind is mental health is of prime importance in the present scenario. So, they know the engagement of social networking sites and its impact on the organization and frame the policies accordingly(Gupta & Kumar,2017).

The parents, teachers and corporate managers should deal with the social media engagement policies carefully for the better mental health of the future of our country.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study has some limitations, but it paves the way for future researchers. The study was carried out in a single area and its domain is very specifically limited to students of few institutions located in two major cities; so, we can't generalize the overall results. Cross-cultural validation of result is needed to substantiate these findings. In future course of time study can be carried forward in different sectors also like manufacturing, IT, IB, medical practitioners, and Police, etc.

REFERENCES

Abel, J., Buff, C., & Burr, S. (2016). Social media and the fear of missing out: scale development and assessment. . *J. Bus. Econ. Res.*

Acquisti, A., & Gross, R. (2006). Imagined communities: Awareness, information sharing, and privacy on the Facebook. In Proceedings from privacy enhancing technologies workshop., (pp. 1–22).

Agarwal, S. (2020). Trust as a missing link between quality of work life and subjective well-being. Ingeniería Solidaria, 16(1),pp (1-21) . Retrieved from https://revistas.ucc.edu.co/index.php/in/article/view/3081

Agarwal, S. et.al., (2017). "Influence of Quality of Work Life on Trust – Empirical Insights from a SEM Application", The Journal of Indian Culture and Business Management, Vol 15, No. 4, pp. 506-25(ISSN 1753-0806) (ESCI Indexed, ABDC Listed).

Agarwal, S. et.al., (2019). "Subjective well-being: gender differences in Indian IT sector", International Journal of Organizational Behaviour, IUP, Vol. 18, No. 3, 1-18 (Peer reviewed' journal indexed on Cabell's Directory, and EBSCO and Proquest Database). ISBN: 978-81-314-2793-4

Agarwal, S. et.al., (2019). "Testing the reciprocal relationship between quality of work life and Subjective Well-being", Int. J. Project Organisation and Management, Vol. 11, No. 2, pp.140- 153(ISSN-1740-2905) (Scopus, ABDC Listed).

Agarwal, S., & Solanki, V. K. (2020, November). Investigating the Linkage between Quality of Work Life and Burnout in Indian IT Industry. In 2020 International Conference on Decision Aid Sciences and Application (DASA) (pp. 146-150). IEEE.

Alam, T. (2021). Millennials: Fear of Missing Out (FOMO) and Social Media Engagement.

Alavi, S. S., & Maracy, M. R. (2011). The effect of psychiatric symptoms on the internet addiction disorder in Isfahan's university students. . *Journal of Research in Medical Sciences:The official journal of Isfahan University* , 793-800.

Alt, D. (2015). College students' academic motivation, media engagement and fear of missing out. *Computers in Human Behaviour*, 111–119.

an antecedent to employee engagement. *International Journal of Environment, Workplace and Employment*, *6*(1-2), 3-19.

Berndt, T. J. (1989). *Children's Friendships: Shifts Over a Half-Century in Perspectives on Their.* Purdue: Wayne State University Press.

Beyens, I., Frison, E., & Eggermont, S. (2016). "I don't want to miss a thing": Adolescents' fear of missing out and its relationship to adolescents' social needs, Facebook use, and Facebook related stress. *Computers in Human Behavior*, 1-8.

Bowden-Green, T., Hinds, J., & Joinson, A. (2021). Understanding neuroticism and social media: A systematic review. Personality and Individual Differences, 168, 110344.

Bradley, B. P., Mogg, K., White, J., Groom, C., & Bono, J. (1999). Attentional bias for emotional faces in generalized anxiety disorder. *British Journal of Clinical Psychology*, 267–278.

Brand, M., Young, K. S., L. C., Wölfling, K., & Potenza, M. N. (2016). Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internet-use disorders: An Interaction of Person-Affect-Cognition Execution (I-Pace) model. *Neuroscience and Biobehavioural Reviews*, 252-266.

Brooks, S. (2015). Does personal social media usage affect efficiency and well-being? *Computers in Human Behavior*, 26-37.

Buglass, S. L., Binder, J. F., Betts, L. R., & Underwood, J. D. (2017). Motivators of online vulnerability: The impact of social network site use and FOMO. *Computers in Human Behavior*, 248–255.

C., F. (2011, March 15). *Caterina.net*. Retrieved from Caterina.net website: www.caterina.net

Casale, S., Rugai, L., & Fioravanti, G. (2018). Exploring the role of positive metacognitions in explaining the association between the fear of missing out and social media addiction. *Addictive Behaviors*, 83–87.

Cohen, S. (2004). Social relationships and health. *American Psychologist*, 676-684.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 310-357.

Donnelly, E., & Kuss, D. J. (2016). Depression among users of Social Networking Sites (SNSs): The role of SNS addiction and increased usage. *Journal of Addiction and Preventative Medicine*, 1-6.

Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior*, 509–516.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook ''friends'': Social capital and college students use of online social network sites. *Journal of Computer-Mediated Communication*, 1143–1168.

F. C. (2011, March 15). *FOMO and social media*. Retrieved from www.caterina.net: www.caterina.net/2011/03/15/fomo-and-social-media/

Fox, J., & Moreland, J. J. (2015). The dark side of social networking sites: An exploration of the relational and psychological stressors associated with Facebook use and affordances. *Computers in Human Behavior*, 168-176.

Galagan, P. (2010, July). *TD Magzine*. Retrieved from td.org: td.org

Gemmill, E., & Peterson, M. (2006). Technology use among college students: Implications for student affairs professionals. *NASPA Journal*, 280–300.

Gupta, S. and Kumar, R. (2017) 'Effectiveness of digital marketing a descriptive analysis', International Journal of Applied Business and Economic Research, Vol. 15, No. 2, pp.1–8.

Gupta, S., Sharma, J., Najm, M., & Sharma, S. (2020) Media Exaggeration and Information

Credibility: Qualitative Analysis of Fear Generation for Covid-19 Using Nvivo. *Journal of Content, Community and Communication.* Vol 12 No 2, pp.14-20

J.Clement. (2020, October 24). *Statista*. Retrieved from www.statista.com: www.statista.com

Juncoa, R., & Cotten, S. R. (2012). The relationship between multitasking and academic performance. *Computers & Education*, 505-514.

Koster, E. H., Crombez, G., Verschuere, B., Van Damme, S., & Wiersema, J. R. (2006). Components of attentional bias to threat in high trait anxiety: Facilitated engagement, impaired disengagement, and attentional avoidance. . *Behaviour Research and Therapy*, 1757-1771.

Kraushaar, J. M., & Novak, D. C. (2010). Examining the effects of student multitasking with laptops during the lecture. *Journal of Information Systems Education,*, 241–251.

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., & Ybarra, O. (2013). Facebook Use Predicts Declines in

Subjective Well-Being in Young Adults. *PLoS ONE*, 8.

Kuss, D. J., & Griffiths, M. D. (2011). Online Social Networking and Addiction—A Review of the Psychological Literature. *International Journal of Environmental Research and Public Health*, 3528–3552.

Lai, M.-L. T.-J.-Y.-Y.-C.-Y.-C. (2013). A review of using eye-tracking technology in exploring learning from 2000 to 2012. *Educational Research Review*, 90-115.

Lei P, X. L., BI, N., & Long Q, W. Z. (2016). Social networks and health-related quality of life among Chinese old adults in urban areas. *Public Health*, 27-39.

Lin, S.-C., Tsai, K.-W., Chen, M.-W., & Koo, M. (2013). Association between fatigue and Internet addiction in female hospital nurses. *Journal of Advanced Nursing*, 374–383.

Litwin, H., & Shiovitz, E. S. (2011). Social network type and subjective well-being in a national sample of older Americans. *Gerontologist.*, 379–88.

Lup, K., Trub, L., & Rosenthal, L. (2015). Instagram #Instasad?: Exploring associations among Instagram use, depressive symptoms, negative social comparison, and strangers followed. *Cyberpsychology, Behavior, and Social Networking*, 247–252. .

M., M. (2010, August 19). *SFGATE*. Retrieved from SFGATE: www.sfgate.com

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, 274-281.

McMahon, M., & Pospisil, R. (2005). Laptops for a digital lifestyle: Millennial students and wireless mobile technologies. *ASCILITE conference,*, (pp. 421–431).

Mewafarosh et al., (2011). Developing leaders for global assignment (ISBN-13:

Mewafarosh et al., (2016) An Assessment of Specific Skills Demanded by the Industries, (ISBN no. 978-81-904363-5-9).

Mewafarosh et al., (2017). Organization role stress and job satisfaction: A study of manufacturing sector ,(ISBN: 978-93-85000-81-2).

Mewafarosh et al., (2019). Deprivation and social exclusion of LGBT in India, (ISSN: 2455-2992).

Mewafarosh et al., Mewafarosh, R. &Naeem, F. (2016). Impact of Business Ethics and CSR on Augmenting Social Responsibilities: A Study of Select Companies, (ISSN: 2249--4650)

Mewafarosh, R., Tripathi, V., & Gupta, S. (2020). A conceptual study: organisation culture as an antecedent to employee engagement. International Journal of Environment, Workplace and Employment, 6(1-2), 3-19.

Mogg, K., & Bradley, B. P. (2002). Selective processing of smoking-related cues in smokers: manipulation of deprivation level and comparison of three measures of processing bias. *Journal of Psychopharmacology*, 385–392.

Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequences from heavy social networking in adolescents: The mediating role of fear of missing out. *Journal of Adolescence*, 51–60.

P., H. (2018, September 28). *Pew Research group*. Retrieved from www.pewresearch.org: www.pewresearch.org

Poushter J, B. C.-m.-u.-c.-t.-r.-i.-d.-c. (2018, JUNE 19). *Pew Global Org*. Retrieved from www.pewglobal.org: www.pewglobal.org

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates fear of missing out. 2013. *Computers in Human Resources*, 1841–1848.

Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating ‘‘iDisorders’’? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*, 1243–1254.

Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating ''iDisorders''? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*, 1243–1254.

Saha, K., Seybolt, J., Mattingly, S. M., Aledavood, T., Konjeti, C., Martinez, G. J., ... & De Choudhury, M. (2021). What Life Events are Disclosed on Social Media, How, When, and By Whom. In Proc. CHI.

Sampasa-Kanyinga, H., & Lewis, R. F. (2015). Cyberpsychology, Behavior, and Social Networking. *Frequent use of social networking sites is associated with poor psychological functioning among children and adolescents*, 380-385.

Santor, D. M. (2000). Measuring Peer Pressure, Popularity, and Conformity in Adolescent Boys and Girls: Predicting School Performance, Sexual Attitudes, and Substance Abuse. *Journal of Youth and Adolescence*, 163-182.

SB, R., A, S., & A, S. (2015). Longitudinal influences of social network characteristics on subjective well-being of older adults: findings from the ELSA study. *J Aging Health*, 919–34.

Schwarzer, R., & Leppin, A. (1991). Social support and health: A theoretical and empirical overview. *Journal of Social and Personal Relationships*, 99-127.

Stead, H., & Bibby, P. A. (2017). Personality, fear of missing out and problematic internet use and their relationship to subjective well-being. *Computers in Human Behavior*, 534–540.

Su, C. C., & Chan, N. K. (2017). Predicting social capital on Facebook: The implications of use intensity, perceived content desirability, and Facebook-enabled communication practices. *Computers in Human Behavior*, 259–268.

Takagi, D. K. (2013). Social participation and mental health: moderating effects of gender, social role and rurality. *BMC Public Health*, 701.

Tandoc, E. C., Jr., F., P, & Duffy, M. (2015). Facebook use, envy, and depression among college students: Is Facebooking depressing? *Computers in Human Behavior*, 139–146.

Tandon, A., Dhir, A., Almugren, I., AlNemer, G. N., & Mäntymäki, M. (2021). Fear of missing out (FoMO) among social media users: a systematic literature review, synthesis and framework for future research. Internet Research.

Twenge, J., M., J., T. E., R., L, M., & Martin, G. N. (2017). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among U.S. adolescents after 2010 and links to increased new media screen time. . *Clinical Psychological Science*, 3-17.

Uchino, B. N., Cacioppo, J. T., & Kiecolt-Glaser, J. K. (1997). The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychological Bulletin*, 488-531.

Wolniewicz, C. A., Tiamiyu, M. F., Weeks, J. W., & Elhai, J. D. (2018). Problematic smartphone use and relations with negative affect, fear of missing out, and fear of negative and positive evaluation. *Psychiatry Research*, 618–623.

Wurst, C., Smarkola, C., & Gaffney, M. A. (2008). Ubiquitous laptop usage in higher education: Effects on student achievement, student satisfaction, and constructivist measures in honors and traditional classrooms. *Computers & Education*, 1766–1783.

Zaremohzzabieh, Z., Samah, B. A., Omar, S. Z., Bolong, J., & Kamarudin, N. A. (2014). Addictive facebook use among university students. *Asian Social Science*, 107–116.

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BHARAT TOWARDS ATMANIRBHARTA: A TWITTER BASED ANALYSIS USING NVIVO

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ABSTRACT

Background It's been over a year now and Covid-19 is still among us and most of the countries are still in fight against Covid-19. Lockdown was the only possible solution but the impact of lockdowns on economies was devastated. *Atmanirbhar Bharat* (Self-Reliant India) a Covid-19 pandemic economic package of twenty lakh crore rupees was announced by Indian central government on the 12th of May, 2020. The package was released to make the country independent and to primarily empower the poor, labourers, and migrants who were adversely affected by Covid-19.

Research Methodology The research paper is of qualitative type and the research methodology has two parts- in the first, the literature has been reviewed regarding the impact of Covid-19 on various sectors globally and in the second part- extracted tweets has been analysed using NVivo and the main parameters- *themes, sentiment, word map and word cloud* are noted down.

Findings The paper extracted various themes under the *Atmanirbhar Bharat* and the top five themes are related to defence and products. Majority of the tweets are on the positive side as shown by the sentiment analysis. The majority of tweets are from Asia as shown by the word map.

Conclusion Lack of beds in hospitals, lack of oxygen supply, and lack of basic facilities for Covid-19 patients have debunk the health system. Though the government made the announcement related to the Atmanirbharbharat very easily, it is going to be very difficult to make it accessible for the common man.

***Keywords*:** Atmanirbhar Bharat, Covid-19, Economy, NVivo, Twitter Analysis, Thematic Analysis, Sentiment Analysis

INTRODUCTION

Covid-19 a virus having a diameter of less than 140 nm has stopped the pace of the world from the last year. Most of the countries are under its influence and governments are taking necessary actions to control further outbreaks. The virus was also emerged in 2002 and 2012 in the form of SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) but this SARS Cov-2 is much more dangerous than the previous two. Covid-19 is not only responsible for altering the health sector but it also affected the Information Technology sector, Travel and Tourism, Manufacturing and all other sectors badly throughout the world. Lockdown was the first precautionary measure in front of the governments to prevent the outbreak of the virus irrespective of the healthcare industry has emerged vastly in India(Sood et al, 2019)

Wuhan was the centre and China was the first country to imposed the lockdown in Hubei Provinces on January 23, 2020. Italy was the first country to impose the national lockdown of 21 days and by the end of May, the whole world was reeling from this deadly virus (Staff, 2020). Now the countries are trying to revive their economies that were hit hard by the pandemic by taking small steps in their own way. America President announces a package of $1.9 Trillion to revitalize a flagging economy and to speed up the nation's response to the coronavirus pandemic. It is a two-step plan of recovery and rescue (Narayan, 2021). France was hit hard by the coronavirus and declared it is one of

Europe's deepest recessions due to lockdown. The country unfolds the plan to spend 100 billion Euros to revive the economy. The package earmarks 35 billion Euros to make the economy more competitive, 30 billion Euros for energy policies and remaining for supporting the jobs (Irish Times, 2020). Chancellor Rishi Sunak has already announced a "plan for jobs" to stimulate Britain's battered economy. the plans are divided into further classification as Vat cut, Work, Green Measures, Stamp Holiday Duty, and others. India's central government on 12 May 2020 announced a package *Atmanirbhar Bharat Abhiyan* (Self- Reliant India) to revive the shattered economy due to the coronavirus pandemic of 20 lakh crore rupees.

The five pillars that laid the foundation of *Atmanirbhar Bharat are* 1. Economy, 2. Infrastructure, 3. The System, 4. Demography and 5. Demand (Japee, 2020. Dubey and Dubey, 2020). According to Economic Diplomacy Division, the stimulus package is expected to provide investment support to multiple sectors, boost employment growth within the country, foster self-sufficiency within all sectors.

The biggest problem in fighting against coronavirus are mutations that occur in it after a hiatus. Several new variants have been reported in United Kingdom, South Africa, Brazil by the end of 2020 and all strains are more infectious than the original one. Tremendous increase in Covid-19 cases have seen especially in Maharashtra because of that mutated spike protein in coronavirus (Supriya, 2021). Despite this, at the end of February, India's election authorities announced elections in five states for 824 seats and Cricket board allowed 1,30,000 spectators to watch two international Cricket games in Gujarat (Biswas, 2021).

Vaccination drive is also not so easy to handle. The central government has now permitted manufacturers to supply 50% of the ordered doses to states and for this stated will need at least 40,000 crores to fund the drive (Mahajan, 2021). As of report by Ministry of Health and Family Welfare, a total of 15.89 crore doses administered across the country out of which more than 12.92 crore get their first dose of vaccine and approximately 2.97 crore received their second dose of coronavirus vaccine.

THEORETICAL FOUNDATION

Covid-19 and its impact

As the world enters into 2021 the second wave of Covid-19 is there to hit the world and as expected by experts the second wave of the pandemic is much more dangerous than the first. In India the vaccine for Covid-19 was officially begin on the 16th of January, 2021 was the only news of relief as the country launched one of the world's biggest vaccination programs.

The second wave of the coronavirus is much devastating than the first in two ways; first, the abrupt increase in new cases from 10,000 to 40,000 in the month of February to April has taken less than 40 days. In September 2020, this journey took 83 days. Secondly, many more of the cases testing positive are asymptomatic or with mild symptoms and majority of the cases are in between the age group of 30-60 (Covid-19 Commission, 2021).

UNICEF (United Nation Children Fund) along with World Health Organisation are in continuous to support government led efforts to prevent the further spread of the pandemic. UNICEF India's Covid-19 Response Plan supports the government of India and is also active in 17 states to enable results across five response pillars: 1) Risk Communication and Community Engagement (RCCE) and Social Media Engagement, 2) Improve Infection Prevention and Control (IPC) and provide critical and Water, Sanitation and Hygiene (WASH) supplies, 3) Support the supervision of continued access to essential health and nutrition services for women, children, and vulnerable communities including case management, 4) Data collection and social science research for public health decision making and 5) Support access to continuous education, social protection, child protection and Gender Based Violence (GBV) services (UNICEF, 2021).

Since the last year, coronavirus has hit the economies hard. More than 2.5 million people lost their lives, a million others lost their jobs and more than 130 million people are living in extreme poverty due to crisis. Developed countries are expected to experience a much deeper fall in output than developing countries (UNCTAD, 2020).

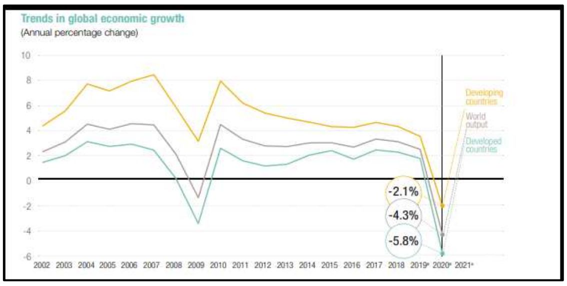

Fig 1: **Trends in global economic growth**
Source: UNCTAD, 2020

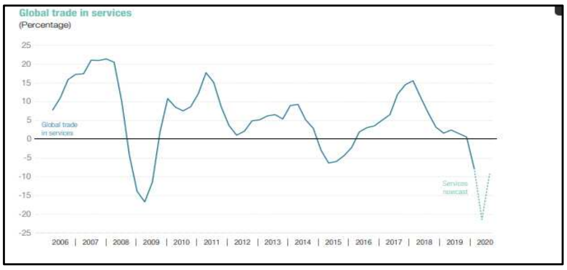

Fig. 2: Global trade in services
Source: UNCTAD, 2020.

Due to lockdown world trade was the first to decline. The value of total trade in services fell by 7.6% in the first quarter of 2020 especially the travel and services sector hit hard and fallen by more than 24%. World Economic Forum estimated that 93% of world workers are living under workplace restrictions and the whole world lost 8.8% of working hours. Europe lost 14.6% of working hours and America lost 13.7%. In 2020 the total job losses were 114 million. Many organization offer flexible work hours (Mewafarosh et al, 2021;Sadhna et al, 2020) OECD (Organisation for Economic Cooperation and Development) released a forecast that developed countries are projected to experience a decline in GDP of 5.5% in 2020 and positive growth of 3.2% in 2021 while developing countries will experience negative growth of -3.0% in 2020 and a positive growth of 5.1% in 2021. (GEEC, 2020).

Covid-19 and Indian Economy: The country-wide lockdown has brought nearly all economic activities to an abrupt halt. The second wave of the coronavirus is proving more dangerous than the first and the covid-19 cases in India are increasing abruptly. India's economic crisis operates at two levels- *supply-side disruptions and reductions in aggregate demand.* An assessment was made by taking 5 key economic indicators- GDP, Unemployment rate, Inflation rate, Interest rate, and Industry output. International Monitory Fund slashed India's growth rate for the fiscal year 2021 to 1.9% from 5.8%. Domestic agency CRISIL predicted India's economic rate to 1.8% from 3.5%. Covid-19 hit hard India's agriculture sector and blocked all necessary channels of input, distribution, harvesting, procurement, transport channels, marketing, and processing processes. The harvesting process is worst affected due to the lack of availability of migrant workers as March-April is the peak season of *Rabi Crop* (Kumar, 2020). During 2018-2019, India exported medicines to more than 200 countries of about $19 billion but as the supply chain was affected badly by Covid-19, India limits the export of 26 large quantities of medicines.

Table 1 *:* Impact of Covid-19 on various Indian sectors. *Source: Kumar et al. 2020*

S. No.	Sectors affected by Covid-19	Decrease in Percentage
1.	Financial, Real Estate and Professional Services	20%
2.	Mining and Quarrying	17%
3.	Electricity, Gas, Water Supply and other utility service	16%
4.	Construction	15%
5.	Trade, Hotels, Transport, Communication and other broadcasting service	11%
6.	Overall CVA	11%
7.	Manufacturing	7%
8.	Agriculture, forestry and fishing	2%
9.	Public Administration, Defence and Other service	1%

Atmanirbhar Bharat

After the severe crisis in all major sectors, it was mandatory for the government not to just boost the economy but also to provide a new ray of hope in the minds of 135 crore people. Workers were started migrating, manufacturing hubs were closed, transportation was not there; these all factors along with others hit the economy hard. To get things back on track, PM Modi announced a Covid-19 special economic package of 20 lakh crores on the 12th of May, 2020. The package was based on 5 pillars: Economy, Infrastructure, System, Vibrant Demography, and Demand. The package was equivalent to

10% of India's GDP and was announced to boost cottage industry, MSMEs, labourers, middle class, industries, and others. The package will be distributed in 5 phases:

Table 2: *Phases of Atmanirbhar Bharat Source: GoI (Ministry of Finance)*

Phase 1	Businesses including MSME's
Phase 2	Poor including migrant and farmers
Phase 3	Agriculture
Phase 4	New horizons of growth
Phase 5	Govt. reforms and enablers

Recently the Atmanirbhar package 3.0 was announced by the finance minister N. Sitharaman on 12th November 2020, and has 4 parts.

Table 3: Items under package. Source: Atmanirbhar Package 3.0, Ministry of Finance.

S. No.	Items	Rs. Crores
1.	Pradhan Mantri Garib Kalyan Package (PMGKP)	1,92,800
2.	Atmanirbhar Bharat Abhiyan 1.0	11,02,650
3.	PMGKY Anna Yojana Extension - 5 months Jul-Nov	82,911
4.	Atmanirbhar Bharat Abhiyan 2.0 (12th October)	73,000
5.	Atmanirbhar Bharat Abhiyan 3.0	2,65,080
6.	RBI Measures announced till 31st Oct. 2020	12,71,200
	Total	**29,87,641**

For the Covid-19 Vaccine and its related research and development finance minister grants 900 crores under the Atmanirbhar bharat package. Government also approved 1500 crore to the department of pharmaceutical to incentivize the global and domestic players to engage in high value production of medical drugs (Aparna, 2020). Basic objective of the package is to focus and accelerate the pre-clinical trials and clinical development of Covid-19 vaccines in India.

RESEARCH METHODOLOGY

The research paper is of qualitative type and secondary data was extracted and analysed through a qualitative software tool NVivo 12 (Trial Version). The research unfolds in two phases: 1. The secondary data such as government reports, research papers, and magazines were collected and information regarding Covid-19 was analysed. The impact of Covid-19 was noted down on various sectors globally and various that are been taken by countries to revive the economies were also noted down and; the second phase of research deals with the analysis of the Atmanirbhar Bharat scheme under which the Indian government released the special economic package of 20 lakh crore. Data was extracted using the *#Atmanirbharbharat* from Twitter in between 12th May, 2020 to 11th April, 2021 (10:09:52AM) using N Capture and total of 15018 tweets were extracted and then analysed on qualitative software tool NVivo.

DATA ANALYSIS

The extracted data was analysed by qualitative software tool NVivo. NVivo 12 (trial version) of the software was used and a number of parameters were identified. The data set revealed that the government was well aware of the sectors which were affected badly by Covid-19. The economic package under the *AtmanirbharBharat* was designed to keep everyone's interest in mind.

Themes Identified

NVivo 12 enables automated "topic modelling" or the automated identification of themes from text sets and text-based datasets. NVivo enables to extraction of the themes out of the topic #Atmanirbharbharat. Table 4 represents the major themes that were extracted under Atmanirbharbharat package.

Table 4: Various themes identified under Atmanirbharbharat.

Themes Identified	A : Files\\#atmanirbharbharat - Twitter Search ~ Twitter
1: missile	812
2: product	369
3: range	1539
4: requirements	776
5: ships	808

It can be seen from the thematic analysis, the top 6 themes identified are revolving about Make In India product specially defence equipment.

Sentiment Analysis

In recent years a lot of work has been done in the field of "Sentiment Analysis on Twitter by a number of researchers. In its early stage, it was intended for binary classification which assigns opinions or reviews to bipolar classes such as positive or negative only but NVivo 12 allows to extract up to four sentiments as seen in the mentioned graph (Gupta et al, 2020; Kharde and Sonawane, 2016). There are automated ways to extract sentiment from the written text as well as from tweets that were posted on Twitter. With sentiment analysis techniques, we can automatically analyse a large amount of available data and extract opinions that may help both customers and organization to achieve their goals. This is one of the reasons why sentiment analysis has been spread in popularity from computer science to management and social sciences (Farhadloo and Rolland, 2016).

Table 5: Sentiment analysis

Sentiments	#atmanirbharbharat - Twitter Search ~ Twitter
1: Very negative	422
2: Moderately negative	1067
3: Moderately positive	1835
4: Very positive	471

Table 5 represents the sentiment analysis of people based on tweets. Most of the tweets are moderately positive followed by moderately negative. It is clearly visible that only a few tweets are very positive.. Overall, it is visible that the Atmanirbharbharat is viewed positively by Twitter users.

Word Map and Word Cloud

A word cloud is a word frequency query used to generate a word cloud and help you find commonly used words and phrases. This is useful as an end product and a good tool to help you learn about what is going on with your data. This represents the key and main areas of discussion and this is quite evident from the picture below that all the tweets were revolving around "AtamNirbhar Bharat" Campaign , trainings, Indian products etc The word Atmanirbharbharat is at the centre and is surrounded by words mostly related to healthcare and coronavirus, which were supposed to be surrounded by the words like an entrepreneur or related.

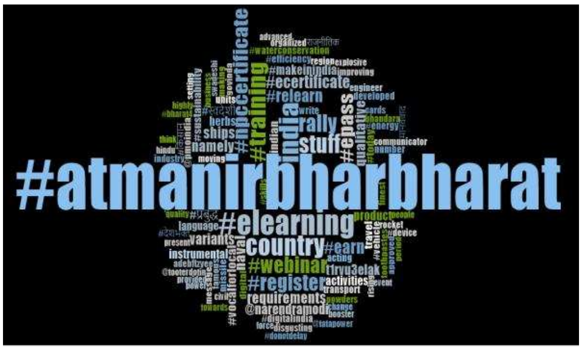

Figure 5: Word Cloud

Word world map is the generation of tweets based on geographical locations worldwide. Fig 6 indicates that most of the tweets are from India and rest of the tweets are from America and very few are from Europe and Australia.

Fig 6: Word Map.

Fig. 6 represents the word cloud where the keywords are represented according to their frequency in the data set. As the Tweets were extracted in Corona period this is quite evident world was looking toward India for vaccination. The word Atmanirbharbharat is well protected by the words related to development (digital India, product, quality and power) and on the other side by words related to training (relearn, make in India and efficiency).

DISCUSSION

Atmanirbharbharat package was introduced to revive the economy that was fall flat due to Covid-19. This special economic package was released in such a way that it supports all the sectors that were hit hard by Covid-19. The Atmanirbhar package aimed to strengthen the manufacturing process, enhance employment opportunities, and boost entrepreneurship among youth so that the economy get back on track. Migrant laoburers, farmers, and street vendors were at the top for whom the package was released. The package was announced to lighten the ray of hope in the minds of people. However, government announced it but it was hard to channelise the things to 135 crore people and the results are also pointing to the same. The things were not properly managed as it should be.

The first set of relief measures was focused on Indian MSMEs (Micro, Small, and Medium Enterprises) and 6 announcements were dedicated to MSMEs out of 16 announcements. The government tries to improve the economy and for this MSMEs were the first and the prime targets. The central government also addresses the state governments to further clarifies all the doubts in the minds of people regarding to the package and also advised them to channelise the package.

The government also advised the banks to support the MSMEs for funds and these various schemes were announced under employment generation program, development of traditional industries, entrepreneurship, and skill development programs. The basic idea behind strengthening the MSMEs is to make India a manufacturing hub rather than a marketing hub. The intention was clear to produce finished products in India by adding value to raw materials. Under Atmanirbharbharat push government has focused on being *"vocal for local"*.

The scheme was launched in three phases and all three phases were total of reforms for business, employment, and manufacturing. The third phase of the economic package was made to ensure the employment push in the formal sector. The phase will run for three years from 2020 to 2023 and will provide ample employment opportunities. The package focuses on the development of skills through training and development program, to improve living standards and to empower migrant and farmers affected by the pandemic.

The paper examined the theoretical background of the Atmanirbharbharat scheme and also addressed the issues related to the special economic package. Both the negative and positive sentiments were examined in this paper through tweets on Twitter. No doubt it is one of the concrete steps to boost the economy under the five pillars- *economy, infrastructure, system, vibrant demography and demand.* It is a hierarchical development that will starts from labourers and farmers and will end up at the top with better employment opportunities.

CONCLUSION

All countries are engaged in a fight against Covid-19 in their way. Countries are imposing lockdowns, restricting flights and aviation, to aware the people about the consequences, and some of the countries have even been successful in it. It will take years to recover the damage that has been done to economies by Covid-19. Countries are trying hard to satabilize the economies by announcing the Covid-19 relief packages. The Indian government announced the special economic package under Atmanirbharbharat to revive the economy. Under the Atmanirbharbharat package, an extensive focus was made on reshaping the economy by aligning all sectors in one direction. Things were looking stable and everything started happening as before Covid-19, but the second wave of coronavirus has scrapped all the plans and actions. Atmanirbharbharat package along with the start of the vaccination process has reduced the fear of Covid-19 in the minds of people but the second wave has stagged the healthcare system.

Atmanirbharbharat relief package is still out of reach and there is a state of confusion in the minds of people. People are not getting basic health care facilities. Government has to take care of the implementation process of the Atmanirbharbharat package and the basic system has to be fixed.

REFERENCES

Arora, N., & Gupta, V. (2020). Study on impact of Covid-19 on Indian economy. *International Journal of Science and Research,* 9(7), 1516-1518. Doi-10.21275/SR20724142409.

Atmanirbhar Bharat Abhiyan Phase 1-5- to Support Indian Economy in Fight Against Covid-19. (2020). *Ministry of Finance.* Retrieved from https://Covid19.india.gov.in/document-category/ministry-of-finance/.

Atmanirbharbharat FM grants 900cr for Covid-19 Vaccine research. (2020, November 12). Retrieved from https://www.livemint.com/news/india/atmanirbhar-bharat-fm-grants-rs-900-cr-for-covid-19-vaccine-research-11605172686255.html.

Biswas, S. (2021, April 19). Covid-19: How India failed to prevent a deadly second wave.

BBC News. Retrieved from https://www.bbc.com/news/world-asia-india-56771766.

Barbate, V., Gade, R.N., & Raibagkar, S.S. (2021). Covid-19 and its impact on Indian economy. *Vision- The Journal of Business Perspective,* 25(1).

Covid-19 pandemic monthly external situation. (2021). *UNICEF India*, Report no. 8, 2-7. Retrieved from https://www.unicef.org/india/reports/unicef-india-covid-19-situation-report-mo.8.

Dubey, S., & Dubey, H.K. (2020). Atmanirbhar bharat abhiyan: An analytical review. *Dogo Rangsang Research Journal,* 10(7), 27-28.

Farhadloo, M., & Rolland, E. (2016). Fundamentals of sentiment analysis and its applications. *Springer International Publishing Switzerland.* Doi- 10.1007/978_3_319_30319_2_1.

France to spend 100bn euros on stimulus plan to revive economy. (2020, September 03). Retrieved from https://irishtimes.com/business/economy/france-to-spend-100bn-on-stimulus-plan-to-revive-economy-1.4345636.

Global economic effects of Covid-19. (2021). *Congressional Research Service.* Retrieved from https://crsreports.congress.govR46270.

Government launches mission Covid-19 suraksha to accelerate Indian Covid-19 vaccine development. (2020). *Ministry of Science and Technology.* Retrieved from https://www.pib.gov.in/PressRelease1framePage.aspx?PRID=1676998.

Hays, R., & White, G. D. (2015). The care.data consensus? A qualitative analysis of opinions expressed on twitter. *BMC Public Health.* Doi- 10.1186/s12889-015-2180-9.

Japee, G. (2020). Atmanirbhar Bharat. *Research gate,* 3-4. Doi- 10.13140/RG.2.2.18715.69928.

Impact of Covid-19 pandemic on trade and development. (2020). *United Nations Conference on Trade and Development.* Retrieved from https://unctad.org/system/files/officialdocument/osg2020d1_en.pdf&ved=2ahUKEwj7m8H57Z7wAhVhwTgGHc_MCzYQFjAMegQIBhAC&usg=AOvVaw2TdW-Fz0pJ-AwxcNKofnSu

Kaurav, R.P.S., Suresh, K.G., Narula, S., & Baber, R. (2020). New education policy: Qualitative (contents) analysis and twitter mining (sentiment analysis). *Journal of Content, Community & Communication,* 12(6). Doi: 10.31620/JCCC.12.20/02.

Kharde, V.A., & Sonawane, S.S. (2016). Sentiment analysis of twitter data: A survey of techniques. *International Journal of Computer Applications,* 39(11).

Mahajan, A.S. (2021, May 4). The cost of lockdowns. *India Today, XL16, 19,* 8-9.

Managing India's second Covid-19 wave: Urgent steps. (2021). *The Lancet Covid-19 Commission.* India Task Force. Retrieved from https://static1.squarespace.com/static/5ef3652ab722df11fcb2ba5d/t/6076f57d3b43fb2db4a7c9c9/1618408831746/India+TF+Policy+Brief+April+2021.pdf.

Mewafarosh, R., Tripathi, V., & Gupta, S. (2020). A conceptual study: organisation culture as an antecedent to employee engagement. *International Journal of Environment, Workplace and Employment*, *6*(1-2), 3-19.

Narayanan, D. (2021, March 06). America's $1.9 trillion rescue package could throw a spanner in RBI's recovery plans. *The Economic Times.* Retrieved from https://economictimes.indiantimes.com/news/economy/policy/americas-$1.9-trillion-rescue-package-could-throw-a-spanner-in-RBI's-recovery-plans/articleshow/ 81367635.cms.

Novel coronavirus disease (COVID-19). (2021). *World Health Organization India,* Report no. 66. Retrieved from https://www.cdn.who.int/media/docs/default-source/wrindia/situation-report/india-situation-report-66.pdf?sfvrsn=24f9349d_4.

Patnaik, I., & Sengupta, R. (2020). Impact of Covid-19 on the Indian economy: An analysis of fiscal scenarios. *NIPFP Working Paper Series No. 319.* Retrieved from https://www.nipfp.org.in/publications/working-papers/1916/

Pudaruth, S., Moheeputh, S., Permessur, N., & Chamroo, A. (2018). Sentiment analysis from faceboook comments using automatic coding in NVivo 11. *Advanced in Distributed Computing and Artificial Ibtelligence Journal,* 7(1).

Sandeep, K.M., Maheshwari, V., Prabhu, J., Prasanna, M., Jayalakshmi, P., Suganya, P., Benjula, M.B., & Jothikumar, R. (2020). Social economic impact of Covid-19 outbreak in India. *International Journal of Pervasive Computing and Communications,* 16(4), 311-314.

Gupta, S., Sharma, J., Najm, M., & Sharma, S. (2020).Media Exaggeration And Information Credibility: Qualitative Analysis Of Fear Generation For Covid-19 Using Nvivo. Journal of Content Community and Communication, 12(6). 14-20

Staff, R. (2020, September 29). How the global coronavirus pandemic unfolded. *Reuters.* Retrieved from https://reuters.com/article/health-coronavirus-timeline-idUSL1N2GN04J.

Sadhna, P., Gupta, S., & Rastogi, S. (2020). Key motivators for driving work performance amid COVID-19 in developing nations. *International Journal of Work Organisation and Emotion*, *11*(2), 105-119.

Sood, M., Sharma, B., Gupta, S., Dawra, S., & Kaushik, C. (2019). Modelling the Factors

Responsible for Better Health Service Quality: Perception of Service Providers. Indian Journal of Public Health Research & Development, 10(9), 408-413.

Supriya, L. (2021, April 27). Triple mutation in SARS-CoV-2 seen in second wave of Covid-19 in India. *News Medical Life Sciences.* Retrieved from https://www.newsmedical.net/news/20210427/Triple-mutation-in-SARS-CoV-2-seen-in-second-wave-of-Covid-19-in-india.aspx.

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THE EFFECT OF SOCIAL MEDIA MARKETING ON CUSTOMER LOYALTY AMONGST UNIVERSITY STUDENTS: EVIDENCE FROM THE FASHION INDUSTRY IN KUALA LUMPUR

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ABSTRACT

Today, Social Media Marketing is among the best opportunities available for marketers to connect with their potential customers. Global companies use Social Media Marketing platforms to power their advertising campaign. Social Media Marketing provides businesses stronger grounds to build customer loyalty. The purpose of this research is to study the effect of Social Media Marketing on Customer Loyalty among University students. This research is based on the evidence from the Fashion Industry, as today Fashion Industry is considered as a high value-added business with guaranteed high profit per unit with loyal customers. The age group of University students from 18 to 26 years old plays a major role for marketers as they are the biggest users of Social Media. Therefore, analysing University students' loyalty towards social media platforms such as Facebook, Instagram, and YouTube is important for marketers to take into consideration in improving their marketing strategies. For this research, 218 Questionnaires were distributed among the University students in Kuala Lumpur Malaysia to collect their information about their Loyalty towards Social Media platforms. SPSS software is used to run the Descriptive test, Reliability test, Pearson Correlation test, and Regression test. The findings from the Pearson Correlation test showed that there is a significant and positive relationship between independent variables i.e. Facebook, Instagram, YouTube and dependent variable Customer Loyalty. The model was perfect with R^2 equal to 55.2%.

Keywords: Customer Loyalty, University Students, Social Platforms, Social Media Marketing

INTRODUCTION

In the time of digitization, the significance of Social media marketing has grown with different types and sizes of organizations following digital marketing strategies globally (Baltes, 2015). Social media is unique as it enables companies to build relationships with new and existing customers (Senders et al.,2013; Maddox, 2015). Social Media usage is seen to be increasingly being used by generation Y "Boomerang Kids" (Balakrishnan et al.,2014). In the present world, everyone is associated with each other in this vast network produced by the Internet. As said by Marshall McLuhan, a philosopher of communication theory, "The new electronic freedom re-makes the world in the picture of a global village". It lights up the lives of thousands of individuals by spreading information universally, making us global citizens (Technician, 2019). To analyse the people spending time on social media platforms a survey conducted by Pew Research Centre showed that 72% of high school students and 78% of college students spend time on Facebook, Twitter, Instagram, indicating how much the student community is interested in the virtual world of social networking (Technician, 2019). Today social media trends are increasing day by day among university students as many students rely on social media for interactions and communication. Social media connects everyone in a collaborative manner such as internet forums, weblogs, wikis, podcasts, and video clips (Sajid et al, 2016). The majority of users of social media are Youngsters, and they are considered as the main target market for Social media (Hussain et al., 2012). This study aims at determining the effect of social media marketing on customer loyalty amongst university students, focusing on the fashion industry in Kuala Lumpur. The fashion industry has a short product life cycle, huge product variety, volatile and unpredictable demand and is today considered as a high value-added business with guaranteed high profit per unit with loyal customers (Kim et al, 2010). Nowadays, the use of social media websites such as Twitter and Facebook is evaluated as a business take-off tool as it has increased to almost all the luxury fashion brands. This study emphasizes marketing on social media platforms such as Instagram, Facebook and YouTube and how it leads to customer loyalty amongst university students.

Customer Loyalty

The commitment by customers to repurchase a firm's product or service despite competitors' efforts to lure them away is considered as Customer Loyalty (Bilgin et al.,2018). Loyal customers have a positive approach to the company and tend to repurchase products or services along with spreading positive reviews to others. (Bowen et al.,2001). Customer Loyalty is measured in three ways, behavioural measurements, attitudinal measurement, and composite measurement. The repetition of purchase is considered as Behavioural Loyalty. Customers under this category purchase more and are low price sensitive. Attitudinal measurement reflects emotions and psychological attachment with the brand that result in repeat purchase. Customers under this category have a positive word of mouth about the brand, they recommend the brand to others and encourage others to make a purchase. (Bilgin et al.,2018). The third approach is composite measurement of loyalty which is also known as two-dimensional composite measurement. It's a combination of behavioural and attitudinal measurement. It measures customer's loyalty by their product preferences, propensity of brand-switching, frequency of purchase, recency of purchase and total amount of purchase (Jacoby et al., 1973).

Facebook

Mark Zuckerberg, graduate of Harvard University in 2004 created a social networking service known as Facebook. Today, Facebook is the biggest social network worldwide. In quarter of 2019, Facebook had more than 2.5 billion active users and a total of 2.89 billion users using the company's core product on a monthly basis such as Facebook, WhatsApp, Instagram, and Messenger (Statista, 2020). Based on a research in 2016, 90% of consumers spend their time on mobile apps and Facebook is the most downloaded platform (Statista, 2020). Facebook enables brands to build a direct relation with their customers, while marketers emphasize on generating Facebook customers. Facebook encourages new business set ups where advertisement on Facebook is cheaper compared to advertising on Google and YouTube (Dudharejia et al.,2017). Businesses can use Facebook Live to provide a behind the scene experience to their customers, show them previews of the new products or updates and promote their events online and this helps businesses to get instant feedback from their customers (Dudharejia et al.,2017).

Instagram

Instagram is considered as one of the largest social media platforms. Instagram was launched on 6th October 2010, after two months of its launch from a handful of users it was successful in targeting over a million users and within a span of a week it soon became number one photography app with 10,000 users (Eudaimonia 2017). Based on research, among all social media platforms such as Facebook, Snapchat, Twitter, Instagram has the highest respondent base and people prefer to use Instagram over other social platforms as they consider Instagram as informative, cool, enjoyable, popular and creative (Eudaimonia 2017). Based on research conducted, Instagram has over 117.1 million monthly active users and the average time that users spend is 45 minutes per visit (Exchange4media, 2019). Instagram is a form of communication where users share their updates by posting pictures and videos while making them look attractive (Hu, et al.,2014).

YouTube

The purpose of YouTube was to create a social platform where people can easily create and share short videos online. On a daily basis YouTube has 2 billion views, while 51 % of viewers visit YouTube websites weekly, 52% of 18–34 years age groups often share videos posted on YouTube with other people (Terantino, et al., 2011). YouTube serves as a medium to attract a niche market for marketers to promote their product and services. They use YouTube influencers to help them increase their sales. From 2012, YouTube has become powerful and it is now a multi-billion dollar company. In the coming years, it is predicted that half of the under 30s age group will not use Television subscription because of YouTube (Engadget, 2016). YouTube has introduced live streaming and each day around 5 billion videos are watched. The videos categorized as Entertainment, music, people and blogs have the highest shares of views (Statista, 2020). YouTube has been watched by 1.3 billion people and in every minute 500 hours of videos are uploaded

(Engadget, 2016). Today YouTube is considered as the biggest online video platform with 1.68 billion users in 2019.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Independent Variable – Facebook

Facebook is a social media platform that facilities the users for global interaction and helps people to share their thoughts, experiences and ideas with other people. According to (Brown, 2009) Facebook is a web based network which brings people from various backgrounds together in a virtual platform.

Kahraman (2010) defines Facebook as an online platform that helps to share your ideas, experiences and communicates with each other. Facebook around the world is used as an advertising platform where businesses use it to reach their prospective customers. It allows businesses to target specific customers and promote their product and services to them with help of an effective advertisement. Advertisement on Facebook is a useful strategy to attract customers. It is considered as an important source of business presentation (Rehman et al.,2014).

According to Vahl (2011) revenue generated from business advertisement has increased to approximately $ 2.5 billion. Many firms spend a big portion of their budget on advertising their product and service on Facebook. Firms believe advertisement on Facebook is beneficial as it attracts customers and leads to purchase intention. According to (Sendberg) Facebook is considered as an effective medium to reach the target audience. It helps to engage on a large social network with their customers and gives an opportunity to build up the brand.

According to (Weber, 2009) Facebook provides a virtual environment, where individuals with common interest share their thoughts, ideas, experiences and useful information in a virtual environment. According to Lukka and James (2014) Facebook enables marketers to effectively sell their products in a personalized way to their customers. Marketers can customize their advertisement to target a specific group of people in a cost effective way than marketing via a traditional method.

According to (Goldsmith & Lafferty, 2002) advertising on Facebook is an effective source to emotionally motivate customers to buy their advertised products. Advertising on Facebook influences customers' liking of products and attitude towards brands. Attitude towards the ad, is a well-known theory of advertising. Attitude towards the ad theory influences consumers feeling towards the brand leading to purchase intention. The aim of advertising is to develop an emotional response for consumers' towards the brand leading to increase in sales (Goldsmith & Lafferty, 2002).

According to (Bijmolt et al., 1998) the main goal of advertising is to encourage purchase and create awareness among people. According to (Holden & Lutz, 1992) informative advertisement plays a significant role in influencing people's mind towards a brand and creating an emotional response regarding an advertisement. Emotional advertisement is likely to create an emotional response towards an advertised product (Holden & Lutz, 1992).
Advertising on Facebook gives an opportunity to consumers to interact with the adverts on their pages by giving them a "like", "share", "comment" and also view who else or which friend liked or shared the same adverts. Today advertisements are changing from push advertising to trust based advertising where advertisers engage their consumers with their brands and stimulate a word of mouth (WOM) promotion (Knight & Kristina, 2007). WOM is developed through Facebook, where advertisements enhance brand image of various goods and services (Kaplan & Haenlein, 2010).

Facebook can be accessed from anywhere in the world. It is an easy to use platform which satisfies the social needs of people. It is an ideal platform to keep in touch with a large number of customers which was formerly being handled via email messages. There is a positive relationship between Customer loyalty and Facebook. This statement is proven with a study conducted by (Gamboa et al.,2014) on Zara (a famous Fashion designer brand in Malaysia) fans and non-fans on Facebook. To evaluate the loyalty drivers of Zara's customers different indexes were computed as the average of the individual items that assessed satisfaction. These items were measured with the help of a seven point scale where (1 = strongly disagree, 7 = strongly agree) via an online survey (Gamboa et al.,2014). There was a difference between loyalty drivers for Zara fans and non-Zara fans. Zara fans were ranked higher compared to non-Zara fans. These results indicated a positive relationship between Facebook and Customer Loyalty. To further examine the relationship between customer loyalty and its determinants a regression analysis was done. The determinants of loyalty were stronger for fans of the brands on Facebook as opposed to non-fans. In today's world big Fashion designers like Louis Vuitton are using Facebook to broadcast their fashion clothes. Facebook leads to two way communication with brands and customers unlike old fashion one way communication where marketing was done with the help of print media where no feedback from customers were taken (Kim, et al.,2010).

Independent Variable - Instagram

Instagram is a fastest growing social media platform with over 1 billion users (Instagram, 2019). It offers users the opportunity to discover, share, tag, use hashtags, comments and love visual content in the form of images, videos, and gifs. It is designed especially for visual content to capture photos, videos with creative filters and share it with their friends or make it public for Instagram users (Wally, et al.,2014).

As per Lup, Trub, and Rosenthal (2015), Instagram is distinctive compared to Facebook. In contrast to Facebook, Instagram requires users to post a picture or video when posting a content. Secondly, Instagram provides users with unique filters to enrich their photos. It is common for users to keep their Instagram profiles up to date and enables users to "follow", "like", "Comment" and "share" on random people's photos. These unique features of Instagram enables users' usage and experiences to be different compared to other social media platforms such as Facebook and Twitter. Similarly, marketing on Instagram may have a different perception on consumers compared to other social media platforms.

According to Walls beck and Johansson (2014) with the help Instagram Generation Y can be targeted easily. Using quantitative and qualitative methods Walls beck and Johansson (2014) found out, the brands that were followed by Generation Y on Instagram were mostly related to fashion, sport, Internet, and beauty care.

According to Chen (2018), research was conducted on university aged young consumers and their understanding of marketing through Instagram. The research examines how students view information on the internet and the effect of social media marketing through social and celebrity endorsements. The result of the research showed marketing on Instagram leads to promotion of the product by Young consumers into their campaign though filters and hashtags. Hashtags are made of random irrelevant words in relation to the picture but are meaningful to the user.

RadiumOne (2013) conducted a survey around 58% of respondents used hashtags on a regular basis. Companies such as H&M and Ben & Jerry's have found success through Instagram hashtag campaigns: Ben & Jerry's #captureeuphoria campaign resulted in nearly more than 17,000 tagged user pictures to date, and the account currently has more than 169,000 followers. In 2013, H&M partnered with Refinery29 used #HMCoachella hashtag. In less than a month 2,750 photos were uploaded to Instagram alone (Byrne 2013).

Chen (2018) studies showed marketing on Instagram leads to customers satisfaction. According to (Godey et al., 2016) research high end brands use Instagram to develop relationships with customers and increase brand awareness via social media. Instagram targets luxury brands because of the brands visual storytelling approach. Today, Instagram inspires people and is considered as a new form of 'window shopping' as consumers consult social media in the discovery and consideration phase. According to Bonilla et al. (2019), Instagram's visual component serves best for Fashion brands. Instagram has visual formats, including image, videos, boomerang, layout, stories and live. All that attracts consumers towards the brand.

According to (Locowise, 2017; Globalwebindex, 2015) research, brands tend to develop consumers' interest and their level of engagement with brands is higher on Instagram. Consumers prefer to shop more often on Instagram as compared to other social media platforms such as Facebook and Twitter Customer engagement is higher on Instagram and it gives users an opportunity to follow brands, influencers, friends, visit websites and shop online.

According to (Casaló et al., 2018) research, Instagram is mostly used by Fashion Luxury brands because of Instagram visual interaction with consumers. Marketing on Instagram helps Fashion brands to inspire consumers' Fashion choices, future searches, and purchase intention. Many Fashion brands use influencers in their marketing to attract consumers as they tend to follow the same dressing as their influencers. Luxury brands use Instagram to target their potential audience in a creative way (Instagram, 2017).

Independent Variable - YouTube

YouTube is a social media platform which was founded in 2005 and is the second largest search engine after Google. It allows users to post, view, comment and watch videos. World-wide YouTube is considered as the most visited website. Over one billion monthly viewers watch more than six billion hours of videos monthly and are highly engaged in liking, commenting, sharing videos, and upload 100 hours of new videos in every minute (Bradshaw & Garrahan, 2008).

According to (Perrin, 2015) young generation between 18 years and 34 years old are frequent users of YouTube. They watch YouTube videos more than any cable TV channel. Compared to other social networks, YouTube is the most popular social media platform with full of information and insights regarding market and consumption. By typing a single word in the search bar leads to many related content which the users can access to increase knowledge.
According to Dehghani et al., YouTube is a platform where brands and their audience engage with each other. Entertainment, informativeness and customization are positive drivers of YouTube advertisement which affects brands awareness and purchase intention of customers.

According to (Rohrs, 2014) mentions YouTube as a social media platform which is effective in terms of engaging the new and existing audience towards it. According to (Miller,2011) YouTube builds brand awareness and effectively promotes products to the audience. YouTube is considered as highly effective in developing consumers' interest and targeting a wider market base (Rohrs, 2014).YouTube creates an awareness for the brand and helps to promote the product by advertising (Miller, 2011). YouTube earns the largest share revenue for online video advertisement (IABUK, 2016).

According to a study conducted by Google mentions that marketers should spend up to six times more money on marketing on YouTube which is more beneficial (Sweney, 2016). Organisations can use the YouTube platform to boost their reach by paying for promotions. This will help Organisations to promote video content in a cost effective way. There are several ways of marketing on YouTube, namely display, overlay, in-search discovery, sponsored cards, video (skippable or non-skippable), and bumper. These different ways of marketing on YouTube provide an overview of YouTube as a marketing communication platform. The effectiveness of YouTube marketing can be analysed by click through view rates, completed video views, number of shares, comments, and likes. Impact of YouTube's marketing can be analysed such as advertisement recall, engagement, understanding, feedback/ customers reviews.

There are two types of advertising opportunities that YouTube offers, in-stream video and in-video advertisements (Dehghani et al., 2016). Advertisements that are integrated into a video are called in-stream video. These advertisements are distinguished by their position in the video, pre-roll advertisements are shown before the video, mid-roll advertisements during the video, and post-roll advertisements are placed at the end of the video (Li & Lo, 2015). In-stream advertising develops the attention of viewers by interrupting a video. These advertisements are difficult to skip as they appear while watching the intended video however advertisers can select whether advertisement can be skipped after five seconds of viewing the advertisement (Vernon, 2014).

Another type is In-video advertisement, they are less intrusive compared to In-stream advertising where advertisements appear on the bottom of the YouTube video players. Viewer can minimise or close the advertisement if they desire to (Dehghani et al., 2016).

For different advertising ways YouTube offers different pricing models. This enables a high degree of cost control and transparency (Vernon, 2014). Due to an increase in demand for YouTube advertisers are diverting from advertising on Television to online video advertising on YouTube (Shields, 2016).

Dependent Variable - Customer Loyalty

Oliver (1999) defines Customer loyalty as a commitment to re-purchase a preferred service or a product from the same brand or same brand-set purchasing in future consistently, despite competitors efforts to switch to their brand.

According to (Algesheimer et al., 2005), customers who are loyal keep a long term commitment with the brand which contributes to increase in revenue and positive word of mouth (Rauyruen and Miller, 2007). There are two types of loyalty, behavioural and attitudinal loyalty (Dick & Basu, 1994; Jacoby & Chestnut, 1978).

Behavioural loyalty is re-purchasing from the same brand also known as repeat purchase. Attitudinal loyalty is where a customer develops an emotional affiliation with the brand hence is loyal. Example, commitment, positive word of mouth, and defending firm virtues (Mandhachitara & Poolthong, 2011).

Dick and Basu (1994) defines customer loyalty as an important role in maximizing profits and strengthens customers' attitude in repurchasing from the same brand. Frederick (1996) mentions, maintaining loyal customers is a fundamental approach which leads to corporate success.

According to Zeithaml, Berry, & Parasuraman (1996) loyal customers tend to form a bond with the business/company in contrast to non-loyal customers. When making a purchase decision loyal customers focus on both economic aspects and maintaining relationships with the brand compared to non-loyal customers focused only on the economic side, they don't have any intention of maintaining a bond with the brand (Jain, Pinson, & Malhotra, 1987).

Research by Reichheld and Sasser (1990) mentions, loyal customers are ready to pay premium prices for their preferred brand rather than paying additional search cost for looking for other alternatives. In contrast to non-loyal customers, loyal customers tend to be less price sensitive and have a lower price elasticity of demand (Reichheld and Sasser 1990).

Engel & Blackwell (1982) mentions brand loyalty as an emotional attachment, preference, attitudinal and behavioural response over a passage of time towards the brand. There is a negative relationship between E-loyalty and search of alternatives and positive relationship between word of mouth and willingness to pay.
According to researchers Lipstein (1959) and Kuehn (1962) defines loyalty as the probability of repurchase behaviour of a product. Building and maintaining customer loyalty is one of the central themes of research for marketers. Marketers have used different ways to develop and maintain brand loyalty which includes, brand elements, classical marketing mix variables, and various methods of marketing such as events, sponsorships, one-to-one marketing activities, Internet marketing and social media marketing (Keller, 2008; Kotler and Keller, 2007). The main aim of doing this research is to focus on How Marketing on Social Media leads to Customer Loyalty? Social Media Marketing emphasizes on Social platforms for example Facebook, Instagram, and YouTube to promote their online website, products and services via online channels to reach a wider target audience which was not effectively done by using the traditional channels (Weinberg, 2009). To further narrow down this research focuses on How University students in Malaysia become loyal customers from Social Media Marketing (Zarella, 2010; Kaplan and Haenlein, 2009; McKee, 2010; Coon, 2010) .

The use of Social Media Marketing plays a significant role among students in Malaysia. In the first quarter of 2009 in Malaysia 16 million users used social media. In the third quarter of 2009 it reached 29.6 million users using Social media in Malaysia (Malaysian Communications and Multimedia Commissions, 2010). This shows the rise in demand of Social media in Malaysia is increasing.

According to (Lenhart & Madden, 2007; Salaway & Caruso, 2008) introduction of Social media has increased among teenagers and also university students. Students are using Social media day by day and a large number of them use it to interact, communicate, and purchase products online. Social media helps customers to interact with each other by increasing awareness, involvement, and engagement which leads to customer loyalty.

Thus, based on the literature content, the following will be the Research Questions and study objectives:

Research Question

- Does Marketing on Facebook leads to Customer Loyalty amongst University Students?
- Does Marketing on Instagram leads to Customer Loyalty amongst University Students?
- Does Marketing on YouTube lead to Customer Loyalty amongst University Students?

Research Objectives

- Marketing on Facebook leads to Customer Loyalty amongst University Students
- Marketing on Instagram leads to Customer Loyalty amongst University Students
- Marketing on YouTube leads to Customer Loyalty amongst University Students

Based on the literature review, the following Hypotheses is created:

H1: There is a positive relationship between Facebook and Customer loyalty among University Students

H2: There is a positive relationship between Instagram and Customer loyalty among University Students

H3: There is a positive relationship between YouTube and Customer loyalty among University Students

Conceptual Framework

The framework shows the relationship between the independent variables and the dependent variable. Each Social media platform points towards Customer Loyalty and shows the relationship between each two variables. The framework is shown in Figure 1.

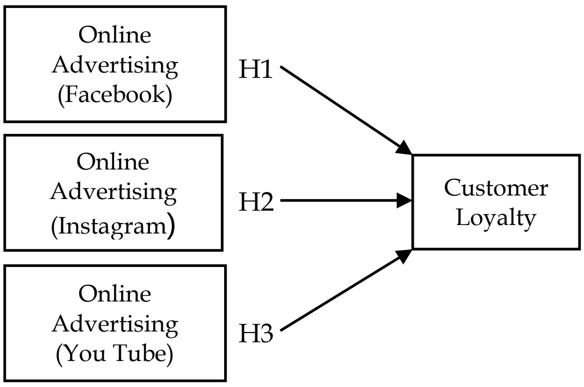

Figure 1: The Conceptual framework

RESEARCH METHODOLOGY

Research Design

The study uses primary data to gather information regarding the effect of social media marketing on customer loyalty amongst university students. The reason for conducting this research on university students are that the younger generation which is also known as Net Generation have a larger interest towards modern technologies is increasing (Hussain et al., 2012). A Quantitative approach is used for our research where mathematical, statistical and numerical analysis is gathered to evaluate the relationship between dependent and independent variables of the impact of social media marketing on customer loyalty. A questionnaire was designed to collect primary data i.e. data that is collected by the researcher from the first hand sources such as survey, interview and experiments.

A close ended questionnaire is created to generate numerical data. The collected data will help to guide in transforming quantitative data into relevant information. The questionnaire comprises thirty two questions, it was designed in a way to answer the research question, whether marketing on social media platforms such as Facebook, Instagram, and YouTube leads to customer loyalty.

In this research paper independent variables are Facebook, Instagram, and YouTube. These independent variables have direct impact on dependent variables. In other words any change in marketing on Social media platforms will have a direct impact on Customer Loyalty. The dependent variable in this research is Customer loyalty. Customer loyalty depends upon independent variables which are Facebook, Instagram, and YouTube. This shows that Customer loyalty depends upon how effectively Social media marketing is done on Social platforms.

A direct approach was used to get answers from the target audience which are University students. A comprehensive analysis consists of both primary and secondary data. Acquiring the ability to collect primary data is valuable as it serves as a complement while secondary research is being carried out, such as collecting data from books and other related journals. In our research we have used secondary data such as data from research articles to support our dependent and independent variables.

According to (Driscoll,2011) primary research is proven to be useful for business research and academic research. Both primary and secondary data helps to provide a better understanding of the independent and dependent variable.

SPSS software is used for this research to calculate the relationship between independent (Facebook, Instagram, and YouTube) and dependent variables (Customer Loyalty). SPSS is a software that is used by researchers which helps in processing the critical data in simple steps. SPSS software easily handles, operates information to analyse, transform, and produce a characteristic pattern between variables. SPSS provides a graphical representation of the output that helps in understanding the result easily (Noels, 2018).

Procedure and Sample Group

Sampling is to generalize the results to the entire population. Sampling is selecting a sufficient number of elements from the population (Mathstopia.net. 2020). In other words, In order to generalise the results to the entire population, sampling consists of selecting a sufficient number of elements from the population called a sample.

In this research primary data is collected using google forms where a questionnaire is designed and is distributed to the university students in Kuala Lumpur, Malaysia via email, WhatsApp, and Instagram. The reason for choosing University students in Kuala Lumpur is that there are a huge number of students studying in Universities and are the regular users of social media that can contribute to customer loyalty from social media marketing.

The respondents who filled the questionnaire were students from mostly private universities such as Taylors University, Monash University and Sunway University pursuing their foundation, Diploma, Degree or Masters in these universities. 218 students in Kuala Lumpur filled the questionnaire.

Sampling Technique- Convenience sampling

Convenience sampling is used for this research. Convenience sampling is also known as availability sampling. It is a type of non-probability sampling (Research-Methodology, 2020). Convenience sampling is where data is collected very conveniently from the available pool of respondents. It is extremely prompt, uncomplicated, economical, helpful for hypothesis generation.

Pilot study was conducted for this research, convenience sampling is useful in conducting pilot study as it helps in selecting samples that are easier to study and satisfy certain criteria (Convenience Sampling, 2020). It is the most widely used sampling method (QuestionPro, 2020). In certain ways, participants are readily available to be part of the survey. In circumstances where, in most instances, large communities exist, it is virtually difficult to evaluate the whole group since they are not easy to access.

During this year COVID 19, where the whole world is under lockdown due to contagious Coronavirus. Distributing questionnaires physically was very difficult. Convenience sampling is the best during this situation as it helps to quickly get respondents. Researchers use convenience sampling in situations where additional inputs are not required for the principal sample, researchers use convenience sampling. Convenience sampling helps to understand observed habits, opinions and viewpoints in the earliest possible manner.

Questionnaire Design

The questionnaire consisted of three sections, with the student demographics in the first section and questions about the independent and dependent variables in the last two sections. As a data source for the analysis, each section was requested:

SECTION 1

1. Gender
2. Nationality
3. Age Group
4. Class Standing
5. Do you use Social Media
6. If Yes, how much time do you spend on Social media platforms daily?
7. Are you Fashion conscious?
8. Do you Prefer to Shop your clothing Online?

SECTION 2

FACEBOOK

1. I use Facebook
2. I often get advertisement when I scroll through Facebook
3. I skip advertisement on Facebook
4. I purchase clothing products through advertising on Facebook

5. I find Facebook advertisement safe for my transactions
6. I usually get attracted by Fashion advertisement on Facebook

INSTAGRAM
1. I use Instagram
2. I often get advertisement when I scroll through Instagram
3. I skip advertisement on Instagram
4. I purchase clothing products through advertising on Instagram
5. I find Instagram advertisement safe for my transactions
6. I usually get attracted by Fashion advertisement on Instagram

YOUTUBE
1. I use YouTube
2. I often get advertisement when I scroll through YouTube
3. I skip advertisement on YouTube
4. I purchase clothing products through advertising on YouTube
5. I find YouTube advertisement safe for my transactions
6. I usually get attracted by Fashion advertisement on YouTube

SECTION 3
1. Which Social media platform do use the most
2. Which Social media platform I used the most for online purchasing
3. I am loyal with my purchase through advertisement on Facebook
4. I am loyal with my purchase through advertisement on Instagram
5. I am loyal with my purchase through advertisement on YouTube
6. I am attracted to Visual advertisement compared to print media advertisement

Pilot study

Pilot study is a test of your research study. It allows researchers to test the research approach with a few number of participants before conducting the main research. It is an additional step and is time consuming but it ensures the researcher that the research will run smoothly without any problems (Fuel cycle, 2020). This testing also improves the output from the study being conducted. Pilot Testing has many other benefits such as it helps to test the validity of the research. During the test, it helps to get feedback on the questionnaire. If the questions designed were clear and meaningful. Conducting a pilot study gives an extra opportunity to make sure the questions designed are right, target audience selected is correct. We conducted a pilot test for our research by selecting ten people as a sample and a questionnaire was distributed to them to fill in. Feedback was taken from all the ten people in pilot testing about the questionnaire. After having a positive feedback, the questionnaire was distributed to other students in all the universities in Kuala Lumpur.

DATA ANALYSIS AND FINDINGS

This section deals with the data that was retrieved from the respondent, as well as the statistical analysis tabulated to gain an insight of the respondent t behaviour.

Descriptive Analysis

The descriptive analysis explains
the survey trends specific to demographics. In SPSS, descriptive analysis includes statistical values which consists of percentages and frequency. The descriptive analysis will include section 1 of the questionnaire.

Gender

Data for pilot study was analysed using SPSS software and reported below. The total number of samples was 218 where no missing data reported for respondent's demographic. The respondents for this study consisted of a sample from 107 males (49.1%) and 111 females (50.9%).

Table 1: Gender Analysis

Male	Female	Total
107 (49.1%)	111 (50.9%)	218

Nationality

The study gave open ended question for nationality where 24 different nationalities were filled which included 1 American (0.5%), 2 Australian (0.9%),8 Bangladeshi (3.8%), 1 British (0.5%), 1 Burma (0.5%), 1 Canadian (0.5%), 3 Chinese (1.4%), 2 Egyptian (0.9%), 2 French (0.5%),1 German (0.5%), 4 Indian (1.8%), 7 Indonesian (3.3%), 1 Japan (0.5%),2 Kenyan (0.9%) , 1 Laotian (0.5%), 106 Malaysian (48.6%),2 Maldivian (0.9%), 2 Mauritian (0.9%), 1 Nepalese (0.5%), 1 Omani (0.5%), 46 Pakistan (21.1%) ,2 Qatar (0.9%),3 Saudi Arabian (1.9%) , 3 Singaporean (1.4%), 2 Sri Lankan (0.9%), 4 Thailand (1.9%), 1 American (0.5%), 1 Uzbekistan (0.5%), 4 Yemeni (1.9%), 1 Zambian (0.5%).

Age
The study revealed 5 different categories of age. In detail, 13.3% of participants were between under 18 years old, 30.7% of participants ranged between 18 - 20 years old, 46.8% of participants ranged between 20 - 25 years old, 4.1% of participants ranged between 25 - 30 years and 5% of participants were 30 years and above.

Table 2: Age Analysis

Under 18 Years Old	18 – 20 Years Old	20 – 25 Years Old	25 – 30 Years Old	30 and Above
13.3%	30.7%	46.8%	4.1%	5%

value of the Cronbach's Alpha ranges between 0 to 1 and the scale results of 0.7 and above is considered as an acceptable and good value. It is believed that the higher the reliability test results, the easier it is to obtain significant result (DeCoster et al., 2004).

The reliability of a variable is found out with the help of Cronbach alpha value. The Cronbach alpha value of Facebook has 0.870, Instagram has 0.853, YouTube is 0.824, Customer loyalty has 0.848. The value of each variable is more than 0.7 which means all the variables of this study are authentic.

Table 4: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Real Cronbach Alpha Value
Facebook	10.6678	6.516	.701	.505	0.870
Instagram	10.1854	7.444	.742	.620	0.853
YouTube	10.4232	6.790	.811	.691	0.824
customer loyalty	10.8578	6.562	.747	.558	0.848

Class Standing
The study revealed 4 categories of education levels where 66.5% of respondents were currently in degree, 7.3% of respondents were currently studying in diploma, 19.3% of respondents were currently studying in foundation, and 6.9% of the respondents were currently studying in masters.

Table 3: Class Standing

Degree	Diploma	Foundation	Masters
66.5%	7.3%	19.3%	6.9%

Analysis
Social Factors
There were other social factors which were analysed in this study. Out of 218 participants, 95.9% of participants use social media while 4.1% of participants do not use social media. This study found out that 76.1% were fashion conscious while 23.9% were not fashion conscious. This study also depicted that 52.3% of the respondents prefer online shopping while 47.7% of the respondents do not prefer online shopping.

Reliability Analysis
Reliability test measures how much of the variability in the observed scores represents variability in the underlying true score. The

Correlation analysis
SPSS provides the Pearson correlation results and it measures the strength of the linear relationship between the dependent and independent variables (DeCoster et al., 2004). For this study there are three correlation results for each independent variable and its relationship with the dependent variable. The table below shows the results of Pearson Correlation.

Correlation between Facebook and Customer Loyalty

Table 5: Correlation between Facebook and Customer Loyalty

		Facebook	Customer loyalty
Facebook	Pearson Correlation	1	.647**
	Sig. (2-tailed)		.000
	N	218	218
Customer loyalty	Pearson Correlation	.647**	1
	Sig. (2-tailed)	.000	
	N	218	218

**. Correlation is significant at the 0.01 level (2-tailed).

H1: There is a positive relationship between Facebook and Customer Loyalty among University Students.

Correlation between Instagram and Customer Loyalty

Table 6: Correlation between Instagram and Customer Loyalty

		Instagram	Customer loyalty
Instagram	Pearson Correlation	1	.637**
	Sig. (2-tailed)		.000
	N	218	218
customer loyalty	Pearson Correlation	.637**	1
	Sig. (2-tailed)	.000	
	N	218	218

**. Correlation is significant at the 0.01 level (2-tailed).

H2: There is a positive relationship between Instagram and Customer Loyalty among University Students.

Correlation between YouTube and Customer Loyalty

Table 7: Correlation between YouTube and Customer Loyalty

		YouTube	Customer Loyalty
YouTube	Pearson Correlation	1	.687**
	Sig. (2-tailed)		.000
	N	218	218
Customer Loyalty	Pearson Correlation	.687**	1
	Sig. (2-tailed)	.000	
	N	218	218

**. Correlation is significant at the 0.01 level (2-tailed).

H3: There is a positive relationship between YouTube and Customer Loyalty among University Students

The correlation between Facebook and Customer Loyalty is .647 while the significance value is .000. The correlation between Instagram and Customer Loyalty is .637 while the significance value is .000. The correlation between YouTube and customer loyalty is .687 while the significance value is.000. If the significance value is less than 0.01 level than the relationship between the variable is significant. The relationship between the variable are significant as they are all less than 0.01.

Multiple Linear Regression

Regression analysis permits one to predict the value of the dependent variable from the other independent variables and provides information on whether the overall fit of the model is reliable or not. For this analysis, the value in Adjusted R Square will be used to measure the model fit (DeCoster et al., 2004). The results of the multiple linear regression will be shown to forecast Customer loyalty based on their use of Facebook, Instagram, and YouTube.

Table 8: Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.747a	.558	.552	.70257

a Predictors: (Constant), YouTube, Facebook, Instagram

b, Dependent Variable: Customer Loyalty

Table 9: Anova

Model	*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
Regression	133.438	3	44.479	90.110	.000b
Residual	105.632	214	.494		
Total	239.070	217			

a. Dependent Variable: Customer loyalty
b. Predictors: (Constant), YouTube, Facebook, Instagram

Table 10: Coefficients

Model	Unstandard-ized B	td. Error	Standardized Coefficient Beta	t
Constant	-.102	.221		-.458
Facebook	.307	.058	.322	5.304
Instagram	.260	.088	.214	2.958
YouTube	.345	.088	.310	3.933

a. Dependent Variable: customer loyalty

Proposed model explained 55.8% of factors affecting turnover rates (R square=0.558). This model was significant (p<0.05). Therefore, the results showed that Facebook, Instagram, YouTube factors have significant impact on customer loyalty ($p<0.05$).

Customer loyalty = 0.307 (Facebook) + 0.260 (Instagram) + 0.345 (YouTube)
The above equation indicate that Customer loyalty increases by 0.345 units for each increase in one unit of YouTube. More so, YouTube is the strongest forecaster of Customer Loyalty while Instagram is the weakest.

RECOMMENDATION AND CONCLUSION

This study was conducted on the topic of the effect of Social Media marketing on Customer loyalty amongst university students, evidence from the Fashion Industry in Kuala lumpur. The reason for conducting this research was that there were researches done on Social Media marketing on Customer loyalty in general but no research has been done specific on the Fashion industry amongst the university students.

Today, Fashion industry in Kuala Lumpur is booming due to strong demand. All the new and existing brands have their online platforms which makes buying for customers easy. It is important to determine which social media platforms have the most impact on customer loyalty. The target audience for the research were university students in Malaysia of age between 18 to 26 years old. This generation uses social media the most. It is important for marketers to determine the ways to make customers loyal by using social media marketing.

In our research the dependent variable is Customer Loyalty, it is the commitment by customers to repurchase a firms' product or services despite competitors' efforts to lure them away is considered as Customer Loyalty (Bilgin et al.,2018). The independent variables include Facebook, It is a social media platform that facilitates the users for global interaction and helps people to share their thoughts, experiences and ideas with other people. Instagram, It is a fastest growing social media platform with over 1 billion users (Instagram, 2019) and YouTube, It is a social media platform which was founded in 2005 and is the second largest search engine after Google.

A quantitative research was carried out where both primary data and secondary data was used. Primary data was collected with the help of a questionnaire. The questionnaire was designed and distributed to the university students in Kuala Lumpur, Malaysia. The questionnaire consisted of three sections and a total of 32 questions. 218 students from different universities such as Taylors University, Sunway University, Monash University, and students from different nationalities filled the questionnaire.

SPSS software was then used to run the different tests such as Descriptive tests, Reliability tests, Pearson Correlation tests, and Multiple Regression to compute the results from the questionnaire.

The main purpose of this research is to provide answers to the research questions and achieve the research objectives. There are three research questions. The First research question emphasizes on the objective if marketing on Facebook leads to Customer Loyalty amongst University students. According to SPSS results, it is observed that there is a positive relationship between the two variables, ***Customer Loyalty and Facebook*** hence marketing on Facebook leads to customer loyalty amongst university students. Facebook had the second highest Pearson Correlation rate of 0.647 among the three independent variables. The results of the Facebook were significant and positive. Facebook's predictor of customer loyalty with an unstandardized B value 0.307.

The Second research question emphasizes, If marketing on Instagram leads to Customer Loyalty amongst University students. According to SPSS results, it is observed that there is a positive relationship between the two variables, ***Customer Loyalty and Instagram*** hence marketing on Instagram leads to customer loyalty amongst University students. Instagram had the lowest Pearson Correlation rate of 0.637 among the three independent variables, however the results of Instagram were still significant and positive. Instagram had the weakest predictor of customer loyalty with an unstandardized B values of 0.260.

The third question emphasizes on the objective if marketing on YouTube leads to Customer Loyalty amongst University students. According to SPSS results, it is observed that there is a positive relationship between the two variables, ***Customer Loyalty and YouTube*** hence marketing on YouTube leads to Customer

Loyalty amongst University students. YouTube had the highest Pearson Correlation rate 0.687 among the other three independent variables. YouTube results were significant and positive. YouTube had the strongest predictor of Customer Loyalty with an unstandardized B value of 0.345.

It is observed that Instagram has the weakest overall results and marketing on YouTube and Facebook leads to customer loyalty amongst university students.

This study focuses only on the three social media platforms which are Instagram, Facebook, and YouTube. It is recommended for future researchers to focus on other social media platforms such as Twitter and Snapchat. Furthermore, researchers should focus on the other factors like, satisfaction of customers towards social media, usage of Social media, Advancement in Social Media Marketing, Can Social Media improve customer relations and firms performance? Therefore, research in these areas will help marketers to enhance their knowledge, skills, and help them in forming different techniques to market their product or service. This study focuses on University students in Kuala Lumpur Malaysia, future researchers can focus on a wider market, other geographical areas not restricted to university students in Malaysia as users of Social Media are all over the world. This research targeted 218 students who filled the questionnaire.

The data founded for this research can be better interpreted by conducting surveys over a larger sample size. This will help the researchers to get more respondents to fill out the questionnaire. This research focuses on the Fashion Industry in Kuala Lumpur, future researchers can focus on different industries such as, Hotel industry, Travel and Tourism.

REFERENCES

Algesheimer, R., Dholakia, U.M. and Herrmann, A. (2005), "The social influence of Brand community: evidence from European car clubs", *Journal of Marketing,* Vol. 69 No. 3, pp. 19-34.

Balakrishnan, B.K., Dahnil, M.I. and Yi, W.J., 2014. The impact of social media marketing medium toward purchase intention and brand loyalty among generation Y. Procedia-Social and Behavioral Sciences, 148, pp.177-185.

Baltes, L.P., 2015. Content marketing-the fundamental tool of digital marketing. Bulletin of the Transilvania University of Brasov. Economic Sciences. Series V, 8(2), p.111.

Bijmolt, T. H. A., Claassen, W., & Brus, B. (1998). Children are Understanding of TV Advertising: Effect of Age, Gender, and Parental Influence. *Journal of Consumer Policy*, 21, 171-194.

Bilgin, Y., 2018. The effect of social media marketing activities on brand awareness, brand image and brand loyalty. Business & Management Studies: An *International Journal*, 6(1), pp.128-148.

Bowen, J.T. and Chen, S.L., 2001. The relationship between customer loyalty and customer satisfaction. *International journal of contemporary hospitality management.*

Bradshaw, T., & Garrahan, M. (2008). "Rival forecast to catch YouTube". Financial Times. http://us. ft. com/ft gateway/super page. ft.

Brown, R. (2009). Public Relations and the Social Web: How to Use Social Media and Web 2.0 in Communications. New Jersey: Kogan Page Publishers.

Bowen, J. T., & Chen, S. L. (2001). The relationship between customer loyalty and customer satisfaction. International journal of contemporary hospitality management.

Byrne, B.M. (2013), Structural Equation Modelling with AMOS: Basic Concepts, Applications, and Programming, Routledge, New York, NY.

Casaló, L. V., Flavián, C. and Ibáñez-Sánchez, S., 2018. Influencers on Instagram: Antecedents and consequences of opinion leadership. *Journal of Business Research*. doi:10.1016/j.jbusres.2018.07.005

Chen, H., 2018. College-aged young consumers' perceptions of social media marketing: The story of Instagram. *Journal of Current Issues & Research in Advertising*, 39(1), pp.22-36.

Coon, M. (2010), Social Media Marketing: Successful Case Studies of Businesses Using Facebook and YouTube With An In-Depth Look in the Business Use of

Twitter", Communication M.A. Project, June 4, 2010, http://comm.stanford.edu/coterm/projects/2010/maddy%20coon.pdf (accessed on 02 March 2012)

DeCoster, J., & Claypool, H. M. (2004). Data Analysis in SPSS Jamie DeCoster Department of Psychology University of Alabama 348 Gordon Palmer Hall Tuscaloosa , AL 35487-0348 If you wish to cite the contents of this document , the APA reference for them would be DeCoster , J . (2004). Data Ana.

Dehghani, M., Niaki, M.K., Ramezani, I., & Sali, R. (2016). Evaluating the influence of YouTube advertising for attraction of young customers. Computers in Human Behavior, 59, 165-172. https://doi.org/10.1016/j.chb.2016.01.037

Dehghani, M., Nourani, S., & Choubtarash, H. (2012). Interdisciplinary *journal of contemporary research in business,* 4(8), 774e787.

Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99–114.

Dudharejia, M., 2017. 8 Reasons Facebook Will Beat All Other Digital Marketing Channels This Year. [online] Entrepreneur. Available at: <https://www.entrepreneur.com/article/286441> [Accessed 30 August 2020].

Engadget.com. 2016. History Of YouTube. [online] Available at: <https://www.engadget.com/2016-11-10-the-history-of-youtube.html> [Accessed 30 August 2020].

Engel, James F. and Roger D. Blackwell (1982). Consumer behaviour. New York: The Dryden Press.

Eudaimonia (2017). How Instagram Started. [online] Medium.

Exchange4media (2019). 84% of Instagram users are likely to shop using the platform: WATConsult's report - Exchange4media. [online] Indian Advertising Media & Marketing News – exchange4media.

Frederick, F. R. (1996). Learning from customer defections. Harvard Business Review, 74(2), 57–69.

Fuel cycle. 2020. What Is Pilot Testing And What Are The Benefits?. [online] Available at: <https://fuelcycle.com/blog/pilot-testing-how-it-can-improve-research/> [Accessed 6 October 2020].

Gamboa, A.M. and Gonçalves, H.M., 2014. Customer loyalty through social networks: Lessons from Zara on Facebook. Business horizons, 57(6), pp.709-717.

Globalwebindex, 2015. Profiling Instagram's future on its fifth birthday. [online] Available at: https://blog.globalwebindex.com/trends/profiling-instagram-s-future-on-its-fifth-birthday/ [Accessed on 20 October 2019].

Godey, B., Manthiou, A., Pederzoli, D., JoonasRokka, Aiello, G., Donvito, R. and Singh, R. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research*, 69(12), 5833-5841.

Goldsmith, R. E., & Lafferty, B. A. (2002). Consumer response to websites & their influence on advertising effectiveness. Internet research. *Journal of Electronic Networking Application and Policy*, 12(4), 318-328.

Holden, S. J. S., & Lutz, R. J. (1992). Ask Not What the Brand Can Evoke; Ask What Can Evoke The Brand. *Journal of Advances in Consumer Research, 19*, 101 -107.

Hu, Y., Manikonda, L. and Kambhampati, S., 2014, June. What we Instagram: A first analysis of Instagram photo content and user types. In Icwsm.

Instagram, 2017. Experience Luxury on Instagram. [online] Available at: https://business.instagram.com/a/insights/luxury [Accessed on 20 October 2019].

Instagram, 2019. Instagram Shopping. [online] Available at: https://www.facebook.com/business/instagram/shopping [Accessed on 20 October 2019].

Jacoby, J. and Kyner, D. (1973), ``Brand loyalty vs. repeat purchasing behaviour'', *Journal of Marketing Research*, Vol. 10, pp. 1-9.

Jacoby, J., & Chestnut, R. (1978). Brand loyalty: Measurement and management. New York, NY: John Wiley and Sons, Inc.

Jain, Arun K., Christian Pinson, and Naresh Malhotra (1987). Customer loyalty as a construct in the marketing of banking services, The Inter- national *Journal of Bank Marketing*, 5 (July), 49–72.

Kahraman, M. (2010). Sosyal Medya 101, Istanbul: Mediacat 1.Baskı.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. Business Horizons, 53(1), 59–68.

Kaplan, M, A., and M Haenlein (2009), "Users of the world, unite! The challenges and opportunities of social media", Business Horizons (2010) 53, 59 68

Keller, K. L. (2008). Strategic Brand Management: Building, Measuring and Managing Brand Equity. Third Edition. New Jersey: Pearson Prentice Hall.

Knight, & Kristina (2007). Forecast, WOM to exceed $1 billion in 2007. Biz report.

Kotler, P., & Keller, K. L. (2007). A Framework For Marketing Management. (3rd ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.

Kuehn, Alfred (1962). Consumer brand choice as a learning process, *Journal of Advertising Research*, *2* (March-April), 10–17.

Li, H., & Lo, H.Y. (2015). Do you recognize its brand? The effectiveness of online in-stream video advertisements. *Journal of Advertising, 44*(3), 208-218. https://doi. org/10.1080/00913367.2014.956376

Lipstein, Benjamin (1959). The dynamics of brand loyalty and brand switching, In Proceedings of the Fifth Annual Conference of the Advertising Research Foundation (pp. 101–108), New York: Advertising Research Foundation.

Locowise, 2017. Instagram follower growth is now lagging behind Facebook page likes growth. [online] Available at: https://locowise.com/blog/instagram-follower-growth-is-now-lagging-behind-facebook- page-likes-growth [Accessed 11 September 2019].

Lukka, V., & James, P. T. J. (2014). Attitudes toward Facebook advertising. *Journal of Management and Marketing Research*. 14, 1-26.

Lup, K., L. Trub, and L. Rosenthal. 2015. "Instagram#Instasad?: Exploring Associations Among Instagram Use, Depressive Symptoms, Negative Social Comparison, and Strangers Followed." Cyber Psychology, Behavior, and Social Networking 18 (5):247–52. https://doi.org/10.1089/cyber.2014.0560

Maddox, Kate. "Study: 80% of Companies Will Increase Digital Marketing Budgets" in Advertising Age, 27 January 2015

Mandhachitara, R., & Poolthong, Y. (2011). A model of customer loyalty and corporate social responsibility. *Journal of Services Marketing*, 25(2), 122–133.

Mathstopia.net. 2020. Convenience Sampling. [online] Available at: <https://www.mathstopia.net/sampling/convenience-sampling> [Accessed 6 October 2020].

Mathstopia.net. 2020. Convenience Sampling. [online] Available at: <https://www.mathstopia.net/sampling/convenience-sampling> [Accessed 6 October 2020].

McKee, S. (2010), Creative B2b Branding (No, Really): Building a Creative Brand in a Business World, Goodfellow Publishers Limited; USA

Miller, M. (2011). YouTube for business: Online video marketing for any business (2nd ed.). Indianapolis, Ind.: Que Publishing.

Noels, J., 2018. What Is SPSS And Its Importance In Research & Data Analysis?. [online] Medium. Available at: <https://medium.com/@johnnoels/what-is-spss-and-its-importance-in-research-data-analysis-5f109ab90da1> [Accessed 6 October 2020].

Perrin, A. (2015). Social media usage: 2005-2015.

QuestionPro. 2020.Convenience Sampling: Definition, Application, Advantages ,Method and Examples /Questionpro. [online] Available at: <https://www.questionpro.com/blog/convenience-sampling/> [Accessed 6 October 2020].

RadiumOne. 2013. "#Mobile Hashtag Survey" Accessed January 20, 2014. http://www.radiumone.com/assets/download/RadiumOne-Hashtag-Report.pdf.

Rauyruen, P. and Miller, K.E. (2007), “Relationship quality as a predictor of B2B customer loyalty”, *Journal of Business Research*, Vol. 60 No. 1, pp. 21-31.

Reichheld FF, Sasser Jr WE. Zero defections: quality comes to services. Harv Bus Rev 1990;68(5):105.

Research-Methodology. 2020. Convenience Sampling - Research Methodology. [online] Available at: <https://research-methodology.net/sampling-in-primary-data-collection/convenience-sampling/> [Accessed 6 October 2020].

Rohrs, J. (2014). Audience: Marketing in the age of subscribers, fans & followers. Hoboken, NJ: Wiley.

Sajid, S.I., 2016. Social media and its role in marketing.

Salaway, G., & Caruso, J.B. (2008). The ECAR study of undergraduate students and information technology, 2008. ECAR Research 17 Study 8. Boulder, Colorado: EDUCAUSE Centre for Applied Research. [Online] Available: http://net.educause.edu/ir/library/pdf/ERS0808/RS/ERS0808w.pdf (February 12, 2011)

Salaway, G., & Caruso, J.B. (2008). The ECAR study of undergraduate students and information technology, 2008. ECAR Research 17 Study 8. Boulder, Colorado: EDUCAUSE Centre for Applied Research. [Online] Available: http://net.educause.edu/ir/library/pdf/ERS0808/RS/ERS0808w.pdf (February 12, 2011)

Senders, A., Govers, R. and Neuts, B., 2013. Social media affecting tour operators' customer loyalty. *Journal of Travel & Tourism Marketing*, 30(1-2), pp.41-57.

Shields, M. (2016, April 22). YouTube’s Quest for TV Advertising Dollars. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/youtubes-quest-for- tv-advertising-dollars-1461343177

Statista. 2020. Statistics & Facts About Facebook. [online] Available at: <https://www.statista.com/topics/751/facebook/> [Accessed 30 August 2020].

Statista. 2020. YouTube-Statistics & Facts. [online] Available at: <https://www.statista.com/topics/2019/youtube/> [Accessed 30 August 2020].

Sweney, M. (2016, April 20). Google claims YouTube ads are more effective than TV. The Guardian. Retrieved from https://www.theguardian.com/media/2016/ apr/20/google-youtube-ads-tv

Technician (2019). The impact of social media on student life. [online] Technician

Terantino, J.M., 2011. YouTube for foreign languages: You have to see this video. Language Learning and Technology, 15(1), p.10.

Vahl, A (2011). Create EPIC Facebook Ads. Publication of Hub sport.

Vernon, J. (2014) The power of YouTube ads. The ultimate guide to start running ads on

Wallsbeck, F. E., and U. Johansson. 2014. “Instagram Marketing: When Brands Want to Teach Generation Y with Their Communications.” Bachelor’s thesis, Halmstad University, Halmstad, Sweden. Accessed July 15, 2015. http://www.divaportal.org/smash/get/diva2:725701/FULLTEXT01.pdf.

Wally, E., and S. Koshy. 2014. “The Use of Instagram as a Marketing Tool by Emirati Female Entrepreneurs: An Exploratory Study.” 29th International Business Research Conference, World Business Institute, Australia, 1–19.

YouTube. MarketingHY. Retrieved from https://marketinghy.com/2014/06/power-youtube-ads-ultimate-guide-start-running-ads-youtube/

Zarrella,D. (2010), “The Social Media Marketing Book”, O’ Reily Media Inc., CA, U.S.A

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SOCIAL MEDIA INFLUENCERS FOR ONLINE PURCHASE BEHAVIOUR: MEDIATION BY BRAND CONSCIOUSNESS

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ABSTRACT

Social media Influencers (SMIs) is relatively new marketing strategy and effective for marketers willing to build relationships with their target market creatively. The modern marketing approach has seen a significant increase in partnerships of influencers with brands over the years for making consumer conscious for online purchase decision. The study scientifically and systematically reviews and synthesize the focus of research as an attempt to examine the mediating role of brand consciousness on the association of effectiveness of social media influencers and online purchase behaviour. Primary data is collected from 567 youth from Delhi NCR using close-ended, structured, non-disguised questionnaire. The analysis of data is done by using SPSS 21 & AMOS 21 by adopting the structural equation modelling (SEM) for explaining the path analysis. The study confirms the full mediation of brand consciousness between Social Media Influencers and online purchase behaviour. The contribution of the research will be on explanatory roles of effectiveness of Social Media Influencers and to assess the mediating role of Brand consciousness on online purchase behaviour.

Key words: Social Media Influencers, Brand consciousness, Online purchase behaviour, Influencer's effectiveness, Marketing strategies, youth behaviour, content-based influencers.

INTRODUCTION

Digital Media: Emergence of Social Media Influencers

With the advent of digital media innovations and the radical changes taking place around us, the tools, and methods of communicating with customers have undergone tremendous changes, the companies are learning the usage of social media in accordance with their business plans and online purchase (Mangold and Faulds, 2009). In a modern democracy, people are deluged with media content from a variety of sources (Hey & Trefethen, 2003). Long-standing traditional media such as newspapers, television, radio continues to be influential sources of news, and information, and promotion (Gupta et al, 2020; Kaye & Johnson, 2003). Social media has become another distinctive source of information that works primarily via social networks or because of individual interest in a particular subject matter (Kane, Alavi, Labianca, & Borgatti, 2014). An independent 'third party endorser' also known as 'Social Media Influencers' (SMIs) emerging to play important role in influencing the perception, attitude and behaviour of public through social media platforms such as blogs, tweets and other audio video content. (Freberg, Graham, McGaughey, & Freberg, 2011).

Social Media Influencers (SMI) is used these days largely through Facebook, Instagram, and Twitter (Arora, Bansal, Kandpal, Aswani, & Dwivedi, 2019). Influencer Marketing is a new strategy that is gaining in popularity among companies (Kadekova & Holienčinova, 2018). The use of influential opinion leaders (Influencers), celebrities, and many fans on social media, to promote positive and ethical responses to their followers/ consumers (Riefa, & Clausen, 2019), concerning product interests using posts shared on such platforms and allows promoters and fans to participate in the co-creation of the brand image on communication (Glucksman, 2017). It also delivers exceptional opportunities for sales and advertising (Li, Lai, & Chen, 2011). It is considered that influential marketing results in a product getting better engagement results and doubling its ROI - eleven times more than once digital formats, it makes sense to pursue influential marketing such as customer acquisition strategy, which grows significantly in the online context (Gross, & Wangenheim, 2018; Gupta and Kumar, 2017). In addition, half of the consumers already use ad blocks, which greatly reduce the performance of many common types of online advertising. Overcoming this growing barrier to online consumer access, brands wish to make an impact on 'focused consumers' on content, and that's where influential marketing is well balanced (Brown, & Fiorella, 2013).

The research study highlights the influential characteristics of social media for online purchase decision recommended by influencers, degree of involvement of youth with the influencers, and consciousness towards information and brands endorsed by the influencers. Exerting influence is an orientation of new marketing tactics for the identified people through Social media (Brown, & Fiorella, 2013). The marketers emphasizing on the purchase behaviour for drafting their social media strategy.

The purpose of the research study is to find out the effectiveness of new emerging marketing strategy - Social Media Influencers (SMIs) towards online purchase. The study also aims to assess the role of Social Media influencers for brand consciousness that lead to purchase decision. The purpose of the study is to explore the mediating role of brand consciousness between social media influencers and purchase decision.

Significance of the research

The study will help the marketers to take key marketing decisions while drafting their marketing strategies. The study explored social media influencers, their categories, content created by them and delivery for influencing the target market. The study contributes towards creating the knowledge base for inductive and scientific thinking for academicians and help the marketers to measure effectiveness of social media influencers and brand consciousness.

BACKGROUND LITERATURE

Social Media Influencers and Purchase Behaviour

Influencers today are winning the hearts of people by their outstanding work, presence, and a high number of followers (De Veirman, Cauberghe, & Hudders, 2017). The ideas of onboarding influencers have a profound effect on people, especially on the younger generation (Rishi, & Kuthuru, 2021). According to Shimp and Andrews (2013), the measures to make an ad effective by considering it as a marketing strategy and developed from the consumer's perspective. Kotler and Armstrong (2014) discussed two categories of consumer involvement for purchase behaviour based on high or low customer interest, and major or minor brand variations. For purchase behaviour one important procedure is the choice interaction approach, which considers the occasions that go before and go with a buy and depicts how choices are made (Karimi, 2013). Consumer decision-making involves "consumer behaviour patterns that precede, evaluate, and follow the decision of purchase and the acquisition of need-satisfying goods, ideas, or services" (Schiffman, & Kanuk, 2009). The model given by Nicosia (1966), it discussed four fields of activity for the choice cycle: shopper mentality development, information journey and assessment, the demonstration of procurement, and post-utilization input.

Based on above discussion, the first objective and hypothesis are proposed -

O1 To measure effectiveness of Social Media Influencers on purchase behavior.

H1 – There is relationship between Social media influencers and purchase behavior.

Effectiveness of Social Media Influencers (SMIs) for Brand Consciousness

Onboarding Influencers in marketing and their effects on Millennials are very significant (Chatzigeorgiou, 2017). Influencers today are winning the hearts of people through the Internet by their outstanding work and presence helping the brand to get noticed (Levin, 2020). The marketers have marked them as the modern approach that has seen a significant increase in partnerships with marketing organizations over the years (Audrezet, De Kerviler, & Moulard, 2018). Many organizations have utilized different promoting and advertising techniques that have helped in enhancing brand awareness among customers, and that has straightforwardly converted into higher deals and sales (Barreda, Bilgihan, Nusair, & Okumus, 2015). More and more people are following such influences not to miss the content. FOMO (Fear of missing out) has been applied in the marketing domain as commercial advertising appeal (Hodkinson, 2019). It is applicable in other domains as well. A study conducted by Shiva, Narula, & Shahi (2020) on the impact of 'NoMophobia' on Investment decision with the theory of compensatory internet and demonstrated the aspect of gamblers' fallacy**.**

The Brands gather with such influencers to comment, review, and recommend (Kadekova, & Holienčinova, 2018). Nelson and McLeod (2005) concluded that the high brand consciousness is seen among those youth where the parents are conscious for the brand. As a result, nowadays, early stage of their life consumers is conscious about the brad decision (Kumar, 2019). Choi and Lewallen (2018) conducted study on Instagram and suggested that the child's digital representation is huge on social media because parents share the content of their children. Young consumers are conscious about social media more nowadays and thus becoming more aware of the brands. (Thomas, Bestman, Pitt, Cassidy, McCarthy, Nyemcsok, & Daube, 2018). Instagram or any other social media platform is flooded with creators of different genres, Influencing not just younger generations but also people of different age groups (Dolan, Conduit, Fahy, & Goodman, 2016).

The second Objective and hypothesis of the study are as follows-

O2 To assess the effect of Social media Influencers on Brand consciousness.

H2 – There is relationship between Social media Influencers and Brand Consciousness.

Brand Consciousness through Influencers and Purchase Behaviour

Influencers with a high degree of social media maintain a close and approachable relationship with their followers. Influencers and social media outlets have varying levels of social presence (Kaplan & Haenlein, 2010). The more social presence influencers have, the more powerful their interactions become with the consumers and they are conscious about the brands (Kietzmann et al., 2011). Furthermore, when determining the importance of information in online discussions, speed of response, frequency of conversation, and the amount of information presented all play a role (Weiss et al., 2008). The influencers having strong social presence must associate with brands as the closeness and approachability are key goals of the influencer campaign. Verma and Verma (2017) concluded that Social media not only easy to use but also cost-saving and helpful in reaching a wider spectrum of the customer in case hotel industry too.

In recent years, this strategy has become increasingly focused on social media, which creates an opportunity for product marketing by social media influencers (Wansi, 2020). Different social media has a different set of Influencers to persuade for purchase, YouTube has influencers *'Gaurav Taneja', 'Glam couple', 'Bhuvan Bam', 'Mumbaiker Nikhil'* etc. Talking about Instagram then, There are influencers such as *'Ritu Rathee', 'Masoom Minawala', 'Deeksha Khurana', 'Chinki Minki', 'Abkush Bahuguna'* etc. Influencer marketing focuses on using these social media influencers as a communication channel in the marketing mix (Brown and Hayes, 2008). The influencers are divided in categories, some are into beauty content, some lifestyle, Travel, Food, MUA, Moto vloggers, Vines, Acting, Dance, Fashion, Hacks, Shopping Hauls, etc. Khare and Rakesh (2010) studied the consciousness across gender by studying the consumption involvement, advertising involvement, youth involvement in different fashion brands(Jhamb and Gupta, 2016). The researcher found the consciousness across gender is equal.

The third Objective and hypothesis are as follows-

O3 To analyse effect of Brand Consciousness on consumer purchase behavior.
H3 There is relationship between Brand consciousness and purchase behaviour

Social Media Influencers, Brand Consciousness and Purchase Behaviour

Influential marketing actions are practiced mostly on social media, e.g., Facebook, Instagram, and Twitter (Arora, Bansal, Kandpal, Aswani, & Dwivedi, 2019). Influencers can reduce the expense of reaching the target audience and offer choices (Tajudeen, Jaafar, & Ainin, 2018). The benefits of content or message conveyed by influencers are seen as a trustworthy, personal, non-commercial, and controlled brand, which is authentic, worthy of their liking and create consciousness. Broadly Influencers are divided into four broad categories based on the content- Snoopers, Informers, Entertainers, Infotainers (Gross &

Wangenheim, 2018). Snoopers are the recipients of social media. They are motivated by pure entertainment and it is fun to create and share content (Gross, 2020). Snoopers often share sensitive personal information with them their audience (Gross & Wangenheim, 2018).

The motive for entertainment, art, and self-expression allows Snoopers to expand their social circles. They encourage regular and intense communication with their audience. They respond to an individual's opinion. (Brown and Hayes, 2008). In contrast to Snoopers, Informers aims to provide information, education, and support searchable content. They offer their highest level of skills, technology, and background information (Gupta et al, 2019).

Entertainers provide entertainment, amusement, and relaxation to their audiences by creating entertaining content. Audience communication unusual and close Contact occurs at a more integrated level Q&A videos, live streaming videos, meet and greet, or ask for feedback in content (Gross & Wangenheim, 2018).

Infotainers is a hybrid version of both Informers as well as entertainers. Mega influencers are highly visible on social media because of their celebrity status. (Britt, Hayes, Britt, & Park, 2020).

Macro influencers can be celebrities, TV personalities, athletes, or thought leaders. Since they can use their name to gain followers on social media, brands can expect a higher price — even though they are as big as mega influencers. Some brands may find this to be better suited to the audience and their goals (Alassani & Göretz, 2019).

The newest tier that was value-added is the Nano Influencers ranging from 1K following until 10K, the influencers are most likely to know their followers on a personal level (Wansi, 2020). With very little fan count, nano-influencers offer products with little or perhaps little access, too. Nano-influencers are more expensive than their counterparts, so products with limited resources may want to start at this effective marketing level.

The fourth objective and hypothesis of the study based on Social Media Influencers, brand consciousness and purchase decision are as follows-

O4 To assess the mediating effect of brand consciousness between Social Media Influencers and Purchase behaviour.
H4 Brand Consciousness will mediate the relationship between Social Media Influencers and Purchase behaviour

Theoretical Framework
The major variables of the research study are "Social Media Influencers", "Brand Consciousness" and "Purchase behaviour" which are connected to theoretical background. In this research study the effectiveness of social media influencers advertising is measured by using EPIC Model given by Nielsen (2008).

The four dimensions of 'EPIC model' which are "Empathy, Persuasion, Impact, and Communication" taken into consideration and tested empirically. Based on the research on types of consumer decision-making styles in the theory Bettman 1979; Jacoby and Chestnut 1978; Maynes 1976; Sproles 1979, 1985; Thorelli, Becker, and Engeldow 1975: Miller, & Berry (1998), the researchers found out the characteristics of consumers (Sproles 1985; Sproles and Kendall 1986). Examples of these include perfectionist, value-conscious, Brand conscious, quality seekers, novelty-fashion seekers, time saver, satisfier, comparison shoppers, information seekers, and habitual or brand loyal consumers.

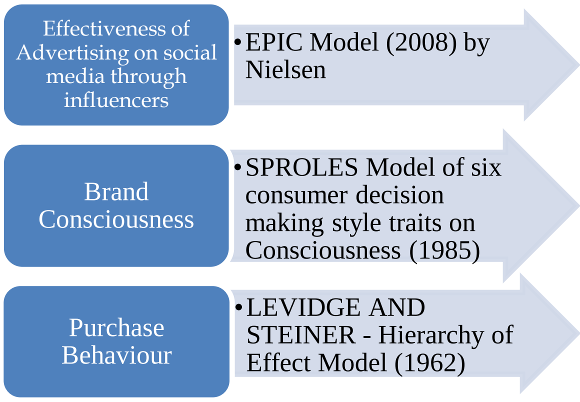

Figure 1: Theoretical Framework

RESEARCH METHODOLOGY
The present research study is exploratory and descriptive where a cross-sectional research design has been used. The study was conducted by the survey on youth respondents from 16-35 years of age (As per the Census of India, 2011) Male and female; the data have been postulated

over the four months from December 2020 to April 2021. The Primary and statistical data were collected for a fixed period i.e., four months from Dec'20 to April'21. The study is original to measure the effectiveness of social media - influencer marketing towards purchase.

A large sample size is taken for the research study for causal explanations and cause and effect relationship establishment between influencer marketing and the attitude of youth towards brand purchase. The study measures the association between independent and dependent variables (Co-Variation). No attempt was made to manipulate the variables in this research study.

In the research study, for primary data collection survey method was used with the close-ended, structured, non-disguised questionnaire. Under the Probability sampling technique, stratified sampling is used to attain the sample. Strata were created based on distinct categories like Age and Gender. Proportionate sampling was used to attain the sample size. The sample frame is youth of Delhi NCR, 16-35 years, Sample size taken for the research study was 600 but completely filled 567 responses were considered for the analysis.

Conceptual Framework and Hypotheses

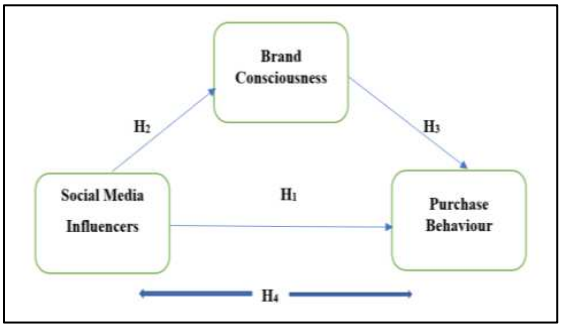

Figure 2: Conceptual framework

Research Design

Hypothesis testing research design is used for this study.

Sample and Data Collection

The data analysis is done with Amos 21. According to recommendation to use Amos, the sample size should be 10 to 20 times of number of items. The total number of items used in this study to measure three study variables are 32. So, planned sample size was 640 but because of incompleteness only 567 is considered for further study though data is collected from 700 respondents using well designed questionnaire based on 5 points Likert scale (strongly agree, agree, neutral, disagree, and strongly disagree). Non-random convenient sampling is used for cross-sectional data collection.

Statistical Analysis

Data were analysed using SPSS 21 and AMOS 21 version. Structural equation modelling was adopted in this study. To explain the correlation between independent variable and dependent variable, in direct and indirect effect, and to find out mediation role, the path analysis was used (Asher, 1983).

Instruments of study variables

Social Media Influencers

In this study, Social media Influencers taken as an independent variable. For measuring the Effectiveness of social media Advertising, EPIC Model is adopted that is developed by Nielson (2008). It has four dimensions – Empathy, Persuasion, Impact, and Communication. Each dimension has 2 items, so total 8 items is used for measurement of this variable. All the items achieved the threshold factor loading of above 0.50. The value of average variance extracted (AVE) and composite reliability of each dimension is also close / above the recommended value of .5 and .7 respectively (Table 1.)

Brand Consciousness

Brand consciousness was chosen as a mediator variable. In this study, brand consciousness is measured with traits identified for Brand consciousness by Sproles (1985). There are six dimensions for this variable – Perfectionism, Value Consciousness, quality Consciousness, Novelty Consciousness, Time Saver consciousness and support for decision-maker. Each dimension has two items. So, total 12 items used for measuring this variable. All the items achieved the threshold factor loading of above 0.50. The value of average variance extracted (AVE) and composite reliability of each dimension is also close / above the recommended value of .5 and .7 respectively (Table 1.)

Purchase behaviour

Purchase behaviour is an outcome variable. In this Purchase Behaviour is based on "Hierarchy of effect model". It has six dimensions –

Awareness, Knowledge, Liking, Preference, Conviction, and Purchase. Each dimension has two items. So, total 12 items used for measuring this variable. All the items achieved the threshold factor loading of above 0.50. The value of Average Variance Extracted (AVE) and Composite Reliability (C.R.) of each dimension is also close / above the recommended value of .5 and .7 respectively (Table 1.)

Table 1. Description of Confirmatory Factor Analysis (CFA)

Variables	Dimensions	Items	Standardised Loadings	AVE	C.R.
Social Media Influencers	Empathy	Influencers on social media are source of Brand attractiveness to connect with the consumer.	0.711	0.589	0.74
		Influencers on social media helps in linking the advertising message with the personality of the Consumer.	0.821		
	Persuasion	Influencers on social media persuade towards purchase	0.808	0.6	0.75
		Influencers on social media ad may turn consumers' view or trust into a desire and attitude to seek for the product advertised.	0.741		
	Impact	Influencer on Social Media induces impulsive buying of product.	0.851	0.61	0.76
		Influencer on Social Media may involve consumers into messages it delivers.	0.718		
	Communication	Social Media Influencers on social media help increasing consumers' capability to remember primary message Brand Communication message.	0.84	0.68	0.81
		The influencer's make the Brand Communication more effective by making consumers' understanding on messages delivered.	0.811		
Brand Consciousness	Perfectionism	Social Media ads through influencers help in making consumer more brand conscious regarding the best available products.	0.736	0.6	0.74
		Influencers guide me to select the best choice among all available brands.	0.812		
	Value Conscious	Influencers on Social Media makes me conscious about value for money.	0.821	0.67	0.8
		I prefer buying big brands when they are on discount / Sale or available at low price.	0.827		
	Quality Consciousness	Influencers on Social Media makes me quality and brand conscious	0.749	0.61	0.76
		I keep track of latest brands offering quality products in the market as suggested by the influencers.	0.823		
	Novelty Consciousness	Influencers on Social Media makes me conscious towards Novelty -Fad – Fashion.	0.714	0.55	0.71

		I am conscious about the new design, and always consult influencers before purchase.	0.772		
	Time-saver consciousness	Influencers on Social media satisfy me in taking purchase decision.	0.784	0.55	0.72
		Influencers at Social Media acts as time saver	0.709		
	Support for decision-making	Influencers at Social Media acts as support system for buying	0.708	0.5	0.698
		Influencers help in avoiding confusion regarding the brands and features	0.711		
Purchase Behaviour	Awareness	I am aware about brands and latest fashion for online purchase.	0.834	0.68	0.81
		I am aware about new trends and innovativeness through online shopping.	0.822		
	Knowledge	I always prefer Known brand for any purchase decision.	0.785	0.69	0.82
		I keep knowledge about new trends brand available with offers and Product range.	0.869		
	Liking	I like influencers for giving information about brand for online purchase.	0.745	0.59	73
		I like online shopping and presentation of idea and communication techniques by influencers.	0.784		
	Preference	I give preference to the brands available online; I am conscious for online purchase decision.	0.81	0.62	0.76
		I prefer the online available brand which are in my thought.	0.769		
	Conviction	The innovative approach of brand gives me conviction that push me for purchase.	0.727	0.52	0.699
		The recommendation from influencer gives conviction that push me for purchase.	0.729		
	Purchase	I purchase online available brands for which I am conscious.	0.832	0.65	0.79
		Influencers help me buying the better products online.	0.788		

[AVE: Average Variance Extract, CR: Composite Reliability]

DATA ANALYSIS AND INTERPRETATION

The tabulation of data with analysis and interpretations has been done to get the complete representation in proportion with all the objectives of the study. The Likert scale was followed for data collection and for data summarizing and analysis descriptive statistics were used. The study is based on the youth online purchase behaviour through social media Influencer of Delhi NCR. The study attempt to find out that online purchase behaviour is affected by social media influencer.

Sample Description

The sample description of the respondents is presented in terms demographics factors in Table 2.

Table 2. Sample description

Demographics details					
Gender	Frequency	Percent	**Age Group**	Frequency	Percent
Male	290	51.1	14-19	369	65.1
Female	277	48.9	20- 25	140	24.7
Total	567	100	26-30	34	6
			31-35	24	4.2
			Total	567	100
Location	Frequency	Percent	**Marital status**	Frequency	Percent
East Delhi	62	10.9	Married	46	9.3
West Delhi	84	14.8	Unmarried	514	90.7
North Delhi	48	8.5	Total	567	100
South Delhi	138	24.3	**Working Couple**	Frequency	Percent
Noida	149	26.3	Yes	144	25.4
Faridabad	9	1.6	No	423	74.6
Gurgaon	76	13.4	Total	567	100
Sonipat	1	0.2	**Household size**	Frequency	Percent
Total	567	100	1	9	1.6
Family Income	Frequency	Percent	2	29	5.1
Less than 25000 Per Month	34	6	3	90	15.9
25000 to 50000 Per Month	99	17.5	4	247	43.6
50000 to 100000 Per Month	192	33.9	5	94	16.6
100000 to 150000	242	42.7	More than 5	98	17.3
Total	567	100	Total	567	100

Measurement Model

Measurement model is tested for the study variables of the study and fit indices are presented in table 3 to support the validity or CFA results.

Results of the table depicted descriptive statistics and discriminant validity. Result showed that the inter-construct correlation values were less than the square root of the AVE for that construct. It means that the proposed measurement model also fulfills the criterion of discriminant validity (Sadhna et al, 2020; Sood et al, 2019). Apart from this, results also showed that there is positive relationship between all the latent variables.

Table 3. Model fit summary of study variables

Variables	**P**	χ^2	**Df**	χ^2**/df**	**GFI**	**CFI**	**TLI**	**RMSEA**	**RMR**
Social media Influencers	.000	376.598	145	2.597	.962	.927	.907	.078	.081
Brand consciousness	.000	1048.935	344	2.662	.975	.995	.947	.080	.076
Purchase behaviour	.021	19.543	9	2.171	.975	.957	.921	.067	.041

[Notes - GFI: Goodness of fit index, CFI: Comparative fit index, TLI: Tucker Lewis Index, RMSEA: Root Mean Square Error of Approximation, RMR: Root mean square residual]

Regression Analysis and Hypotheses Testing

This analysis is conducted in two parts – without mediator and with mediator. In without mediator (direct relationship) part, the analysis is conducted between explanatory variable social media Influencers on outcome Purchase behavior while in with mediator (indirect relationship) part, the analysis is conducted between explanatory variable social media Influencers on outcome Purchase behavior in presence of Brand consciousness as mediator.

In the direct relationship, a significant impact of the explanatory variable social media Influencers on outcome Purchase behavior can be noted (t value= 9.778, p= 0.000) from Table 4. Therefore, hypotheses 1 is fully accepted.

Table 4. Regression Estimates without mediator (direct effect)

Variable	Direction	Variable	Estimate	't' value	P
Purchase behaviour	<---	Social media Influencers	1.426	9.778	***

[*** stands for p = .000]

However, Table 5 revealed that this direct relation of the social media Influencers and Purchase behavior is not significant when mediator Brand consciousness is used (t value= 0.611, p= 0.541) but there is significant relationship between social media Influencers and Brand consciousness, and between Brand consciousness and Purchase behavior. It confirms the full mediation of Brand consciousness between input variable social media Influencers and outcome variable Purchase behavior (Table 5). Therefore, hypothesis 4 is fully accepted.

The relationship between social media Influencers and Brand consciousness is significant in indirect relation (t value= 15.25, p= 0.000) (Table 5). Therefore, the alternate hypothesis 2 is accepted (Table 5). Similarly, the relationship between Brand consciousness and Purchase behavior are significant in indirect effect (t value = 3.65, p=0.00) (Table VI). Thus, alternate hypothesis 3 is also accepted (Table 5).

Structural Model

The structural model is conducted to support the results of regression analysis and hypotheses testing. The model shows good fitness with or without a mediator. Without mediator value of $\chi^2/df=1.96$, values of GFI, CFI and TLI were above 0.95 (Table 5). With mediator value of χ^2/df were slightly lower, 1.71, although, values of GFI, CFI, and TLI remained in same range. Value of RMSEA clearly indicates that the present model has only 5-6percent difference from the ideal model (Table 6). Therefore, it shows that both direct and indirect relations exist with very good fitness among constructs (Table 5).

Two structural models are explained – one is the direct impact of the social media influencers on Purchase behavior without mediator and the other is a comprehensive model that has been explained by a mediator. In the table 7, the fit indices of both the case are presented and all fit indices are in acceptable limit. All the results are found to be with accepted standards (Henseler, 2010; Fornell & Larcker, 1981)

Table 5. Regression estimates of the proposed model (With Mediator)

Variable	Direction	Variable	Estimate	't' value	P
Brand consciousness	<---	Social media Influencers	1.331	15.256	***
Purchase behaviour	<---	Brand consciousness	1.229	3.456	***
Purchase behaviour	<---	Social media Influencers	.288	.611	.541

[*** stands for p = .000]

Table 6. Results of hypothesis testing

Independent Variable	Direction	Dependent Variable	Mediation	Inferences
Brand consciousness	<---	Social media Influencers	With mediation	H2: accepted
Purchase behaviour	<---	Brand consciousness	With mediation	H3: accepted
Purchase behaviour	<---	Social media Influencers	With mediation	H4: accepted
Purchase behaviour	<---	Social media Influencers	Without mediation	H1: accepted

Table 7. Fit indices summary of structural model

Variables	P	χ^2	df	χ^2/df	GFI	CFI	TLI	RMSEA	RMR
Model (without Mediator)	0.001	66.76	4	1.964	0.951	0.971	0.962	.061	.035
Model (With Mediator)	.000	149.22	87	1.715	0.933	0.967	0.973	0.052	0.026

DISCUSSION AND CONCLUSION

This research study conducted at Delhi NCR where 'Social Media Influencers' are taken as input (explanatory) variable whereas 'Brand Consciousness' as mediating variable and Purchase behaviour as outcome variable. In the SEM (Structural equation modelling) all the constructs shown very good fitness with or without mediator. Between the social media influencer and purchase behaviour, a directed significant association was noted. A similar kind of result was found in the study by Chauhan, Singh, & Sachdeva (2021) a significant association was shown between input and mediating variable in indirect relationship. The various strategies of the constructs used in the research study is not possible to cover in one study. The association reflected in the study mediated by known or unknown constructs and full mediation of brand consciousness with social media influencers and purchase behaviour. The significant impact of brand consciousness on purchase behaviour was reflected with an indirect relationship as shown in the (Majeed, 2011; Teeratansirikool et al., 2013). It cannot be denied that the purchase behaviour is affected by consciousness towards the brand and social media influencers helps in creating brand consciousness.

One the basis of review of literature and the quantitative analysis, the researcher concluded that the businesses should first identify the target group they wish to make conscious about the brands for purchase decision. Second, they should identify the aims of their influencer campaign and the message to be shared based on this. Companies should determine whether to concentrate on domain scope or social presence, depending on which helps them achieve the specified targets, based on the influencer campaign's goals, target audience, and message.

Once the emphasis has been established, businesses should determine which of the four influencer styles best fits their needs. Finally, businesses should begin searching for influencers within the form they have identified. Influencers include Snoopers, Informers, Entertainers, and Infotainers, but that classification is not definitive. Because of the high level of dynamics on social media, new influencers emerge regularly, and the presented typology may be expanded by various subtypes. (Brown & Fiorella, 2013). The presented identification factors empirically tested, and the influencer characteristics of each type is discussed.

Social Media Influencers are widely regarded as reliable marketing strategy, since people imitate Influencers for motivation of their own volition, influencer marketing is seen as trustworthy, likeable, and genuine. The influencer is a pro-consumer who, in his or her own special way, spreads the company's message to create brand consciousness to their followers for purchase behaviour. Influencer marketing, in comparison to more conventional marketing approaches, encourages consumers to respond to messages and ask questions, while traditional marketing methods do not offer the same degree of potential for contact.

IMPLICATIONS OF THE RESEARCH

The research study has marketing and managerial implications for business where brands are competing for influencing their target audience for purchase decision. With effective social media influencers strategy brands can motivate and influence youth for purchase and boosting their sales. The brand consciousness of youth will encourage towards purchase.

LIMITATIONS AND FUTURE DIRECTIONS

This research is the first step of researcher toward a better understanding of how to choose the right types of influencers for effective influencer campaigns for creating brand consciousness and push towards purchase. Three constructs were limited in the study. The study is limited to longitudinal study with cross-sectional questionnaire which can be further explored by using qualitative methods like case study analysis, focus group interviews. Other constructs such as social media influencers and purchase behavior can be assessed as mediator role or explanatory variables.

REFERENCES

Alassani, R., & Göretz, J. (2019, July). Product placements by micro and macro influencers on Instagram. In *International conference on human-computer interaction* (pp. 251-267). Springer, Cham.

Armstrong, G., Adam, S., Denize, S., & Kotler, P. (2014). *Principles of marketing*. Pearson Australia.

Arora, A., Bansal, S., Kandpal, C., Aswani, R., & Dwivedi, Y. (2019). Measuring social media influencer index-insights from Facebook, Twitter and Instagram. *Journal of Retailing and Consumer Services*, *49*, 86-101.

Asher, S. R. (1983). Social competence and peer status: Recent advances and future directions. *Child development*, 1427-1434.

Audrezet, A., de Kerviler, G., & Moulard, J. G. (2018). Authenticity under threat: When social media influencers need to go beyond self-presentation. *Journal of Business Research*.

Barreda, A. A., Bilgihan, A., Nusair, K., & Okumus, F. (2015). Generating brand awareness in online social networks. *Computers in human behavior*, 50, 600-609.

Bettman, J. R. (1979). Memory factors in consumer choice: A review. *Journal of Marketing*, *43*(2), 37-53.

Britt, R. K., Hayes, J. L., Britt, B. C., & Park, H. (2020). Too big to sell? A computational analysis of network and content characteristics among mega and micro beauty and fashion social media influencers. *Journal of Interactive Advertising*, *20*(2), 111-118.

Brown, D., & Fiorella, S. (2013). *Influence marketing: How to create, manage, and measure brand influencers in social media marketing*. Que Publishing.

Brown, D., & Hayes, N. (2008). Influencer marketing. Routledge.

Chatzigeorgiou, C. (2017). Modelling the impact of social media influencers on behavioural intentions of millennials: The case of tourism in rural areas in Greece. *Journal of Tourism, Heritage & Services Marketing (JTHSM)*, *3*(2), 25-29.

Chauhan, H., Singh, A. K., & Sachdeva, S. (2021). Business model and financial performance of food SMEs: mediation by competitive advantage. *International Journal of Business and Globalisation*, *27*(1), 113-131.

Choi, G. Y., & Lewallen, J. (2018). "Say Instagram, kids!": Examining sharenting and children's digital representations on Instagram. *Howard Journal of Communications*, *29*(2), 144-164.

De Veirman, Cauberghe, & Hudders, L2017). Marketing through Instagram influencers: the impact of number of followers and product divergence on brand attitude. *International journal of advertising*, *36*(5), 798-828.

Dolan, R., Conduit, J., Fahy, J., & Goodman, S. (2016). Social media engagement behaviour: a uses and gratifications perspective. *Journal of Strategic Marketing*, *24*(3-4), 261-277.

Engledow, J. L., Thorelli, H. B., & Becker, H. (1975). The Information Seekers--A Cross-Cultural Consumer Elite. *ACR North American Advances*.

Freberg, K., Graham, K., McGaughey, K., & Freberg, L. A. (2011). Who are the social media influencers? A study of public perceptions of personality. *Public Relations Review*, *37*(1), 90-92.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of marketing research, 18(1), 39-50.

Glucksman, M. (2017). The rise of social media influencer marketing on lifestyle branding: A case study of Lucie Fink. Elon Journal of Undergraduate Research in Communications, 8(2), 77-87.

Gross, J. (2020). *Thumbs up for brands: Influencer marketing in the era of social media* (Doctoral dissertation, ETH Zurich).

Gross, J., & Wangenheim, F. V. (2018). The Big Four of Influencer Marketing. A Typology of Influencers. Marketing Review St. Gallen, 2, 30-38.

Gupta, S., Mittal, R., & Mittal, A. (2019, March). Modelling the Intentions to Adopt UPIs: A PLS-SEM Approach. In *2019 6th International Conference on Computing for Sustainable Global Development (INDIACom)* (pp. 246-250). IEEE.

Gupta, S. and Kumar, R. (2017) 'Effectiveness of digital marketing a descriptive analysis', International Journal of Applied Business and Economic Research, Vol. 15, No. 2, pp.1–8.

Gupta, S., Sharma, J., Najm, M., & Sharma, S. (2020).Media Exaggeration And Information Credibility: Qualitative Analysis Of Fear Generation For Covid-19 Using Nvivo. Journal of Content Community and Communication, 12(6). 14-20

Hey, T., & Trefethen, A. (2003). The data deluge: An e-science perspective. *Grid computing: Making the global infrastructure a reality*, 809-824.

Hodkinson, C. (2019). 'Fear of Missing Out'(FOMO) marketing appeals: A conceptual model. *Journal of Marketing Communications*, *25*(1), 65-88.

Jacoby, J., & Chestnut, R. W. (1978). Brand loyalty: Measurement and management.

Jhamb, D., & Gupta, M. S. (2016). Antecedents of Online Shopping Attractiveness: The Youngster Perspective. Global Journal of Management and Business Research. Vol 16 No 3, pp.1-9

Jungherr, A. (2009). The DigiActive guide to Twitter for activism. *Retrieved September*, *28*, 2011.

Kadekova, Z., & Holienčinova, M. (2018). Influencer marketing as a modern phenomenon creating a new frontier of virtual opportunities. *Communication Today*, *9*(2).

Kane, G. C., Alavi, M., Labianca, G., & Borgatti, S. P. (2014). What's different about social media networks? A framework and research agenda. *MIS quarterly*, *38*(1), 275-304.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons*, *53*(1), 59-68.

Karimi, S. (2013). A purchase decision-making process model of online consumers and its influential factor cross sector analysis. retrieved from escholar.manchester.ac.uk

Kaye, B. K., & Johnson, T. J. (2003). From here to obscurity?: Media substitution theory and traditional media in an on-line world. *Journal of the American Society for Information Science and Technology*, *54*(3), 260-273.

Khare, A., & Rakesh, S. (2010). Predictors of fashion clothing involvement among Indian youth. *Journal of Targeting, Measurement and Analysis for marketing*, *18*(3-4), 209-220.

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business horizons*, *54*(3), 241-251.

Kumar, A. (2019). Antecedents of brand consciousness in youth for denim jeans: evidences from the largest young consumer base in the world. *International Journal of Indian Culture and Business Management*, *18*(3), 330-348.

Levin, A. (2020). *Influencer marketing for brands*. Apress.

Li, Y. M., Lai, C. Y., & Chen, C. W. (2011). Discovering influencers for marketing in the blogosphere. *Information Sciences*, *181*(23), 5143-5157.

Majeed, S. (2011) 'The impact of competitive advantage on organisational performance', European Journal of Business, Vol. 3, No. 4, pp.191–197.

Mangold, W. G., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business horizons*, *52*(4), 357-365.

Maynes, E. S. (1976). The concept and measurement of product quality. In *Household production and consumption* (pp. 529-584). NBER.

Milano, C., Novelli, M., & Cheer, J. M. (2019). Over tourism and degrowth: a social movements perspective. *Journal of Sustainable Tourism*, *27*(12), 1857-1875.

Miller, S., & Berry, L. (1998). Brand salience versus brand image: two theories of advertising effectiveness. *Journal of Advertising Research*, *38*(5), 77-78.

Mukherjee, A., & Nagabhushanam, M. (2016). Role of Social Media in Tourism Marketing, *International Journal of Science and Research (IJSR),* https://www.ijsr.net/search_index_results_paperid.php?id=NOV164776, Volume 5 Issue 6, June 2016, 2026 - 2033.

Nelson, M. R., & McLeod, L. E. (2005). Adolescent brand consciousness and product placements: awareness, liking and perceived effects on self and others. *International Journal of consumer studies*, *29*(6), 515-528.

Nicosia, F.M (1966) Consumer Decision Process Eaglewood Cliff, N.J: Prentice- Hall.

Nielsen, A. C. (2008). EPIC dimension of advertising effectiveness. AC Nielsen Ads@work, the Nielsen Company. All rights reserved

Riefa, C., & Clausen, L. (2019). Towards Fairness in Digital Influencers' Marketing Practices.

Rishi, B., & Kuthuru, N. R. (2021). A Review for Managerial Guidelines for Social Media Integration of IMC in Digital Era. In *Digital Entertainment* (pp. 187-212). Palgrave Macmillan, Singapore.

Schiffman, L. G., & Kanuk, L. L. (2009). Consumer behavior. *Harlow, England: Prentice Hall*.

Shimp, T., & Andrews, J. C. (2013). Advertising promotion and other aspects of integrated marketing communications (9th ed.). Thomson South-Western.

Shiva, A., Narula, S., & Shahi, S. K. (2020). What drives retail investors 'investment decisions? Evidence from no mobile phone phobia (nomophobia) and investor fear of missing out (i–fomo). *J Content Community & Communication*, *11*(6), 2-21.

Sood, M., Sharma, B., Gupta, S., Dawra, S., & Kaushik, C. (2019). Modelling the Factors Responsible for Better Health Service Quality: Perception of Service Providers. *Indian Journal of Public Health Research & Development*, *10*(9), 408-413.

Sproles, G. B. (1985). From perfectionism to fadism: Measuring consumers' decision-making styles. In *Proceedings, American Council on Consumer Interests* (Vol. 31, No. 2, pp. 79-85). Columbia, MO: ACCI.

Tajudeen, F. P., Jaafar, N. I., & Ainin, S. (2018). Understanding the impact of social media usage among organizations. *Information & Management*, *55*(3), 308-321.

Teeratansirikool, L., Siengthai, S., Badir, Y. and Charoenngam, C. (2013) 'Competitive strategies and firm performance: the mediating role of performance measurement', International Journal of Productivity and Performance Management, Vol. 62, No. 2, pp.168–184, DOI: 10.1108/ 17410401311295722.

Thomas, S. L., Bestman, A., Pitt, H., Cassidy, R., McCarthy, S., Nyemcsok, C., ... & Daube, M. (2018). Young people's awareness of the timing and placement of gambling advertising on traditional and social media platforms: a study of 11–16-year-olds in Australia. *Harm Reduction Journal*, *15*(1), 1-13.

Verma, M., & Verma, K. (2017). Social media a promotional tool: hotel industry. *Journal of Advances in Humanities*, *5*(1), 221-223.

Wansi, J. (2020). How do Instagram influencers affect the consumer buying behaviour of Gen-Z. Kantienberg, Ghent: Artevelde University of Applied Sciences?

Xiong, Ying & Cho, Moonhee & Boatwright, Brandon. (2018). Hashtag activism and message frames among social movement organizations: Semantic network analysis and thematic analysis of Twitter during the #MeToo movement. Public Relations Review. 45. 10-23. 10.1016/ j.pubrev.2018.10.014.

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A HIERARCHICAL PARADIGM OF FACTORS AFFTECTING UNDERSTANDING OF ONLINE PRIVACY AMONG YOUNG ADULTS

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ABSTRACT

Internet privacy is something of a paradox- a dynamic idea strictly dependent upon the context in which it operates. The moment users go online; a certain amount of privacy is compromised. The very controversial case where Facebook brazenly sold data of its users to Cambridge Analytica and Aadhar data leak forced the world to indulge in the data privacy debate. The COVID- 19 pandemic has additionally forced us to immigrate to the online world and develop an understanding of its norms, conventions and threats. The paper thus, attempted to identify factors involved in the understanding of online privacy of Internet consumers and to develop a hierarchical paradigm of these factors by means of literature review and Interpretive Structural Modelling (ISM). It was found that factors such as Awareness Level, Privacy Loss, Privacy Concerns, Self- Efficacy Beliefs Privacy Regulations, Trustworthiness of the Website, Control over Information, Privacy Literacy, Attitude towards Privacy and Past Experience, identified through review of literature, expert opinions from industry and academia, and focus group discussion with students aged between 18-22, from eight colleges of Shimla city contributed significantly to users understanding of online privacy.

***Keywords*:** Internet privacy, Online privacy, Facebook, Cambridge Analytica, Aadhar, COVID-19, Awareness Level, Privacy Loss, Privacy Concerns, Self- Efficacy Beliefs Privacy Regulations, Trustworthiness of the Website, Control over Information, Privacy Literacy, Attitude towards Privacy, Interpretive Structural Modelling

INTRODUCTION

The word privacy implies various things to various individuals. Many theoretical approaches and philosophical perspectives of the significance of privacy in a social system have been proposed. The US liberal political theory, calls privacy the "capacity for rational deliberation and choice." (Rastogi, Gloria and Hendler 2015) Some regard privacy as an all-encompassing concept, including freedom to think freely, to be able to have the option to possess authority on their body, right to be left alone in their home, to be able to control personal information, protection from surveillance, search, interrogation and of one's reputation, among other things. (Solove 2002)
Privacy of Internet users is a dynamic idea that depends strictly on the context in which it operates. The studies on privacy, however, point towards a unanimous opinion towards user privacy that acknowledges the significance. Still, previous studies related to privacy indicate towards a common opinion of user privacy that acknowledges the role of users' capacity to exercise control over what type of information is shared about them. (Youn 2008).

Internet privacy poses something of a paradox. (Goldman 2003; LaRose and Rifon 2007). Pitt and Watson (2007) are of the opinion that Internet privacy "is not a new privacy problem; it is merely a privacy issue created by technology." LaRose and Rifon (2007) thus, define online privacy "in behavioural terms as actions that prevent unwanted disclosures and intrusions while using the Internet. As such consumers translate preferences into actions that protect themselves, their information and their computer."

Taking an example from India, Unique Identification Authority of India's (UIDAI) Aadhar -a biometric identification system which was launched in the year 2009 is regarded as a data goldmine which poses real-time privacy threats. The Aadhar is a 12-digit number assigned to every Indian citizen. Biometric data of 99 crore Indians has been collected under the Aadhar scheme as of now. The number continues to grow. However, since its launch the project has functioned without a legal framework which has caused serious privacy and confidentiality concerns in many quarters. Serious concerns have been expressed over collecting and centralizing biometric data on a mass scale in the absence of a privacy law.

Privacy is said to enable life-affirming freedoms ensuring that people do not suffer "unwanted disclosures, publicity and loss of control of personality." (Rastogi, Gloria and Hendler 2015) However, it is also believed that absolute privacy cannot be achieved. The moment one interacts with another person, one surrenders privacy and it has been so throughout the ages including the electronic age. (Pitt and Watson 2007)

Aim: The paper thus, attempts to identify the factors involved in the understanding of online privacy of Internet consumers and to develop a hierarchical paradigm of these factors by means of literature review and Interpretive Structural Modelling.

Operational Definitions

Privacy Loss: In this study privacy loss refers to use of Internet consumers' information without consent or on certain occasions despite granting permissions without understanding the risks associated with such disclosure. Privacy loss, thus, encompasses collection of personally identifying information (PII) such as name, email, contact number, address etc., sale of such information to third parties placement of cookies and other tracking tools, device fingerprinting, customization of search results thereby limiting Internet exposure and other threats such as information/document leaks, spam emails, ad tracking, hacking and the like.

Awareness Level: In the study Awareness level refers to the extent of the privacy consciousness of Internet users, their knowledge and grasp of privacy threats lurking online.

Privacy Concerns: Include but not limited to Internet consumers' unease or apprehension regarding sharing, selling, stealing or misuse of PII, unauthorized access to information and devices and online tracking of any form.

Privacy Self-Efficacy: Self- efficacy refers to individuals' belief that they have the ability to perform a desired behavior. In this study self-efficacy refers to users' belief that they are capable of protecting themselves online from privacy threats.

Privacy Regulations: refer to privacy laws in India.

Trustworthiness of the website: refers to the credibility of a website measured by the ease and confidence with which users share PII and financial information such as bank account details, credit and debit card information with the website.

Control over information: In this study control refers to users' power over how their information is collected, with whom it is shared and having a hold over the ways in which it is monetized.

Privacy Literacy: refers to the knowledge and competence of users in protecting their privacy in the online world. Masur (2020) is of the view that absence of knowledge and skills related to privacy explain the inconsistency between consumers concerns for privacy and their privacy protection behaviours. Epstein and Quinn 2020 define online privacy literacy "as a combination of declarative and procedural knowledge along four dimensions: knowledge about institutional practices, technical aspects of privacy protection, potential threats and risks, and privacy regulation."

Attitude towards privacy: refers to the way in which Internet consumers approach privacy-related issues online. It refers to the seriousness or laxity with which they regard their online privacy. Weinberger, Bouhnik and Zhitomirsky-Geffet (2017) identify "Perceptions, attitudes and beliefs about online self-disclosure in e-commerce and social network sites" as a crucial factor in online disclosure of information.

Past Experience: in the study, past experience refers to consumers' prior experiences with privacy loss or privacy protection in the online world which determine or at least have some bearing on how they navigate through cyberspace.

REVIEW OF LITERATURE

The following factors were identified after extensive review of literature:

Privacy Loss: An inconsistency has been observed between users privacy concerns and their privacy protection behaviours. This has been called the privacy paradox. (Kitkowska, Shulman et al 2020) Consumers' privacy is compromised every time a web site is visited, a purchase is made online using plastic money. Loss of privacy also occurs when websites place cookies on our devices with which our clickstream history can be tracked. (Milne, Rohm and Bahl 2004) Software companies are investing heavily to gain access to end user data.

Companies use and share personally identifiable data and create, trade exhaustive user profiles without actually knowing their names. This is done to draw statistical inferences about the lives and choices from online and offline activities of users. (Turow, Hennesey and Bleakley 2008).

The Internet has increased to unprecedented levels the ability of businesses to collect enormous user data and their activity online (called metadata). Businesses are able to track users online and analyse their browser activity. The data is then used to target potential customers. However, the possibility for misuse remains. (Pitt and Watson 2007).

Today analysis is made on open source data i.e. data available publicly, and new technologies enable discoveries of scientific, medical and economic value by linking and merging this data which can also be highly sensitive. In certain cases, individuals have been reidentified by linking anonymized data from public domain. This is invasion of privacy and it cannot be determined how this data will be used in the future. (Hand 2018)

The very controversial case where Facebook brazenly sold data of its users to Cambridge Analytica forced the world to indulge in the data privacy debate. According to a report in The Guardian, Facebook had sold the data of its unwary users to the firm (Cadwalladr and Graham-Harrison 2018) for varied purposes of which electoral manipulation was the primary one. With the use of a third party app called 'thisisyourdigitallife', the company had performed sentiment analysis on user data and classified them in order to understand their electoral choices. (Gupta 2018)

Disturbingly, a report in Quartz claims Cambridge Analytica's parent company Strategic Communications Laboratories (SCL) Group has been active in India since the year 2003 and has clients in India in not any one national political party (as claimed by most news reports) but different parties that hired have hired the firm to gather and process data of Indian voters to be able to devise their campaign strategies for state assembly elections as well as the 2014 General elections. (Punit, 2018)

The Aarogya Setu App launched by the government of India in view of the current Coronavirus pandemic has also been regarded by cyber security experts as a serious security threat. A French cybersecurity expert and hacker who goes by the alias 'Elliot Anderson' has claimed that a security vulnerability in the application can potentially expose sensitive health data of millions of Indian citizens, according to a report in thequint.com. The team of Aarogya Setu has however, denied the claim. (The Quint, 2020)

In a recent development, three international regulating agencies announced a plan to investigate Facebook on the same day for its role in privacy violations in the Cambridge Analytica data leak scandal. These include the Ireland's Data Protection Commission, Office of the Privacy Commissioner of Canada and Letitia James, the New York Attorney General. The social media giant is expected to be fined heavily. However, the fines will barely be a deterrent for the multi-billion-dollar corporation. Despite being repeatedly accused of breaking rules, Facebook's popularity among people doesn't seem to wane. The company's share value continues to rise. As is evident from the popularity enjoyed by Facebook, it cannot be stopped. (Toulas, 2019)
There are people who specialize in the sale and purchase of user data known as data brokers or data aggregators or information resellers. Data brokerage is a multi-billion-

dollar industry where consumer data is collected, analysed and sold. "Data brokers collect data from every aspect of our lives including public records such as property taxes and voter registrations, publicly available information such as phone numbers and Internet postings, and non-public information such as financial data, loyalty cards and Internet transactions", location services on smartphones etc. Data is pieced together from users' online as well as offline activities, phones and computers and sometimes stored for life. Once the data has been collected, users lose ownership over its use, retention, transmission and rectification. (Glenn and Monteith 2014)

Awareness Level

The unprecedented progress in ICT has made collection of data very easy and simple. Today it is possible to gather anyone's personal information and utilize it for profits in business. It seems now that the expenses of information collection have dropped so substantially that even the lay user warrants business interest to merit tracking and targeting. It is about time that we now pay heed to the invasion of privacy by firms. (Goldfarb and Tucker 2012).

It is true that most users never read privacy policies of web sites they browse (LaRose and Rifon 2007). In case a third party has a contract with an SNS like Facebook, it is likely that user data in the public domain like name, contact list etc. can be used to customize search results for the user. (Goldfarb and Tucker 2012).

The users must understand that the web-based businesses survive and thrive on monitoring and spying. In return for this, free services and products are offered by business online. Corporations call it marketing. (Schneier 2014; Naughton 2016). A synergistic association exists between online users and corporations. While consumers evidently need free services such as membership of SNS, Internet companies looking for quick growth in order to harness network effects, offer services for free in return for user data. This symbiotic relationship has led to the emergence of an advertising-based business model in which users agree to provide data about their online behavior resulting in targeted advertising without realizing how the user becomes the product every time a freebie is handed to him/her online. (Naughton 2016) We voluntarily and sometimes inadvertently put data online in the form of photos, music, video uploads and posts on social media. Even our browsing histories, location data and other meta data are collected and analysed. Gupta (2018) says, "We emit bits of personal data in numerous interactions, both online and offline. Government services, social media, grocery purchases, credit services, list of places where we leave a digital footprint which extends almost indefinitely." Even as the development of the web encourages e-advertisers in collecting large quantities of private data, users can do little about what information businesses have about them and how they eventually use it. The users as a result show high levels of privacy concern. (Youn 2008)

Consumers rarely ever read privacy policies owing to their sheer complexity and vagueness (Rifon, LaRose and Choi 2005). Kumiszcza (2012) says, "Social networks like Facebook, Twitter, and Google + are gold mines for people interested in private data. While sharing statuses and photos, many people share their personal data, quite often it is completely involuntary."

LaRose and Rifon(2007) and Youn (2008) define privacy participation in the following way: "heightened state of attentiveness to privacy protection". Three major factors in online consumer interaction are trust, self-efficacy and site involvement. (Rifon, LaRose and Choi 2005) Users with **high awareness level** fearlessly navigate the cyberspace, believing firmly in their ability to protect themselves. **Privacy awareness**, thus, is an ongoing effort to stay on the top of things and attention to minute information could prove draining. Users generally have a subliminal response to privacy threats which leads them to believe that privacy concerns are exaggerated. (Rotfeld 2009)

Consumers lack completely when it comes to the awareness of privacy laws, be it offline or online (Turow, Hennessey and Bleakley 2008). Numerous computer-literate people who care for privacy actually live in oblivion, largely uninformed about the norms of online markets on privacy protection. (Rotfeld 2009). Just as in the case of other crimes, user's knowledge and mindfulness of online risks is the answer to privacy protection. Yet at some point consumers tend to become casual or careless. (Rotfeld 2009)

The most pressing question, then for the long term isn't how the technology will change, but how the method of change and evolution itself are going to be managed. (Leiner, Cerf et al, 2009)

Privacy Concerns

According to Rifon, LaRose and Choi (2005) "privacy concern reflects an individual's perceptions of the risks associated with potential privacy violations." Privacy Concern might also imply a heightened state of attentiveness to privacy protection, (Sherif and Cantril 1947; LaRose and Rifon 2007) continuing participation, and consequent "felt involvement" (LaRose and Rifon 2007). Concerns related to online privacy in users amplify when they are kept in the dark about the storage and use of private data, especially in cases where it is used for purposes other than for which permission was granted. (Nowak & Phelps 1992, 1995; Youn 2008). Consumer information is now available to marketers, governments, and other consumers. (Langenderfer and Miyazaki 2009). Previous research points to a correlation between privacy protection behaviours and the degree of privacy concerns. (Youn 2008)

Concern for privacy can be categorized as one of the most discussed precursors of behaviours related to privacy. It refers to fear of users about the misuse of their data. Several studies have pointed out that privacy concerns can be considered as being synonymous with the words 'fear', 'risk', 'anxiety' and 'worry' (Cho 2010)

Four dimensions of consumer privacy were proposed by Smith et al. (1996). These are unauthorized use of personal information, inappropriate use of user information, unauthorized access to digitally stored personal information of users and inaccuracies in collected information.

In the current scenario, the burden of protecting consumer privacy lies mainly with users themselves. They must protect their private data and themselves take action to prevent misuse of data without their consent. (Nehf 2007). Conversely, users almost never go through privacy policies and don't even take action to safeguard their private data on the web. (Turow, Hennessy and Bleakley 2008). Users do not possess the understanding and motivation to protect themselves from privacy violations, owing to complexity of the Internet. (Nehf 2007; Turow, Hennessey and Bleakley 2008).

According to Milne, Rohm and Bahl (2004), consumers face risk online through the following: "(1) the data on their computer may be compromised, (2) the data transfer to an online business may be compromised, and (3) the data stored by the business may be compromised."

Privacy is an issue of alarm for each one of us today. In the words of Pitt and Watson (2007), "Privacy exists within an interacting, ever changing ecosystem of three major players: consumers, governments, and corporations." The loss of privacy impacts consumers, ISPs, and suppliers of online information (Holt and Malcic 2015). Privacy, therefore, is a vague concept with many theoretical explorations, having different meanings to different stakeholders. The problem is whether typical conceptions of privacy being bodily: for example, not allowing anyone to snoop around one's house or belongings, include digital privacy in the "virtual" world? (Paterson 2014)

There is a vital need for a secure buying environment if ecommerce has to flourish. Since, interactions and monetary transactions are happening in real time online, they are vulnerable to similar, if not the same threats as in the physical world. Hence, privacy emerges as a major consumer concern. Online consumers can and sometimes do take action to protect themselves. Some use separate e-mail addresses to avoid spam, avoid posting their addresses on websites, and use spam filters (Fallow 2005; LaRose and Rifon 2007

User concerns about privacy are on the rise which has led them to reconsider their communication activities on social networking sites. These perceived privacy threats have changed the information disclosure patterns of users. (Boyd and Ellison 2007; Krasnova, Gunther et al 2009)

The concept of 'less privacy' is being promoted by technology giants such as Facebook and Google by creating a relentless hype around new technologies and gadgets, particularly among the younger generation so that personal data of the masses can be monetized. Privacy is thus, being rendered a dated and expensive notion which smothers invention, productivity, and free enterprise.

Privacy Self -Efficacy Beliefs

Self-efficacy can be defined as an individual's belief in his capability to successfully carry out an action without bringing any negative consequences upon himself. (Roger, 1975, 1983) Bandura (1991) defines self-efficacy as an individual's competence and cognitive resources required to cope with any situation. Both Protection Motivation theory and Social Cognitive theory state that the extent to which individuals invest efforts to achieve successful outcomes is dependent upon their self-efficacy beliefs. (Cho 2010)

In the context of online privacy, users with high self-efficacy beliefs have been found to have taken more active measures to protect themselves from privacy violations in contrast to consumers having low self-efficacy beliefs. However, misplaced self-efficacy beliefs can also result in adverse consequences as the privacy protection measures can be ignored by the users. (Cho et al. 2009)

It is also evident that users who are more competent or trained in the use of technology have higher self-efficacy beliefs as compared to those with less or no technological competence. This protection behavior emanates from concern for privacy. (Cho 2010) Privacy Self-Efficacy Beliefs are discussed in greater detail later in the Chapter in the Theoretical Framework section.

Privacy Regulations

The Indian legal system classifies privacy as having four levels: Privacy as freedom of press, privacy from state surveillance, privacy as decisional autonomy and information privacy. The Indian law on privacy has been selectively borrowed from opposing foreign policy views; mainly American. This has resulted in an unconvincing privacy legislation marked by a lack of theoretical clarity and a strain between privacy rights of individuals versus their communities. (Acharya 2015)

Enormous amounts of consumer information is extracted without obtaining consent from the consumer in order to monetize it. It is incidents like these that have caused the issue of user privacy to be taken seriously and have resulted in a demand for legal provisions to be established on information privacy. (Goldfarb and Tucker 2012) However, there is a lack of clear cut privacy protection legislation throughout the world. Some security experts have asked for data to be regarded as property if it has to be protected. Indian citizens have been guaranteed the right to not be deprived of their property except by the authority of law by the Constitution under article 300 A. The catch here is that the right cannot be claimed against individuals only against the State. In addition, for this protection to apply, data has to be first regarded as property. In India, the situation is dealt with on a case by case basis.

In the Indian Constitution, Article 21 says that "No person shall be deprived of his life or personal liberty except according to procedure established by law". It is important to understand the interpretation of the term "life" as per the article. It includes every facet of life that makes it purposeful and worthwhile. In view of this, by expanding the scope of Article 21, the right of privacy was conceived. The Supreme Court of India ruled that the right to privacy is inherent in Article 21 and is also congruent with Article 17 and Article 12 of the International Covenant on Civil and Political Rights, 1966, and the Universal Declaration of Human Rights, 1948, and respectively. (Anil, 2015)

The economics of the online world is dependent on ad revenue. There isn't much enthusiasm about privacy protection in the cyber world as it is expected to limit the scope of advertising- supported Internet. Privacy regulation could affect competitive markets. (Goldfarb and Tucker 2012) Formulation of uniform privacy protection legislation for different kinds of privacy violations is not only unfeasible but also impractical. Privacy regulation in data collection calls for different remedies when privacy is framed as a right, compared to it being framed as a commodity. Similarly, framing privacy as an issue of individual political rights carries different implications than framing it as an issue of socio-cultural values. The issue may then even fall under the jurisdiction of different administrative units. Thus, the framing of privacy changes over time or across various stakeholder groups participating in the debate. (Epstein, Roth and Baumer 2014)

As Pitt and Watson (2007) have pointed out consumers, "particularly in democracies, expect governments to secure their data and not share it with other consumers, corporations, or government agencies. Governments, however, have varied in their willingness to pass privacy protection legislation, particularly with regard to the Internet. Some have enacted strict legislation, others have relied on corporate codes of practice, and still others have relied on markets and consumers themselves."

Paterson (2014) opines that selling of consumer data without permission is akin to conspiring against the consumer. He says, "Conspirator analysis" is akin to "aiding and abetting" in penal law. Further he says, "If both the network and whoever buys the end user data or metadata have conspired to set up systems in ways that make personal data trackable, then they could be considered as engaged in a conspiracy to violate user privacy."

Stressing on the need for privacy legislation, Rastogi et al. (2015) said, "While technologies like strong encryption may be sufficient in protecting sensitive data, they are not the complete solution. What happens when data is breached? Who is held accountable and liable? What happens when the government wants the data for an investigation? Therefore, internal management policies and legal standards are needed." Rastogi et al (2015), further recommend robust legal apparatus for implementation of rules for online information, its transmission, removal and reuse.

Fair Information practices need to be adopted to ensure security online. The principles at the core of fair information practices are consumer awareness of privacy threats, consent for collection of data, access to or participation in the information gathered about them, an assurance for security and the enforcement of all the regulations in place for privacy protection for redressal in case of breach. (Stanaland, Lwin and Leong 2009)

METHODOLOGY

The qualitative data was collected by conducting In-depth interviews (IDI) with experts and Focus Group Discussion with academicians and students. Primary quantitative data was collected using the survey method using questionnaire. The secondary data was collected from sources like online libraries, books and previous research studies.

Population, Sample Size and Sampling Procedure

The city of Shimla has a total of 16 recognized institutions providing undergraduate education. Of these, the eight colleges selected for the study are the oldest, well established institutions with largest student populations of different disciplines, thereby constituting a representative sample.

The study used both Focus Group Discussion (FGD) and In-depth interviews (IDI) for data collection for Interpretive Structural Modelling (ISM). For FGDs, the data was collected from a group of 8 students- Internet users in the age group of 18 – 22 years, drawn from a population of students that had one student each from St. Bede's College, Rajiv Gandhi Govt. College, Centre of Excellence, Government College Sanjauli, University Institute of Information Technology HPU, University Institute of Legal Studies HPU, University College of Business Studies HPU, APG Shimla University and Rajakiya Kanya Maha Vidyalaya, Shimla. The students were chosen by convenience sampling while the experts were identified through snowball sampling using personal and professional links. This combination of experts from industry and academia and students from different colleges was used for creating a balanced mix for factor identification. Since, college students are the target demographic of this study, their inclusion in the study was deemed necessary.

Data Collection

The study used both Focus Group Discussion (FGD) and In-depth interviews (IDI) for data collection for Interpretive Structural Modelling (ISM). ISM is a qualitative data modelling technique that aims to identify and study the interrelationships between different variables.

The respondents in the Focus Group were given a predetermined, yet semi-structured, list of the topics to be covered. A trigger question "What according to you are the main factors that impact understanding of online privacy among college students?" was asked. Once the eight students were initially acquainted with the topics to be covered in the focus group discussion such as ease of disclosure of PII, their experiences with privacy loss online, their competence in protecting themselves from privacy threats and their knowledge about privacy violations, the discussion largely remained an unaided elicitation talk. Intervention to re-direct the discussion was made only if the facilitator felt the participants in the FGD digressed or lost focus. The FGD was recorded using a digital audio recorder and was also transcribed live. The audio recording was used later to address the gaps in transcription. The students, however, were not presented with the structured ISM questionnaire due to its complexity. This was done to reduce the margin of error in the ISM model. Their opinions were only used for factor identification.

Eight factors namely awareness level, self-efficacy beliefs, privacy concerns, privacy loss, trustworthiness of the website, control over information, attitude towards privacy and past experience were identified by students in the FGD as being instrumental in their understanding of online privacy. Four of these factors were earlier identified through review of literature and were also identified by experts from industry and academia.

IDIs were conducted with 10 Industry experts (software and cyber security engineers) from different organizations across India and 4 academicians from diverse disciplines. The interview consisted of an unaided elicitation talk. The same trigger question, "What according to you are the main factors that impact understanding of online privacy among college students?" was asked to start the process of brainstorming to identify the factors. The experts were also made aware of the factors identified by students during the FGD and requested to consider the same while brainstorming. After collating the factors identified by experts and students, a structured questionnaire cum schedule for ISM was presented to the experts. Since the experts for the study were from diverse fields located across the country and abroad, the interviews were conducted either telephonically or through videoconferencing, keeping in mind the comfort of the expert. The interviews were recorded using a digital audio recorder with the permission of the expert and were transcribed later.

Data Analysis Tools

In addition to the review of literature, the transcriptions of both the FGDs and IDIs were analysed for facts and information which would help identify the main variables (and their interrelationships) related to Privacy consciousness among young adults with the help of ISM to add a supplementary perspective for better understanding the results obtained from the analysis of quantitative data. Only selected, non-repetitive unique opinions from transcribed data were used to add-on to the quantitative analysis. The data obtained for ISM was analysed by constructing the model both manually and with John N. Warfield's ISM software to ensure that the model was reliable. This section presents data collected from 14 experts and 8 students for qualitative study.

The names and personally identifying details of the of the experts and students are not mentioned here in view of protecting their privacy. However, their opinions have been mentioned without stating personally identifying information.

Interpretive Structural Modelling- The Technique

Interpretive Structural Modelling or ISM is a qualitative computer-assisted data modelling technique that helps identify complex relationships between different variables involved in a process or situation. The idea behind the ISM technique is to draw upon the knowledge and practical experience of experts to decipher complex interrelationships among variables. This is done through brainstorming sessions, interviews, questionnaires and focus group discussions. The purpose of ISM, thus, is to define and find a solution to complex problems. It helps decompose a complicated system into several sub-systems to construct a multilevel structural model by imposing order and direction on the complexity of relationships among elements of a system. (Warfield, 1974**;** Radel et al 2017)

Item generation for factor labelling was done through both deductive and inductive methods. (Morgado et al. 2018) After extensive review of literature on online privacy, focus group discussions and in- depth interviews were conducted for factor identification. For FGDs, the data was collected from a group of 8 students that had one participant each from the colleges mentioned above. A trigger question **"What according to you are the main factors that impact the understanding of online privacy among college students?"** was asked. The students were not presented with the structured ISM questionnaire due to its complexity. Their votes were only used for factor identification.

IDIs were conducted with 10 Industry experts (software and cyber security engineers) from different organizations across India and 4 academicians from diverse disciplines. First, a semi-structured open-ended interview schedule was used to collect data from the respondents.

The same trigger question, **"What according to you are the main factors that impact the understanding of online privacy among college students?"** was asked. The purpose of this was to trigger brainstorming to identify the factors. The experts were also made aware of the factors identified by students during the FGD and requested to consider the same while brainstorming. After collating the factors identified by experts and students, a structured questionnaire cum schedule for ISM was presented to the experts to be filled using the criterion 'influences' in order to establish contextual relationships among all the ten variables.

Factor Labelling: Identification of Factors

Ten most relevant factors namely **Awareness Level, Privacy Loss, Privacy Concerns, Self-Efficacy Beliefs, Privacy Regulations, Trustworthiness of the Website, Control over Information, Privacy Literacy, Attitude towards Privacy and Past experience** were identified through the processes of IDIs and FGD**.**

Table 4.1.1 Steps in ISM

Step 1	Development of Questionnaire (SSIM) Matrix and collection of data
Step 2	Development of Initial Reachability Matrix from SSIM
Step 3	Checking for Transitivity to develop the Final Reachability Matrix
Step 4	Level Partitioning of Final Reachability Matrix
Step 5	Establishing a Canonical form of Final Reachability Matrix
Step 6	Diagraph Development and finally development of Interpretive Structural Model
Step 7	MICMAC Analysis or Construction of a driving power and dependence power diagram

Table 4.1.1 lists the steps in ISM. The process of ISM involves developing a questionnaire that creates pair-wise comparisons between the variables that have been identified through Review of Literature and opinions of the experts. The Structural Self Interaction Matrix (SSIM) is filled using codes V, A, X and O. The process of coding is enumerated below in Table 4.2.1 An Initial Reachability Matrix is prepared by converting the codes in the SSIM to binary digits. Upon checking transitivity in the Initial Reachability Matrix, the Final Reachability Matrix is prepared. Level Partitioning is done at this point to develop a Canonical form of Final Reachability Matrix. After this, a diagraph is prepared and eventually an Interpretive Structural Model appears. MICMAC analysis is done to understand the driving and dependence power of different variables.

Structural Self -Interaction Matrix (SSIM)

SSIM identifies pair- wise variable to variable (factor to factor) relationships as perceived by the respondents. For identifying these relationships four codes (letters) are used to fill the SSIM to establish contextual relationships between all i and j variables. Code V indicates the influence of factor in i cell on factor in j cell; code A indicates the influence of factor in j cell over factor in i cell; code X indicates that factors in both i and j cell influence each other whereas code O indicates that factors in i and j cell are unrelated. The rules for selecting the codes are as follows:

Table 4.2.1 Codes for Developing SSIM

Code	Meaning
V	**Factor i influences factor j**
A	**Factor j influences factor i**
X	**Factor i and j influence each other**
O	**Factor i and j are unrelated**

*Here i refers to all factors or variables represented horizontally whereas j refers to all factors of variables represented vertically.

reciprocal relationships with Variables 7,8 & 9 and is influenced by variables 4, 5, 6 & 10. Variable 4 has reciprocal relationships with Variable 6,7, 8 & 9 and is influenced by variables 5 & 10. Variable 5 influences Variables 6,7, 8 & 9 and is itself influenced by Variable 10. Variable 6 shares reciprocal relationships with Variable 7 & 9 and is in turn influenced by Variables 8 & 10. Variable 7 shares reciprocal relationships with variables 8 & 9 and is itself influenced by Variable 10. Variable 8 shares a reciprocal relationship with Variable 9 and is itself influenced by Variable 10. Variable 9 is influenced by Variable 10.

Table 4.2.2 Structural Self-Interaction Matrix (SSIM)

Structural self-interaction matrix (SSIM)										
VARIABLES	Past experience (Variable 10)	Attitude Towards Privacy (Variable 9)	Privacy Regulations or Public Policy (Variable 8)	Privacy Literacy (Variable 7)	Control over Information (Variable 6)	Trustworthiness of the Website (Variable 5)	Privacy Loss (Variable 4)	Privacy Concern (Variable 3)	Self Efficacy Beliefs (Variable 2)	Awareness Level (Variable 1)
Awareness Level (Variable 1)	A	X	X	X	O	A	X	X	X	X
Self Efficacy Beliefs (Variable 2)	A	V	X	X	X	A	X	X	X	
Privacy Concern (Variable 3)	A	X	X	X	A	A	A	X		
Privacy Loss (Variable 4)	A	X	X	X	X	A	X			
Trustworthiness of the Website (Variable 5)	A	V	V	V	V	X				
Control over Information (Variable 6)	A	X	A	X	X					
Privacy Literacy (Variable 7)	A	X	X	X						
Privacy Regulations or Public Policy (Variable 8)	A	X	X							
Attitude Towards Privacy (Variable 9)	A	X								
Past experience (Variable 10)	X									

Table 4.2.2 shows SSIM developed for this study using the rules given in Table 4.2.1. It can be seen in the table that Variable 1 has reciprocal relationships with Variables 2, 3,4,7,8 & 9, is influenced by Variable 5 & 10 and has no relationship with Variable 6. Similarly, Variable 2 has reciprocal relationships with Variables 3,4,6,7 and 8, influences Variable 9 and is in turn influenced by Variables 5 and 10; whereas Variable 3 has

Initial Reachability Matrix

The codes in SSIM are then converted into binary form (0, 1) thus producing the Initial Reachability Matrix. This is done by substituting the codes V, A, X, O with the numbers 0 and 1. The matrix reflects directed relationships between variables. The rules of substitution are as follows: Rule 1: If the entry in the cell (i, j) in SSIM is V then, (i, j) cell becomes 1 and (j, i) cell becomes 0 in the initial reachability matrix. Rule 2: If the entry in the cell (i, j) is A in SSIM then, (i, j) cell becomes 0 and (j, i) cell becomes 1 in the initial reachability matrix. Rule 3: If the entry in the cell (i, j) is X in SSIM then, (i, j) and (j, i) cells both become 1 in the initial reachability matrix. Rule 4: If the entry in the cell (i, j) is O in SSIM then, (i, j) and (j, i) cells both become 0 in the initial reachability matrix.

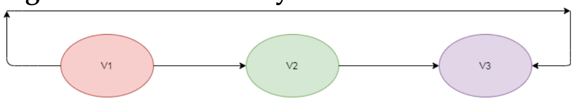
Table 4.3.1 Rules for Coding the Initial Reachability Matrix

Rule 1	If the entry in the cell (i, j) is V then, (i, j) cell becomes 1 & (j, i) cell becomes 0 in the initial reachability matrix.
Rule 2	If the entry in the cell (i, j) is A then, (i, j) cell becomes 0 & (j, i) cell becomes 1 in the initial reachability matrix.
Rule 3	If the entry in the cell (i, j) is X then, (i, j) and (j, i) cells both become 1 in the initial reachability matrix.
Rule 4	If the entry in the cell (i, j) is O then, (i, j) and (j, i) cells both become 0 in the initial reachability matrix.

Final Reachability Matrix

Following this, the Final Reachability Matrix is obtained after checking transitivity. Transitivity refers to a relationship between any three elements such that if the first element shows a relationship with the second element and the second element shows a relationship with the third element, it can be inferred that the first element also indirectly has some relationship with the third element. For example, if Variable 1 leads to Variable 2 and Variable 2 leads to Variable 3, then it can be said that there is also an implicit relationship between Variable 1 and Variable 3.

Figure 4.4.1 Transitivity between Variables



*V1 – Variable 1; V2- Variable 2; V3- Variable 3

Simply put a transitivity check helps identify the implicit indirect relationships between variables that were not identified prima facie either through review of literature or through expert opinion. This is done after keenly observing the Initial Reachability Matrix for any underlying relationships among variables. After the transitive relationships have been

Table 4.3.1 Initial Reachability Matrix

Initial reachability matrix										
VARIABLES	Awareness Level (Variable 1)	Self Efficacy Beliefs (Variable 2)	Privacy Concern (Variable 3)	Privacy Loss (Variable 4)	Trustworthiness of the Website (Variable 5)	Control over Information (Variable 6)	Privacy Literacy (Variable 7)	Privacy Regulations or Public Policy (Variable 8)	Attitude Towards Privacy (Variable 9)	Past experience (Variable 10)
Awareness Level (Variable 1)	1	1	1	1	0	0	1	1	1	0
Self Efficacy Beliefs (Variable 2)	1	1	1	1	0	1	1	1	1	0
Privacy Concern (Variable 3)	1	1	1	0	0	0	1	1	1	0
Privacy Loss (Variable 4)	1	1	1	1	0	1	1	1	1	0
Trustworthiness of the Website (Variable 5)	1	1	1	1	1	1	1	1	1	0
Control over Information (Variable 6)	0	1	1	1	0	1	1	0	1	0
Privacy Literacy (Variable 7)	1	1	1	1	0	1	1	1	1	0
Privacy Regulations or Public Policy (Variable 8)	1	1	1	1	0	1	1	1	1	0
Attitude Towards Privacy (Variable 9)	1	0	1	1	0	1	1	1	1	0
Past experience (Variable 10)	1	1	1	1	1	1	1	1	1	1

established, the Final Reachability Matrix is prepared by changing the values of missed relationships in the Initial Reachability Matrix.

Final Reachability Matrix

The highlighted entries reflect the transitivity that appeared in the Initial Reachability Matrix and was changed in the Final Reachability Matrix.

Level Partitioning

The next step in the process is classifying variables into different levels. This part of the process is known as Level Partitioning. The elements so classified appear at different levels of the ISM structure. For this, three sets are made: (1) Reachability set which represents all the elements that can be reached or influenced by a variable in the all the i cells, (2)

Table 4.5.1 Final Reachability Matrix

Final reachability matrix										
VARIABLES	Awareness Level (Variable 1)	Self Efficacy Beliefs (Variable 2)	Privacy Concern (Variable 3)	Privacy Loss (Variable 4)	Trustworthiness of the Website (Variable 5)	Control over Information (Variable 6)	Privacy Literacy (Variable 7)	Privacy Regulations or Public Policy (Variable 8)	Attitude Towards Privacy (Variable 9)	Past experience (Variable 10)
Awareness Level (Variable 1)	1	1	1	1	0	1	1	1	1	0
Self Efficacy Beliefs (Variable 2)	1	1	1	1	0	1	1	1	1	0
Privacy Concern (Variable 3)	1	1	1	1	0	1	1	1	1	0
Privacy Loss (Variable 4)	1	1	1	1	0	1	1	1	1	0
Trustworthiness of the Website (Variable 5)	1	1	1	1	1	1	1	1	1	0
Control over Information (Variable 6)	1	1	1	1	0	1	1	1	1	0
Privacy Literacy (Variable 7)	1	1	1	1	0	1	1	1	1	0
Privacy Regulations or Public Policy (Variable 8)	1	1	1	1	0	1	1	1	1	0
Attitude Towards Privacy (Variable 9)	1	1	1	1	0	1	1	1	1	0
Past experience (Variable 10)	1	1	1	1	1	1	1	1	1	1

Table 4.5.1 indicates 6 transitive links that were identified in the Initial Reachability Matrix. Observation revealed that both Variable 1 and Variable 6 influence each other. Variable 3 influences both Variable 4 and Variable 6 and Variable 9 influences Variable 2.

Antecedent cell which represents all elements in the j cells that can reach or influence the element in question in the i cell and (3) Intersection set which consists of all the common factors/elements between the Reachability set and the Antecedent set. Radel et al (2017) state "The reachability and antecedent set for each factor is obtained from final reachability matrix. The reachability set for a particular variable consists of the variable itself and the other variables, which help the variable itself and other variables to form the reachability set. The antecedent set consists of the variable itself and the other variables, which may help in achieving it".

On the basis of this, levels are created of the ten variables in question for developing a hierarchical paradigm. The process involves elimination of the top level variables, so that the next level can be identified. This process goes on until each variable has been assigned a level.

Table 4.6.1 indicates the levels of different variables in the hierarchy of ISM Model. It can be seen that Variables 1,2,3,4,6,7,8,9 are on Level I of the hierarchy, Variable 5 is on Level II whereas Variable 10 is on Level III of the hierarchy.

Table 4.6.1 Variables Indicating their Level in Hierarchy of ISM Model

Level Partition				
VARIABLES	Reachability set	Antecedent set	Intersection set	Level
Awareness Level (Variable 1)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Self Efficacy Beliefs (Variable 2)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Privacy Concern (Variable 3)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Privacy Loss (Variable 4)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Trustworthiness of the Website (Variable 5)	1,2,3,4,5,6,7,8,9	5,10	5	II
Control over Information (Variable 6)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Privacy Literacy (Variable 7)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Privacy Regulations or Public Policy (Variable 8)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Attitude Towards Privacy (Variable 9)	1,2,3,4,6,7,8,9	1,2,3,4,5,6,7,8,9,10	1,2,3,4,6,7,8,9	I
Past experience (Variable 10)	1,2,3,4,5,6,7,8,9,10	10	10	III

Table 4.7.1 Canonical Form of Final Reachability Matrix

Canonical form of final reachability matrix											
VARIABLES	Awareness Level (Variable 1)	Self Efficacy Beliefs (Variable 2)	Privacy Concern (Variable 3)	Privacy Loss (Variable 4)	Control over Information (Variable 6)	Privacy Literacy (Variable 7)	Privacy Regulations or Public Policy (Variable 8)	Attitude Towards Privacy (Variable 9)	Trustworthiness of the Website (Variable 5)	Past experience (Variable 10)	Driving power
Awareness Level (Variable 1)	1	1	1	1	1	1	1	1	0	0	8
Self Efficacy Beliefs (Variable 2)	1	1	1	1	1	1	1	1	0	0	8
Privacy Concern (Variable 3)	1	1	1	1	1	1	1	1	0	0	8
Privacy Loss (Variable 4)	1	1	1	1	1	1	1	1	0	0	8
Control over Information (Variable 6)	1	1	1	1	1	1	1	1	0	0	8
Privacy Literacy (Variable 7)	1	1	1	1	1	1	1	1	0	0	8
Privacy Regulations or Public Policy (Variable 8)	1	1	1	1	1	1	1	1	0	0	8
Attitude Towards Privacy (Variable 9)	1	1	1	1	1	1	1	1	0	0	8
Trustworthiness of the Website (Variable 5)	1	1	1	1	1	1	1	1	1	0	9
Past experience (Variable 10)	1	1	1	1	1	1	1	1	1	1	10
Dependence power	10	10	10	10	10	10	10	10	2	1	

Canonical Matrix

After level partitioning, the Final Reachability matrix is converted into canonical form. In this, clusters are formed of variables that were found to be on the same level during level partitioning. This is done so that we can easily evaluate the factors at different levels and thus analyse the interrelationships among them. (Verma and Singh 2018) The canonical matrix will have most of its upper triangular elements as 0, and lower triangular elements as 1. (Radel et al. 2017) The Canonical matrix also shows the driving and dependence powers of variables which can be seen in the MICMAC Analysis or the driving or dependence power diagram.

After this a directional graph or a diagraph which represents directed relationships and hierarchical levels of variables, and an interpretive structural model are prepared.

After eliminating transitivity, the resultant diagraph is converted into an ISM model as seen in Figure 4.8 that depicts a hierarchical model for the factors involved in college students' understanding of the concept of online privacy.

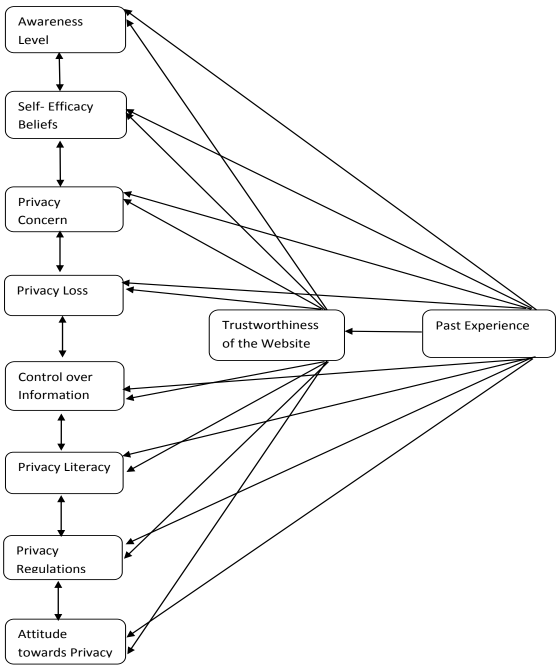


Figure 4.8 Interpretive Structural Model*

* Hierarchical Paradigm of Factors Affecting Understanding of Online Privacy among Internet Consumers

MICMAC Analysis

MICMAC Analysis is done with the objective analysing the driving and dependence powers of variables and is hence also known as the Driving and Dependence power diagram.

MICMAC analysis stands for matrixed impacts cross-multiplication applique and classment, also known as cross-impact matrix multiplication applied to classification. The analysis is based on the principle of multiplication of matrices to study the driving and dependence powers of factors. (Verma and Singh 2018) This analysis aids in identifying the different categories of factors on the basis of their driving and dependence powers. Figure 4.9.1 shows the MICMAC analysis of the derived variables done from the Canonical matrix. The variables so derived are divided into four clusters. In the Autonomous variables cluster, those variables are found that have weak driving and dependence powers. These variables can be said to be relatively disconnected from the rest of the system. Variables V5 and V10 belong to this cluster. Dependent variables are found in the second cluster. These variables have a weak driving power but strong dependence power. No variables in the current study are there in this cluster. Linkage variables with strong driving and dependence powers are found in the third cluster. These factors are regarded as unstable and therefore, any change in them would lead to change in other factors as well as in themselves. Figure 4.9.1 shows that variables V1, V2, V3, V4, V6, V7, V8 and V9 are found in the Linkage variables cluster. The fourth Cluster consists of Independent variables. These variables have strong driving and weak dependence power. These variables act as drivers in the system. In the current study, no variables fall in this cluster.

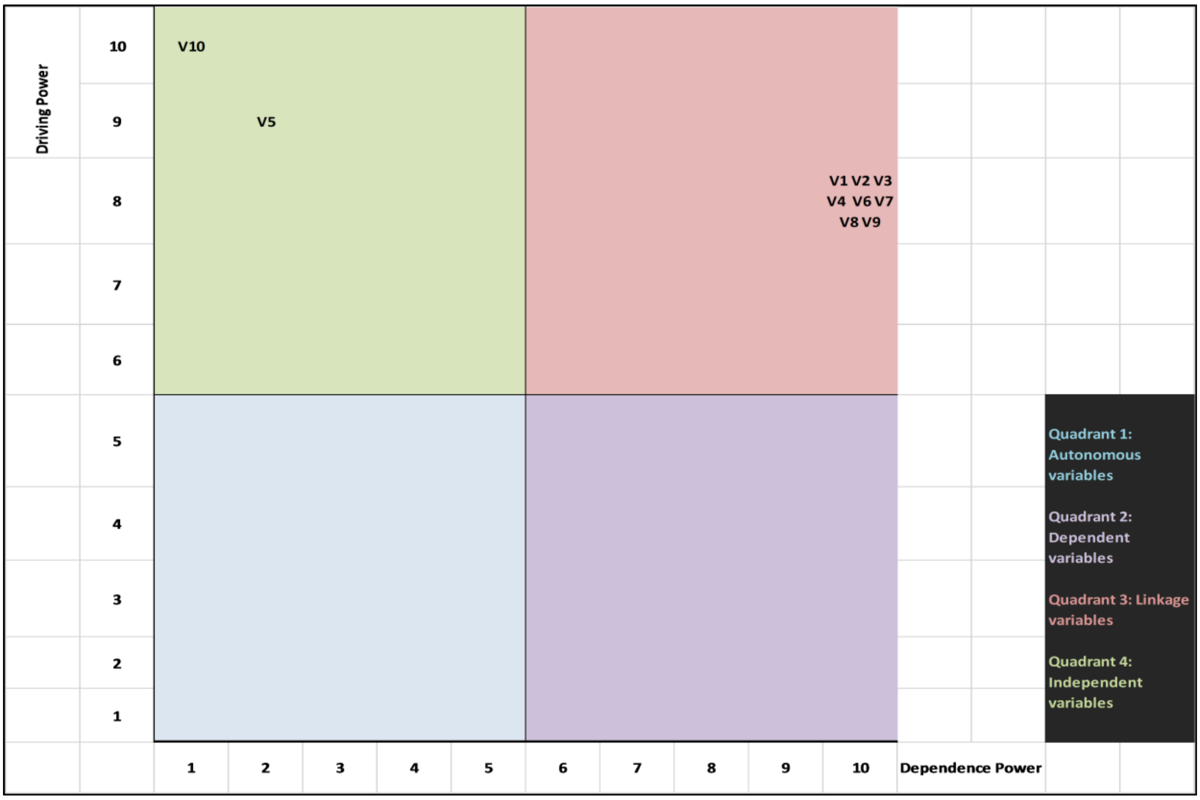
Linkage variables that are contained in the third cluster i.e. Variables 1,2,3,4,6,7,8,9- Awareness level, Self-Efficacy beliefs, Privacy concern, Privacy loss, Control over Information, Privacy Literacy, Privacy Regulations and Attitude towards privacy merit special attention as despite having high driving power they are also dependent on other variables. The dependencies and interdependencies among factors at different levels in the model are represented by the nodes and arrow heads. (Verma and Singh 2018)

The limitation of ISM is that it depends heavily on opinions of experts for modelling. Therefore, the model is only as good as the experts' knowledge and understanding of the system under study.

Regulations and Attitude towards Privacy were found to be on Level I, Trustworthiness of the Website was on Level II whereas Past Experience was found to be on Level III.

The variables on Level I were all seen to influence each other. The variable Trustworthiness of the Website which was placed on Level II was seen to influence all other variables except Past Experience. On Level III, it was seen that variable Past Experience influenced all the other nine variables under study but itself was influenced by none of the variables in return.

Figure 4.9.1 MICMAC Analysis of Variables



CONCLUSIONS

Interpretive Structural Modelling (ISM) was used for identifying factors involved in users understanding of online privacy. Ten factors namely Awareness Level, Privacy Loss, Privacy Concerns, Self- Efficacy Beliefs Privacy Regulations, Trustworthiness of the Website, Control over Information, Privacy Literacy, Attitude towards Privacy and Past Experience were identified through review of literature, expert opinions from industry and academia, and focus group discussion with students from eight colleges of Shimla city. A systematic model of the hierarchical paradigm of factors affecting understanding of online privacy among college students was developed in which three levels of hierarchy were found. Awareness level, Self-Efficacy Beliefs, Privacy Concern, Privacy Loss, Control over Information, Privacy Literacy, Privacy

From the MICMAC analysis, Awareness level, Self-Efficacy beliefs, Privacy Concern, Privacy Loss, Control over Information, Privacy Literacy, Privacy Regulations and Attitude towards Privacy emerged as linkage variables having both high driving and dependent power on other variables. The variables Trustworthiness of the Website and Past Experience which fell in the autonomous variables quadrant in the MICMAC analysis were found to be relatively disconnected with the rest of the system.

This implies that barring the variables Trustworthiness of the Website and Past Experience, all other variables under study contribute significantly to understanding of online privacy among young adults.

The finding and the consequent model developed by the researchers has important implications for future studies on online privacy. It shows that factors identified in the model can be used in future studies to develop a better understanding of how college students view privacy online. It explains their motivation to undertake privacy protection behaviours, likelihood of risky behaviour online and their vulnerability to privacy threats. Future researchers may use the model as a basis to develop a clearer picture of privacy perception and privacy related behaviours of consumers in the online world.

REFERENCES

Acharya, B. (2015). The Four Parts of Privacy in India. Economic & Political Weekly May 2015 Vol. l No. 22; pp. 32.

Bandura, A. (1991). Social cognitive Theory of Moral Thought and Action. In W. M. Kurtines & J.l. Gerwitz (Eds.), handbook of Moral Behavior and Development (Vol. 1, pp. 45- 103). Hillsade, NJ: Erlbaum.

Cadwalladr, C., & Graham-Harrison, E. (2018). Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach. *The guardian*, *17*, 22.

Cho, H. (2010). Determinants of Behavioural responses to Online Privacy: The Effects of Concern, risk beliefs, Self -Efficacy, and Communication Sources on Self-Protection Strategies. Journal of Information Privacy and Security; 2010; 6, 1; ABI/INFORM Complete; pp 3-27.

Cho, H., Rivera, M, & Lim, S. (2009). A Multinational Study on Online Privacy: Global Concerns and Local Responses. New Media & Society, 11(3): pp. 409-431.

Epstein, D., & Quinn, K. (2020). Markers of online privacy marginalization: Empirical examination of socioeconomic disparities in social media privacy attitudes, literacy, and behavior. *Social Media+ Society*, *6*(2), 2056305120916853.

Epstein, D., Roth, M. C., and Baumer, E. P.S. (2014). It's the Definition, Stupid! Framing of Online Privacy in the Internet Governance Forum Debates. Journal of Information Policy, Vol. 4 (2014). Penn State University Press: pp. 144-172

Glenn, T., & Monteith, S. (2014). Privacy in the digital world: medical and health data outside of HIPAA protections. *Current psychiatry reports*, *16*(11), 494.

Goldfarb, A. and Tucker, C. (2012). Privacy and Innovation. Innovation Policy and the Economy, Vol. 12, No. 1 (January 2012). The University of Chicago Press: pp. 65-90.

Gupta, A. (2018). The Evolution of Fraud: Ethical Implications in the Age of Large-Scale Data Breaches and Widespread Artificial Intelligence Solutions Deployment. ITU Journal: ICT Discoveries, Special Issue No. 1, 2 Feb. 2018. Concordia University, Montreal, Canada: pp. 1-7.

Hand, D. J. (2018). Aspects of Data Ethics in a Changing World: Where Are We Now? Big Data Volume 6, Number 3, 2018 Mary Ann Liebert, Inc.:pp 176- 190.

Holt, J. and Malcic, S. (2015). The Privacy Ecosystem Regulating Digital Identity in the United States and European Union. Journal of Information Policy, Vol. 5 (2015). Penn State University Press: pp. 155-178.

Kitkowska, A., Shulman, Y., Martucci, L. A., & Wästlund, E. (2020). Psychological effects and their role in online privacy interactions: A review. *IEEE Access*, *8*, 21236-21260.

Langenderfer, J. and Miyazaki D. A. (2009). Privacy in the Information Economy. The Journal of Consumer Affairs, Vol. 43 No. 3, Special Issue on Privacy Literacy- How Consumers Understand and Protect Their Privacy (Fall 2009). Published by Wiley: pp. 380-388.

LaRose, R. and Rifon N. J. (2007). Promoting i-Safety: Effects of Privacy Warnings and Privacy Seals on Risk Assessment and Online Privacy Behavior. The Journal of Consumer Affairs, Vol. 41. No. 1 (Summer 2007). Published by Wiley: pp. 127-149.

Leiner, B.M., Cerf, V.G., Clark, D.D., Kahn, R.E., Kleinrock, L., Lynch, D.C., Postel, J., Roberts, L.G. and Wolff, S. (2009). A Brief History of the Internet. ACM SIGCOMM Computer Communication Review. Volume 39, Number 5, October 2009: pp. 22-31.

Masur, P. K. (2020). How online privacy literacy supports self-data protection and self-determination in the age of information. *Media and Communication*, *8*(2), 258-269.

Milne, G.R., Rohm, A. J. and Bahl, S. (2004). Consumers' Protection of Online Privacy and Identity. The Journal of Consumer Affairs, Vol. 38, No. 2 (Winter 2004). Published by Wiley: pp. 217-232.

Morgado, F. F., Meireles, J. F., Neves, C. M., Amaral, A. C., & Ferreira, M. E. (2018). Scale development: ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, *30*(1), 3.

Naughton, J. (2016). The evolution of the Internet: from military experiment to General Purpose Technology. Journal of Cyber Policy, 2016 VOL. 1, No. 1, Routledge, Taylor and Francis Group: pp 5–28.

Nehf, J.P. (2007). Shopping for Privacy on the Internet. The Journal of Consumer Affairs, Vol. 41, No. 2. (Winter 2007). Published by Wiley: pp. 351-365.

Paterson, N.E. (2014). End User Privacy and Policy –Based Networking. Journal of Information Policy, Vol. 4 (2014). Penn State University Press: pp. 28-43.

Pitt, L.F. and Watson, R.T. (2007). A Reply: An Ecosystem Perspective on Privacy. The Journal of Consumer Affairs, Vol. 41, No. 2 (Winter 2007). Published by Wiley: pp. 365-375.

Radel, K. A., Pharande, V. A., & Saini, D. R. (2017). Interpretive Structural Modelling (ISM) for Recovery of Heat Energy. *International Journal of Theoretical and Applied Mechanics*, *12*(1), 83-92.

Rastogi, N., Gloria, M.J.K. and Hendler, J. (2015). Security and Privacy of Performing Data Analytics in the Cloud A Three- way Handshake of Technology, policy and Management. Journal of Information Policy, Vol. 5 (2015). Penn State University Press: pp. 129-154.

Rifon, N.J., Larose, R. and Choi, M.S. (2005). Your Privacy is Sealed: Effects of Web Privacy Seals on trust and Personal Disclosures. The Journal of Consumer Affairs, Vol. 39, No. 2 (Winter 2005). Published by Wiley: pp. 339-362.

Rotfeld, H.J. (2009). Privacy Crimes, Annoyances and Self- Defeating Business Practices. The Journal of Consumer Affairs, Vol. 43, No. 3, Special Issue on Privacy Literacy- How Consumers understand and Protect Their Privacy (Fall 2009). Published by Wiley: pp. 538-542.

Smith, J.H., Dinev, T. and Xu, H. (2011). Information Privacy Research: An Interdisciplinary Review. MIS Quarterly Vol. 35 No. 4 pp. 989-1015/December 2011: pp. 989- 1015.

Solove, D. (2002). Conceptualizing Privacy. *California Law Review, 90*(4), 1087-1155. doi:10.2307/3481326.

Stanaland, A.J.S., Lwin, M.O. and Leong, S. (2009). Providing Parents with Online Privacy Information Approaches in the US and the UK. The Journal of Consumer Affairs, Vol. 43, No. 3, Special Issue on Privacy Literacy – How Consumers Understand and Protect Their Privacy (Fall 2009). Published by Wiley: pp. 474-494.

Turow, J., Hennessey, M. and Bleakley, A. (2008). Consumers' Understanding of Privacy Rules in the Marketplace. The Journal of Consumer Affairs, Vol. 42, No. 3 (Fall 2008). Published by Wiley: pp. 411-424.

Verma, H. and Singh, S. (2018). Interpretive structural modelling for e-impulse buying: an Indian study. Int. J. Electronic Marketing and Retailing, Vol. 9, No. 3, 2018: pp 288- 306.

Warfield, J.N. (1974) 'Developing interconnection matrices in structural modelling', IEEE

Transactions on Systems, Man, and Cybernetics, Vol. SMC-4, No. 1, pp.81–87.

Weinberger, M., Bouhnik, D., & Zhitomirsky-Geffet, M. (2017). Factors affecting students' privacy paradox and privacy protection behavior. *Open Information Science*, *1*(1), 3-20.

Youn, S. (2008). Parental Influence and Teens' Attitude toward Online Privacy Protection. The Journal of Consumer Affairs, Vol. 42, No. 3 (Fall 2008). Published by Wiley: pp. 362-388.

Website References:

Aarogya Setu Security Issue Exposed PMO, MHA Employee Data: Hacker. (2020, May 6). The Quint. https://www.thequint.com/tech-and-auto/tech-news/aarogya-setu-app-data-security-issue-raised-by-french-hacker-elliot-alderson

Privacy and the Information Technology Act- Do we have the safeguards for Electronic Privacy? (2011, April 7). http://cis-india.org/internet-governance/blog/privacy/safeguards-for-electronic-privacy

Toulas, B. (2019, April 26) Facebook Accused of Privacy Law Violations by Three Countries in the Same Day. https://www.technadu.com/facebook-privacy-law-violations-probe-three-countries/65912/

UIDAI rubbishes report claiming massive Aadhaar data breach. (2018, January 04). ET Online|. https://economictimes.indiatimes.com/news/politics-and-nation/major-security-breach-your-aadhaar-data-is-on-sale-for-just-rs-500/articleshow/62364915.cms

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HEALTH AND NUTRIRION CLAIMS ON FOOD LABELS – MEANS OF COMMUNICATION THAT CAN INFLUENCE FOOD CHOICES OF ADOLESCENTS

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ABSTRACT

Aim: Considering health claims on food labels are direct means of communication for food choices to the consumers; the current study aimed to assess their impact on food choices of adolescents.

Method: A cross-sectional study was conducted in Hyderabad, India among 111 school-going adolescents. A validated questionnaire with 36 closed-ended and four open-ended items was used to assess nutrition knowledge, perceived body image, use of food label and claim information: influence of claims on health risk perception and food choices of the participants.

Results: One third of the participants perceived themselves as overweight or obese. The participants often read (76%) label but use of label information for food choice is limited to 11-22%. Qualitative findings reveal that adolescent's associate claims with perceive healthiness of a product. Additionally, body image perception plays a significant role in decision making. Terms such as 'energy', 'weight reduction' as a claim creates skewed perceived healthiness of a product among participants.

Conclusion: The study findings establish health and nutrient claims are major determinant of food choices. Use of claim is linked with perceived weight status of adolescents. The claim is likely to be considered as a predictor of healthiness of the product if there are existing gaps in basic nutrition knowledge and understanding of nutrient content of label. This provides a window of opportunity to make adolescents nutritionally literate through nutrition communication intervention to properly interpret the health and nutrition claim to make healthier food choices.

***Keywords*:** Health and Nutrition claim; adolescents; perceived healthiness; positivity bias, packaged food

INTRODUCTION

Nutrition transition, a shift in dietary behavior, has been extensively studied in the context of the rising obesity epidemic (Popkin 2004; Popkin 2001; Popkin et al, 2012; Siddiqui et al, 2019). The key indicators of nutrition transition are less consumption of fresh fruits and vegetables in addition to eating high fat, salt, and sugar food(HFSS) (Afshin et al, 2019). It is estimated that about 11 million deaths from 1990 to 2017 across the world are attributable to dietary risk factors (Afshin et al, 2019). Worldwide, 1.9 billion adults, over 340 million children and adolescents aged between 5-19 years are overweight and/or obese (World Health Organization, 2020). Percentage of overweight among children and adolescents in India has grown from 0.4% to 2.4% among boys, and 0.2% to 1.6% among girls from 2000 to 2015 (Global Nutrition Report, 2020). The total prevalence of obesity among children was 2.3% during 2015-16 which increased to 4.9% during 2019-2020 (National Family Health Survey, 2019-2020).

Packaged and processed food consumption, eating away from home has also been noticeably higher than any time before (d'Amour et al, 2020). In India, the overall per capita sales of packaged and processed foods increased to USD 57.7 in 2018 from USD 31.3 in 2012 (Euromonitor, 2019). Worldwide, attempts are afoot to curb the consumption of HFSS foods to control and/or prevent the rise of obesity (WHO, 2013). The obesity epidemic prevention and management focus on personal changes along with policy regulation which can influence the food environment. Food label is an important communication tool to bridge the gap between policy and individual dietary behavior (Cowburn, G., & Stockley, L, 2005).

Health and nutrition claims displayed on the font-of-pack as a sentence or an image or phrase usually project association, suggestion and relation between nutrients, their functions and health benefits. Though claims are often used as marketing tool; they are also an important means of communication about the food to the consumer. Claims are of different types - disease reduction claim, nutrient function claim, nutrient comparative claim, non–addition claim and so on (FSSAI, 2018). Claims can lead to 'halo effect 'or 'positivity bias for certain food products, thus compelling consumer food choice (Fernan et al,2018; Williams,2005; Talati et al,2016; Benson,2018). For instance, a product claiming 'low in fat' not only projects an image of being healthier by being low in fat, but it could also lead to a belief that it could lower other risk factors of obesity. Similarly, 'positivity bias' could arise from product claims which highlight positive functions like 'helps in growth', 'equal to two glasses of milk'. Thus, a claim could increase the perceived healthiness of a product for the consumer and thus influence the choice and consumption.

In India, among the different age groups of consumers, adolescents are among the more frequent buyers of packed foods (Vemula et al, 2013, Saha et al, 2013; Ganpule et al, 2020). Adolescents are specifically targeted to intense marketing efforts since they represent future adult consumers. Health, nutritional or ethical claims are among the other marketing strategies like using popular figures, brand promotion and freebies displayed on food/drink labels to attract the consumers of this age group. (da Costa Louzada et al,2015; Dixon et al,2014; Jenkinet al, 2014; Talagala et al,2016).

Despite its importance, research on perceptions and understanding of food labels, especially the nutrition and health claims vis-à-vis their influence on adolescent food choices is limited and scanty (Bonsmann et al, 2010). This study aimed to assess adolescents' perceptions, understanding, intention and motivation to use nutrient and claim information on food labels; the influence of such claims on their food choices. This manuscript reports from the formative phase of a randomized control intervention study among school-going adolescents to promote the use of food label information for healthy food choices. This article particularly looks at health and nutrient claims, adolescents' perceptions about healthiness attributes of a product and the effect of these on their food choices.

LITERATURE REVIEW

Food selection relies on communication between the food environment and the consumer. Health and nutrition claims often work as predictors that influence the perception of overall healthiness of packaged food. Research suggests that consumers correlate claims with health benefits such as 'low in fat' as good for health; 'low in cholesterol' as maintenance of cardiovascular health; and presence of plant sterol as low in cholesterol and so on (Gezmen-Karadağ et al, 2018; Benson et al, 2019; Hung & Verbeke, 2019). A gaze behavior analysis using eye-tracking experiment revealed that the longer consumer's gaze at a claim, the more likely they purchase the product (Steinhauser et al, 2019). Looking longer at a claim was also significantly associated with nutrition knowledge - higher the knowledge longer the duration of gazing. However, higher nutrition knowledge and awareness regarding mandatory nutrition labelling policies are not necessarily associated with correct interpretation of nutrition or claim information. Nutrition and health claims can passively increase the believability towards the healthiness and policy compliance of a product (Klopčič et al, 2020; Hall et al, 2020)

The positive impact of claims on purchasing behavior is also reinforced by the marketing strategy of pre-packaged food industries. Several studies analysed the presence of health and nutrition claims on pre-package foods in countries like UK, Netherlands, Germany, Slovenia, Spain, Canada, India, China, Malaysia, Iran, Sweden, Brazil, Argentina and many others (Mayhew et al, 2015; Hieke et al, 2016; Franco-Arellano et al,2017). Worldwide, approximately 30-60% of pre-packaged food products use health and nutrition claim. Almost 40% of the foods marketed towards children use one or more claims (Chacon et al, 2013; Pulker et al, 2017; Gracia et al, 2019). Experimental studies designed using real and hypothetical claim revealed children often prioritize products with nutrition and health claim without processing detailed nutrient information (Soldavini et al, 2012; Dixon et al, 2014; Ares et al, 2016; Madilo et al, 2020). These behaviours may lead to misleading food choices and higher consumption of HFSS foods (Benson et al, 2019; Kliemann et al, 2018; Rodrigues et al, 2017; Oostenbach et al, 2019). Studies examining confusion created by claims observed that almost 82% of the food samples from a market survey had nutrition and health claims but scored less healthy (Chacon et al, 2013; Pongutta et al, 2018). Similar findings were reported from countries like Africa, Australia, Brazil where almost half of product using claims were often low in nutritional value and had higher sugar or sodium content compared to packs without nutrition and health claims (Nishida et al, 2016; Pulker et al, 2017; Gracia et al, 2018; Duran et al, 2019). However, in the Indian context, there is limited evidence owing to scanty studies that have relation between perceived healthiness based on claim and influence on purchasing behavior. This study intends to explore the influence of health and nutrition claims on the food choices among adolescent consumer.

OBJECTIVES

i) Assessing intention and motivation to use health and nutrition claims by school-age adolescents
ii) Assessing impact of health and nutrition claim on the choice and consumption of pre-packaged food.

METHODOLOGY

Study design, location and participants: This cross-sectional study was conducted among adolescents studying in co-educational English medium schools of Hyderabad, Telangana, India. The study participants were in the age group of 12-13 years studying in grade VIII.

Questionnaire administration and data collection: A validated questionnaire (Saha et al, 2014) was used for data collection and the participants filled in the questionnaire in the presence of an investigator. The questionnaire had several sections focusing on - perceived body weight status, frequency of consumption of packaged foods, nutrition knowledge, knowledge and use of food label information. However, this article particularly focuses on the qualitative assessments of the data collected against open-ended questions.

The study protocol was cleared by the Institutional Ethical Committee (IEC) of ICMR-National Institute of Nutrition (ICMR). Written informed consent was obtained from the participants, their parents and the school principals.

The study covered over 350 participants, of which 111answered the open-ended questions. Thus, this manuscript reports data from those 111 participants' responses only.

Data Entry and analyses: Based on the responses to the pre-coded questions, the data were entered in Microsoft Excel. Responses to the open-ended questions were transcribed verbatim from the survey forms into Microsoft Word for quantitative and qualitative data analyses, respectively. Demographic details, nutrition knowledge, use of label information and claim as purchase determinants, and consumption frequency were assessed using descriptive statistics on Statistical Package for Social Sciences (SPSS) Version-21. The questionnaires provided a list of nutrients (carbohydrate, fat, protein, sodium, allergen, fiber) and were pre-coded. Responses for nutrient were coded as per the list in the questionnaire and reasons for preferring nutrient while choosing food were read , and were categorized further into positive and negative wording. 'Fear' or 'scare' were categorized as negative perceptions. Motivation, intention to use or learn more about any nutrient was considered as a positive attribute.

Names of the packed foods that were reported to have been purchased for health reasons were recorded; they were re-coded as per their generic product name or food type. Claims reported by the participants were categorized as function claim, ingredient claims and risk reduction claims as per FSSAI classification (FSSAI, 2018). Healthiness attributes reported by the participants were analysed based on the statements by the participants, and they were categorized as positive and/or negative perceptions against the categories of claims (*Table 1*).

Table 1:-Data sorting

Type	Nutrient and its effect	Preferred food product	Claims and its influence on purchase decision
Responses used	Statement by participants about nutrient they want to consider for food choice.	Brand name used in statement , coded into main food product	Statement showing specific claim participants read and use for food purchase
Category	Positive influence Negative influence	Biscuits Breakfast cereal Heath drinks Bread Energy drink	Function claim Disease reduction claim Ingredient claim

RESULTS

***Demographic details of the participants*:** Among 111 participants, 55.9% were boys. Of all the participants about 47% felt their weight status was appropriate, but over a quarter each perceived themselves to be underweight or overweight (*Table 2).*

Table 2: Number of participants and perceived weight status

Gender and perceived weight status		Percentage
Number of participants = 111	Gender	N= 111 Boys=55.9 girls=44.1
Perceived weight status	Appropriate	46.8
	Under-weight	23.4
	Slightly overweight	27.9
	Obese	1.8

Frequently consumed packaged foods: Consumption frequency for commonly consumed products like biscuits, chocolate, health drinks and others were 84.7%, 85.6%, 79.3% respectively *(Table-3).*

Table 3:- Frequency Percentage of commonly consumed food product

Categories of foods commonly consumed (everyday/one/twice a week)	Respondents (%)
Chocolate	85.6
Biscuits	84.7
Cakes	44.1
Breakfast cereal	79.3
Snacks	86.5
Jams, jellies	51.4
Aerated drinks (cold drinks)	55.9
Health drinks and powder	79.3
Fruit juices and powder	75

Label information as a purchase determinants: Label information and claims act as the determinants of purchase of the above-mentioned food products. In the current study, label and claim information were reported as an important determinant of choice of chocolates, biscuits and health drinks by 11.7%, 18%, and 22.5% of the participants (*Table 4).*

Table 4:- Label and claim as determinants of choice of commonly consumed food products

Food categories	Label & claim usage for food choice (%)
Chocolate	11.7
Biscuits	18.0
Cakes	7.2
Breakfast cereal	17.1
Snacks	12.6
Jams, jellies	14.4
Aerated drinks (cold drinks)	11.7
Health drinks and powder	22.5
Fruit juices and powder	21.6

***Knowledge of nutrition and label information*:** The Nutrition knowledge assessment section of the questionnaire had two components - first was about the major nutrients present in common food items and second section enquired about health and nutrition knowledge. The correct responses for each question are given in Table 5. Further, knowledge of basic food label information and the frequency of label use are given in Table 6. The general nutrition knowledge varied based on the question, the correct responses were varied from the lowest 8.1% to the highest 87%. Almost 76% of the participants always or sometimes use the label information (*Table 5).*

Table 5:-Nutrition awareness, food label use and knowledge of basic label information

Item	Questions	Percentage of correct response (%)
Nutrition knowledge (commonly used food rich in nutrient) (percentage of correct responses)	Egg	47.7
	Milk and milk product	50.5
	Fruits	64.9
	Green leafy Veg	66.7
	Cooking oil	75.7
	Aerated (cold) drinks	50.5
	Ghee, butter	8.1
	Chips	45.9
Nutrition and health knowledge (percentage of correct responses)	Necessity of balanced diet	87.4
	Excess fat and health problems	73.9
	Fiber in fruits and vegetable	84.7
	Excess salt and hypertension	50.5
	Childhood food habits and effect on adult life	46.8
	Unit of energy	18.9
	Cholesterol in vegetable oil	29.7
	Name of common allergen	23.4
	Trans fat in bakery product	63.1
	Trans fat in vanaspati	27.9
How often do you read label	Always	33.3
	Sometime or for a new products	43.2
	Only occasionally	16.2
	Rarely	7.2
Knowledge of label information	Brand name	89.2
	Manufacturing date and address	89.2
	Lot / batch code	58.6
	Expiry and best before date	85.6
	Ingredient list	81.1
	Nutrient declaration	50.5
	Quality symbols	47.7
	Veg/ Non-Veg symbols	65.8

Use of health and nutrition claims: This section is based on the analysis of responses to open-ended questions - 'what information you would like to see on label and why?'; 'do you buy any product because of its health claim and if yes which claim?'

Based on the responses against open-ended questions the answers have been presented under two major themes - (i) intention to use nutrient information based on positive motivation for health and (ii) intention to use nutrient information based on risk perception and its effect on the purchase of the packaged food.

'Health', 'energy', 'good for health', 'keep our body healthy',' 'to know about healthy food', 'main nutrient of our body' etc. were the most common reasons reported for reading information on carbohydrates, protein and fiber. Protein was the most sought-after nutrient followed by carbohydrate. Few also mentioned reading the information on fibre content of the foods. The responses were not significantly different between the genders. Both boys and girls recognized the importance of carbohydrate, protein, fibre and strongly associated them with good health

"Not to become fat"," it will make me fat", "I am already fat so should check", "I need to stay thin not become fat" were some of the responses stated as the reasons for reading the information on the fat content on the food label. Fat was the most frequently mentioned nutrient of concern. Regarding the allergen information, a few participants reported that they were allergic to certain foods, thus they were in the habit of reading allergen information on the label. The others were not aware of that such information is provided on the label. However, some of them mentioned that those who are allergic to certain foods should make sure that they read allergen information on the labels before choosing the foods. Sodium was also listed as a nutrient of concern. "it will increase hypertension", "it will make us ill" were listed as the reasons to look for sodium information on the nutrient panel.

Health claims (nutrient function claim, risk reduction claim) were found to have an impact on purchase. Based on the responses, the food products can be divided into three major food types-health drinks and powder, breakfast cereal and biscuits. Claims that were mentioned by the participants which led to purchase or frequent consumption were-"I can grow my height and get energy and heath'', "it is tasty as well as gives energy. ''If I eat before coming to the school, I can easily understand what the teacher is saying'', "it makes me stronger, taller, healthier'', "I buy this health drink to become tall as I was short in my class", "gives me energy'', "we can become slim'', "I can stay thin'', "they say it has energy of two glasses of milk'', "improves memory'', "makes bone strong" etc. (*Tables 6 & 7)*

Table 6-Nutrient and reasons associated with choice the nutrient

Nutrient	Statement showing Intention/motivation/Health concern
Positive association/ perceived benefit- Carbohydrate Protein Fiber	*''I like protein.''* *''I like protein for body building''* *''Because they are good for health. I want to know if it helps in nutrition and are they energetic?''*
Negative association/ Perceived risk - Fat / Sodium	*''I am thin. I would like to be bit Fat. So I check that.''* *''I want to know about Fat because I know Fat is not good for health''.* *''Carbohydrate can be useful but Fat is dangerous''* *''Also, sodium because if its more can become high blood pressure''*
Allergen	*''I will get allergy from some new food I should check allergen*
Any other (specify)	*''Doctor said to take more calcium''*

DISCUSSION

The present study attempted to assess the effects of health and nutrition claim on packaged food consumption based on perceived healthiness. Though there is evidence that food marketers also use health and nutrition claims to promote their products among children and adolescents (Jenkin et al, 2014; Ueda et al, 2012); there is limited evidence how adolescents in India perceive healthiness of packaged foods. Health-related information and healthiness is often understood from a personal perspective. Few studies have indicated that self-perceived body image and perceived health status of adolescents have an impact on their dietary behavior (Hedaoo et al, 2020; Gavaravarapu et al, 2015).This study findings established that the motivation to consume healthy foods can prompt adolescent consumers to look for attributes such as health and nutrient claims on a packaged food product to choose their foods. The current study proves that perceptions about body image and self-perceived weight status also determine their beliefs on the functional ability of certain nutrients or negative health impacts of the others. Further, the beliefs or risk perceptions also determine the personal need for seeking health information about the foods (Wills et al, 2012).

A closer look at the outcomes of this study shows that the adolescent consumers who read the nutrient information or claims on the

Table 7:- Responses provided for use of claim information used for selection of packaged foods by the study participants

Type of Food product	Statement mentioning health and nutrition claim	Health influence
Health drinks and powder	*''I will buy this health drink to become tall as I was short in my class.''* *''Because this health drinks contain healthy nutrient and fiber''* *''We will feel fresh and by drinking this health drink our height will increase. These things keep us healthy and fit.''*	Helps in growth Rich in nutrient Height, fitness
Breakfast cereals	*''it is tasty as well as it gives energy''* *'If I eat before coming to the school, I can easily understand what the teacher is saying''* *''Oats is very healthy. By eating oats I can be slim.''* *''It is very useful because it is good for bone and brain''*	Concentration Thinness Bone and Brain health improvement
Biscuits	*''Yes. In this biscuit they say it contains two glasses of milk. That's why I but it.''* *''I buy milk biscuits because they say we will get more energy''*	Milk equivalence Energy
Others (ChawanPrash, bread, cake, butter milk, energy drink)	*'' butter milk for mineral and energy''* *''it(energy drink) has less Fat, high protein and gives us energy''*	Energy Rich in nutrient

labels, consider them as two broad categories – (i) healthy nutrients and products that claim to deliver 'healthy nutrients' and/or those that can reduce the risk of obesity and (ii) nutrients of concern and/or product which relates to health risks such as obesity.

A simplistic observation offers a parallel relation between motivations to consume more protein and less fat and the choice of foods that claim to provide health benefits or weight reduction. The findings also indicate that body image perception is an important factor for food choice. Around a third of the participants consider themselves overweight or obese and this health risk perception is also an important determinant in reading the claims and nutrient information on food labels. A study among supermarket shoppers in Delhi and Hyderabad also reported that consumers look for claims if they are concerned about certain health risks like obesity, hypertension and diabetes (Vemula et al, 2003).

To project their foods positively, manufacturers often highlight one important nutrient and their benefits. In contrast, the product can have other nutrients of concern which may contribute to increased intake of nutrients of concern like fat, sugar or salt.

Participants in the study have often attributed positive health connotations to the term 'energy'. In this study, any claim based on 'additional energy' or 'source of energy' was also considered by the participants as a positive attribute contributing to healthiness of the food. In contrast, consumption of energy-dense foods coupled with lack of physical activity can lead to overweight and obesity. All the participants have indicated carbohydrate as useful or beneficial and fat as the reason for concern.

However, the Dietary Guidelines for Indians suggest that fat is an important nutrient for both cognitive and physical growth/ development of adolescents (Nutrient requirement for Indians, 2020). This shows a clear gap between information and perception. Therefore, targeted nutrition education to communicate about functions of nutrients is necessary for label information to be effectively used for food choices. Even though carbohydrate is the main energy producing nutrient of our diet, most of the packaged foods (especially foods like biscuits, bread and cake) consist of refined flours as the main ingredient which in turn can contribute to excess energy consumption. The link of energy and obesity needs clearer understanding especially in the context that energy is considered as a positive attribute owing to its positive meaning when it is translated into local Indian languages (as Shakti, which also means power).

Similarly, consumption of breakfast cereal which specifically claims slimming effect for adults has a great influence on adolescents' food choices. It raises concerns about the adolescents' ignorance about the added sugar or free sugar in such products and their inability to process the claim information against the actual nutrient content declaration provided on the back-of-the-pack label. Most of participants have mentioned that consumption of health drinks (names not mentioned for ethical reasons) could increase their 'concentration power', make them sharper and taller. The findings indicate that the claim is creating a 'positivity bias' (Talati et al, 2016) among adolescents and leading to a dietary behavior from over-emphasis on specific nutrient functions over a balanced menu.

Food label information, especially the nutrient content declaration is mandated on the labels to help consumers make informed and healthy food choices. However, there are concerns that adolescent consumers find the information too technical to understand (Saha et al, 2013). This could be one of the reasons why they rely on claims to choose foods as claims appear to create positivity bias and seem to make understanding easy. This study shows that most adolescents (76%) read food label information, but those who use label information for their purchase decision are just about 11-22%.

The gap between reading the label information and using such information as a purchase determinant is still wide. Claims can create a passive path-way for product purchase guidance if the consumers cannot interpret the nutrition information. But claims tend to highlight a particular functionality or nutrient and not the overall nutritional value of the food. These points to the enormous scope for enhancing nutrition communication targeted at adolescents for making the food label reading a necessary skill to promote healthy food choices.

CONCLUSION

Majority of the participants reported that they purchased or consumed pre-packaged foods. Among them, about 75 percent of participants read or check the label information quite often. Reading label information is not proportional to the use of label information as a purchase determinant.

The identified gap is often masked by relying on brand name, tastiness of the product, less understanding of micronutrients' function in health management, over-emphasis of calorie and protein consumption and perceived healthiness based on health and nutrition claim. This article has explored the relation between perceived weight status and the effect of claim on food choice of adolescents. The findings highlight positivity bias on the part of adolescents and a passive influence of claims on the food choice without considering the detailed nutrition information. This points to the need for a multi-faceted awareness initiative to encourage healthy food choices backed by proper understanding of growth and development in adolescent period, role of various nutrients and use of food label and claim information as a tool for food selection. The involvement of stakeholders like teachers, parents and policymakers are needed for strategic combat against perception driven dietary behavior at an early age. Inclusion of nutrition science in school education is of utmost importance.

LIMITATIONS

This study investigated perceptions on health and nutrition claims as the determinants of food choice among a limited number of urban, school-going adolescents. Therefore, the findings may have limited generalizability. Moreover, they represent self-reported responses of the participants and the possibility of reporting ideal or desirable responses cannot be ruled out. The current study enquired about the general health and nutrition claims that might have impacted participants' food choices, but the study design did not allow for understanding of label use or claim information use in the real shopping environment. The questionnaire also enquired about the perceived body weights but no attempt was made to corroborate them with the actual anthropometric assessment.

FUTURE SCOPE

The limitations are linked with the possibilities. This study indeed offers a substantial contribution to research in the area of food claims information driven food choices, which very sparse in the Indian context. The use of nutrition and health claims in the real-life shopping environments can provide the actual point-of-purchase behavior. Studying the parents' and other peers' opinions along with the adolescents can offer more diverse and triangulated information on adolescents' food choices. Studies using eye-movement tracking technology would be a useful continuation in the future direction to assess the time spent on reading the claims and other aspects of label information vis-à-vis food choices. The effect of print and digital media advertising, which also harps on health and nutrition claims on food choice, would be an exciting addition to the literature. Reading and interpreting claims with the help of nutrient content declaration on labels can add an extra edge to the label reading skills of the adolescents. The inclusion of courses on use of label information and interpretation of the health and nutrition claims in the curriculum will go a long way in building skills and promoting healthy food choices.

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REFERENCES

Afshin, A., Sur, P. J., Fay, K. A., Cornaby, L., Ferrara, G., Salama, J. S., & Murray, C. J. (2019). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, *393*(10184), 1958-1972.

Ares, G., Arrúa, A., Antúnez, L., Vidal, L., Machín, L., Martínez, J., ... & Giménez, A.

(2016). Influence of label design on children's perception of two snack foods: Comparison of rating and choice-based conjoint analysis. *Food quality and preference*, *53*, 1-8.

Benson, T., Lavelle, F., Bucher, T., McCloat, A., Mooney, E., Egan, B., & Dean, M. (2018). The impact of nutrition and health claims on consumer perceptions and portion size selection: results from a nationally representative survey. *Nutrients*, *10*(5), 656.

Benson, T., Lavelle, F., McCloat, A., Mooney, E., Bucher, T., Egan, B., & Dean, M. (2019). Are the claims to blame? A qualitative study to understand the effects of nutrition and health claims on perceptions and consumption of food. *Nutrients*, *11*(9), 2058.

Bonsmann SS, Celemin LF, Grunert KG. Food labelling to advance better education for life. *Eur J Clin Nutr*. 2010;64 Suppl 3:14–9

Chacon, V., Letona, P., & Barnoya, J. (2013). Child-oriented marketing techniques in snack food packages in Guatemala. *BMC Public Health*, *13*(1), 1-6.

Cowburn, G., & Stockley, L. (2005). Consumer understanding and use of nutrition labelling: a systematic review. *Public health nutrition*, *8*(1), 21-28.

d'Amour, C. B., Pandey, B., Reba, M., Ahmad, S., Creutzig, F., & Seto, K. C. (2020). Urbanization, processed foods, and eating out in India. *Global Food Security*, *25*, 100361.

da Costa Louzada, M. L., Baraldi, L. G., Steele, E. M., Martins, A. P. B., Canella, D. S., Moubarac, J. C., & Monteiro, C. A. (2015). Consumption of ultra-processed foods and obesity in Brazilian adolescents and adults. *Preventive medicine*, *81*, 9-15.

Dixon, H., Scully, M., Niven, P., Kelly, B., Chapman, K., Donovan, R., ... & Wakefield, M. (2014). Effects of nutrient content claims, sports celebrity endorsements and premium offers on pre-adolescent children's food preferences: experimental research. *Pediatric obesity*, *9*(2), e47-e57.

Draft guideline for making available wholesome, nutritious, safe and hygienic food to school children in India. Food safety and standard authority of India, available at file:///C:/Users/2018/Downloads/Order_Draft_Guidelines_School_Children.pdf accessed on 07-01-2021

Duran, A. C., Ricardo, C. Z., Mais, L. A., Martins, A. P. B., & Taillie, L. S. (2019). Conflicting messages on food and beverage packages: Front-of-package nutritional labelling, health and nutrition claims in brazil. *Nutrients*, *11*(12), 2967.

Euromonitor. 2019. "Passport Global Market Information Database." Euromonitor International.

Fact sheets. Key Indicators from National family Health Survey-5. 2019-2020. Available at http://rchiips.org/NFHS/NFHS-5_FCTS/NFHS-5%20State%20Factsheet%20Compendium_Phase-I.pdf accessed on 10-02-2021.

Fernan, C., Schuldt, J. P., & Niederdeppe, J. (2018). Health halo effects from product titles and nutrient content claims in the context of "protein" bars. *Health communication*, *33*(12), 1425-1433.

FSSAI (Food safety and standard authority of India). (2018). *Food Safety and Standards (Claims and Advertisement) Regulations, 2018*. New Delhi: FSSAI. Available at file:///C:/Users/2018/Downloads/Draft_Notification_Advertisement_Claims_23_03_2018.pdf . Accessed on – 17th Dec 2020

Franco-Arellano, B., Bernstein, J. T., Norsen, S., Schermel, A., & L'Abbé, M. R. (2017). Assessing nutrition and other claims on food labels: A repeated cross-sectional analysis of the Canadian food supply. *BMC Nutrition*, *3*(1), 1-16.

Ganpule-Rao, A. V., Roy, D., Karandikar, B. A., Yajnik, C. S., & Rush, E. C. (2020). Food Access and Nutritional Status of Rural Adolescents in India: Pune Maternal Nutrition Study. *American journal of preventive medicine*, *58*(5), 728-735.

García, A. L., Morillo-Santander, G., Parrett, A., & Mutoro, A. N. (2019). Confused health and nutrition claims in food marketing to children could adversely affect food choice and increase risk of obesity. *Archives of disease in childhood*, *104*(6), 541-546.

Gavaravarapu, S. M., Rao, K. M., Nagalla, B., &Avula, L. (2015). Assessing differences in risk perceptions about obesity among "normal-weight" and "overweight" adolescents—A qualitative study. *Journal of nutrition education and behavior*, *47*(6), 488-497.

Gezmen-Karadağ, M., & Türközü, D. (2018). Consumers' opinions and use of food labels, nutrition, and health claims: results from Turkey. *Journal of food products marketing*, *24*(3), 280-296.

Global Nutrition Report. Country Nutrition Profile. 2020 Global Nutrition Profile.https://globalnutritionreport.org/resources/nutrition-profiles/asia/southern-asia/india/. Accessed on 15-01-2021.

Hall, M. G., Lazard, A. J., Grummon, A. H., Mendel, J. R., & Taillie, L. S. (2020). The impact of front-of-package claims, fruit images, and health warnings on consumers' perceptions of sugar-sweetened fruit drinks: Three randomized experiments. *Preventive medicine*, *132*, 105998.

Hedaoo, R. P., & Gavaravarapu, S. M. (2020). Understanding body image perception and body image discontentment in early adolescence. *Indian Journal of Community Health*, *32*(2).

Hieke, S., Kuljanic, N., Pravst, I., Miklavec, K., Kaur, A., Brown, K. A., ... & Rayner, M. (2016). Prevalence of nutrition and health-related claims on pre-packaged foods: A five-country study in Europe. *Nutrients*, *8*(3), 137.

Hung, Y., & Verbeke, W. (2019). Consumer evaluation, use and health relevance of health claims in the European Union. *Food quality and preference*, *74*, 88-99.

Jenkin, G., Madhvani, N., Signal, L., & Bowers, S. (2014). A systematic review of persuasive marketing techniques to promote food to children on television. *Obesity Reviews*, *15*(4), 281-293.

Kliemann, N., Kraemer, M. V., Scapin, T., Rodrigues, V. M., Fernandes, A. C., Bernardo, G. L., ... & Proença, R. P. (2018). Serving size and nutrition labelling: Implications for nutrition information and nutrition claims on packaged foods. *Nutrients*, *10*(7), 891.

Klopčič, M., Slokan, P., & Erjavec, K. (2020). Consumer preference for nutrition and health claims: A multi-methodological approach. *Food Quality and Preference*, *82*, 103863.

Madilo, F. K., Owusu-Kwarteng, J., Kunadu, A. P. H., & Tano-Debrah, K. (2020). Self-reported use and understanding of food label information among tertiary education students in Ghana. *Food Control*, *108*, 106841.

Mayhew, A. J., Lock, K., Kelishadi, R., Swaminathan, S., Marcilio, C. S., Iqbal, R., ... & Chow, C. K. (2016). Nutrition labelling, marketing techniques, nutrition claims and health claims on chip and biscuit packages from sixteen countries. *Public health nutrition*, *19*(6), 998-1007.

NFHS (National Family Health Survey) - 4. (2015-16). *NFHS-4 Fact Sheets for Key Indicators*. Mumbai: International Institute for Population Sciences (IIPS). Available at: http://rchiips.org/nfhs/pdf/NFHS4/India.pdf Accessed on 11th January, 2021

NFHS (National Family Health Survey) - 5. (2019-20). *NFHS-5 Fact Sheets for Key Indicators*. Mumbai: International Institute for Population Sciences (IIPS). Available at http://rchiips.org/NFHS/NFHS-5_FCTS/NFHS-5%20State%20Factsheet%20Compendium_Phase-I.pdf Accessed on 17th January-2021

Nishida, W., Fernandes, A. C., Veiros, M. B., Chica, D. A. G., & da Costa Proença, R. P. (2016). A comparison of sodium contents on nutrition information labels of foods with and without nutrition claims marketed in Brazil. *British Food Journal*.

Nutrient Requirement for Indians. Recommended Dietary Allowances. Estimated Average Requirements- A

Report of the Expert Group, 2020. ICMR-National Institute of Nutrition, Dept. of Health Research, Ministry of Health and Family Welfare, Govt. of India. Available at https://www.nin.res.in/RDA_Full_Report_2020.html Accessed on 11th January, 2021

Oostenbach, L. H., Slits, E., Robinson, E., & Sacks, G. (2019). Systematic review of the impact of nutrition claims related to fat, sugar and energy content on food choices and energy intake. *BMC public health*, *19*(1), 1-11

Pongutta, S., Chongwatpol, P., Tantayapirak, P., & Vandevijvere, S. (2018). Declaration of nutrition information on and nutritional quality of Thai ready-to-eat packaged food products. *Public health nutrition*, *21*(8), 1409-1417.

Popkin, B. M. (2001). The nutrition transition and obesity in the developing world. *The Journal of nutrition*, *131*(3), 871S-873S.

Popkin, B. M. (2004). The nutrition transition: an overview of world patterns of change. *Nutrition reviews*, *62*(suppl_2), S140-S143.

Popkin, B. M., Adair, L. S., & Ng, S. W. (2012). Global nutrition transition and the pandemic of obesity in developing countries. *Nutrition reviews*, *70*(1), 3-21.

Pulker, C. E., Scott, J. A., & Pollard, C. M. (2018). Ultra-processed family foods in Australia: nutrition claims, health claims and marketing techniques. *Public Health Nutrition*, *21*(1), 38-48.

Rodrigues, V. M., Rayner, M., Fernandes, A. C., De Oliveira, R. C., Proença, R. P. C., & Fiates, G. M. R. (2017). Nutritional quality of packaged foods targeted at children in Brazil: which ones should be eligible to bear nutrient claims? *International Journal of Obesity*, *41*(1), 71-75.

Saha S, Sudershan RV, Rao MVV, Gavaravarapu SRM. Development of a questionnaire to assess knowledge and practices related to the use of food label information and its determinants among urban adolescents. Proceedings of the 46th annual national conference of the Nutrition Society of India (NSI), Dayanand Medical College, Ludhiana, India, November 6–8, 2014:132.

Saha, S., Vemula, S. R., Mendu, V. V. R., & Gavaravarapu, S. M. (2013). Knowledge and practices of using food label information among adolescents attending schools in Kolkata, India. *Journal of nutrition education and behavior*, 45(6), 773-779.

Seifert, S. M., Schaechter, J. L., Hershorin, E. R., &Lipshultz, S. E. (2011). Health effects of energy drinks on children, adolescents, and young adults. *Pediatrics*, *127*(3), 511-528.

Siddiqui, M. Z., Donato, R., & Jumrani, J. (2019). Looking past the Indian calorie debate: What is happening to nutrition transition in India. *The Journal of Development Studies,* 55(11), 2440-2459.

Soldavini, J., Crawford, P., & Ritchie, L. D. (2012). Nutrition claims influence health perceptions and taste preferences in fourth-and fifth-grade children. *Journal of nutrition education and behavior*, *44*(6), 624-627.

Steinhauser, J., Janssen, M., & Hamm, U. (2019). Who buys products with nutrition and health claims? A purchase simulation with eye tracking on the influence of consumers' nutrition knowledge and health motivation. *Nutrients*, *11*(9), 2199.

Talagala, I.A., Arambepola, C. Use of food labels by adolescents to make healthier choices on snacks: a cross-sectional study from Sri Lanka. *BMC Public Health* **16,** 739 (2016). https://doi.org/10.1186/s12889-016-3422-1

Talati, Z., Pettigrew, S., Dixon, H., Neal, B., Ball, K., & Hughes, C. (2016). Do health claims and front-of-pack labels lead to a positivity bias in unhealthy foods?. *Nutrients*, *8*(12), 787.

Ueda, P., Tong, L., Viedma, C., Chandy, S. J., Marrone, G., Simon, A., &Lundborg, C. S. (2012). Food marketing towards children: brand logo recognition, food-related behavior and BMI among 3–13-year-olds in a south Indian town. *PLoS One*, *7*(10), e47000.

Vemula, S. R., Gavaravarapu, S. M., Mendu, V. V. R., Mathur, P., &Avula, L. (2014). Use of food label information by urban consumers in India–a study among supermarket shoppers. *Public health nutrition*, *17*(9), 2104-2114.

Williams, P. (2005). Consumer understanding and use of health claims for foods. *Nutrition reviews*, *63*(7), 256-264.

Wills, J. M., genannt Bonsmann, S. S., Kolka, M., & Grunert, K. G. (2012). European consumers and health claims: attitudes, understanding and purchasing behaviour. *Proceedings of the Nutrition Society*, *71*(2), 229-236.

WHO (World Health Organization). (2013). Global action plan for the prevention and control of non-communicable diseases 2013-2020. Geneva: WHO. Available at: https://apps.who.int/iris/bitstream/handle/10665/94384/9789241506236_eng.pdf;jsessionid=CD645D8ABD3C95754E83F2ABA457F4DB?sequence=1 . Accessed on 26th May 2021

World Health Organization. Obesity and Overweight. Key facts published on 1st April, 2020. Available at https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight. Accessed on 28th December, 2020.

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ROLE OF SOCIAL MEDIA ON DIGITAL DISTRACTION: A STUDY ON UNIVERSITY STUDENTS

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ABSTRACT

In the social and economic growth of a developing country like India, education plays an important role. Technology plays an essential role in this education during the teaching-learning process. The classrooms are becoming smart rooms. To boost learning, instructors and students both use technology. Students are always using their gadgets. This use many a times may make the students addicted and distracted. Through an empirical analysis, this paper attempts to recognize and understand the factors that lead to digital distraction among university students in the classroom. To explain this distraction, the research model suggested by Chen, et al., (2014) which consisted of three constructs that influence digital distraction, namely individual factors, contextual factors, and Young's IAT (Internet Addiction Test) has been used. Social media is one of the reasons of this Internet addiction. This paper attempts to cross-sectionally study in-class "digital distraction" of university students using a structured equation model. The full-fledged model suggested that all three factors viz- individual factors, contextual factors and Young's Internet Addiction Test (including social media) lead to statistically significant digital distractions.

Keywords: Contextual Factors, Digital Distraction, Individual Factors, Internet Addiction, Social media, University Students

INTRODUCTION

Education is an important constituent in the socio-economic development of a country, and the systems of education should be both efficient and effective so that they can achieve the goals set in the available resources (Cornali, 2012). Technology plays a vital role in classroom learning (Campbell, 2006; D'Angelo & Woosley, 2007). It is like building block and 21st-century teaching-learning pillar. This technological intervention can be digital resources, games, simulations (Baer & McCormick (2012). The classrooms have become smart classrooms whereby smart boards, laptops, smartphone are a part of teaching. Searching the Internet is a common feature of today's learning process. The mobile phones usage in the teaching-learning process has myriad of benefits, including inquiry-based learning and use of learning pedagogies TPACK (Technological Pedagogical Content Knowledge) which increase student engagement. (Kukulska-Hulme & Viberg, 2018; Traxler, 2018). Incorporating mobiles into the learning process can create an environment which is engaging for the students. (Gupta et al 2019; Khaddage, Müller & Flintoff, 2016). These devices provide a more flexible structure with a shift from authority-based structure towards the concept of community-based learners. (Hamm, et al., 2013). They help and facilitate learning. (Jeng, 2010). This technological intervention helps in cost-cutting and have brought about a revolution in the education sector (Zucker & Light, 2009).

"Digital native" has led to the infusion of laptops into the classrooms (Prensky, 2009) whereby the millennial generation is looking for a real-time mix of technology and education (Kay & Lauricella, 2011). As the technology and IT related advancement happened in India(Gupta and Kumar, 2017) Students feel that digital devices help their education and are an essential part of their social life (Campbell, 2006). Out of the number of people who own a phone, almost 30.5 % never switch off their mobiles, and 45 % rarely switch it off. This habit, which may be problematic many times, has penetrated the social gathering and the classrooms of the university. (Rainie & Zickuhr, 2015). Faculty members and university administration feel that these devices lead to disruption and distraction during lectures. (Tindell & Bohlander, 2012).

The university students who were addicted and obsessed with digital devices (Campbell, 2006) are now into "cyberslacking" where this "next generation" use these devices for non-class related activities during the lectures (Flanigan & Kiewra, 2018). The penetration and easy availability of information and communication technologies like Twitter and Facebook have increased online time (Waterloo et al., 2018).

The students try multiple things simultaneously, like chatting, playing games, sending e-mails and trying to absorb complex material being taught, but they fail in this (Hembrooke & Gay, 2003). These students try to use technology for the benefit, but they lose their focus because they try to do many things simultaneously. (Mcmahon & Pospisil, 2005). This multitasking leads to what we call as student distraction. (Fried, 2008). These students can distract the other students as well as the instructor. (Desjardins & Alvi, 2011). During multitasking the attention is decreased, and the performance is decreased (Sana et al., 2013). The students resort to multitasking in the classroom, which affects their attention and finally their grades in the examinations. This multitasking continuous outside the classrooms also. (Bellur et al., 2015). Students who use their devices and send messages while a PowerPoint presentation score comparatively less in their quizzes to the students who are not texting. (Froese et al., 2012) By using mobile phones during classrooms, students lose focus and are not able to take notes. (Kuznekoff and Titsworth, 2019). Multitasking affects its information processing capacity. All this finally affects their academic performance (Junco & Cotten, 2012; Van dur Schuur et al., 2015). Students who multitask generally attain lower GPAs (Al-Menayes, 2015; Lau, 2017). The multitasking is performed unconsciously and leads to severe disruptive behaviour (Lindström, 2020). Students in pursuit of multitasking, continuous checking of messages display anxiety and fear missing out. All this leads to impaired learning and low performance. (Lee et al., 2015).

This paper attempts to understand the factors that lead to "digital distraction" among students. This study compares university management and engineering students, males and female students and undergraduates and graduates. Research model given by Chen et al., (2014) was used to understand this "digital distraction". According to it and the literature review that followed three constructs, i.e., individual factors, contextual factors, and internet addiction affect "digital distraction". An empirical study was conducted to understand the cause of this distraction and the measures that can be taken to manage it.

Literature review

With the penetration of technology, there has been a revolution in the education system. (Tyner, 2014). It makes the class interactive, engaging, and creates an environment of learning. (Pitler et al., 2012). It has been found that students use social media like WhatsApp, twitter & Facebook, play games and send text messages while the class is still in progress. (Akst, 2010). Cell phone use has increased in students, and this penetration is sometimes more than 100 %. (Lawton, 2010; Salisbury et al., 2015). The students themselves agree that they quite often use the social media up to 32 times in a day. This use, they believe does not help but actually leads to distraction. (Emerick et al.,2019). The distraction is affected by the following factors:

Individual factors

Individual factors like gender and age have long term consequences on behaviours related to the usage of IT (information technology)-. Females use digital devices for interpersonal and social relations, while males generally use them to get information and online videos (Bellur et al., 2015). McCoy (2016) found that females generally use digital devices for social networking, whereas males use them to surf the web and play games. Students' mobile usage patterns are influenced by their taste, ability to network, mobile usage patterns, mobility, and social influence. (Martiz, 2015). The students who are addicted to the Internet are the ones who are generally depressed and feel lonely. They may go through various states of stress, pain, and arousal. (Leung, 2006)

Maladaptive cognition and physical element off time loss were essential factors affecting academic performance due to internet addiction (Huang et al., 2010) Students who are continuously busy on the Internet are awake late-night surfing net, leading to lack of sleep of concentration in the class the following day. It affects their marks finally(reference)

Internet addiction

The Internet is the most commonly used medium these days for exchange of information, research in academics, e-commerce, and communication. (Byun et al., 2009). Its use may sometimes lead to a level of use with unpleasant consequences on people's professional and social lives and affect their psychological well-being (Young 2009). This level is a pathological internet use referred to as Internet Addiction (Byun et al., 2009). Young (1998) used it explaining the compulsiveness associated with this disorder. Internet addiction can be explained as "an obsessive pattern of Information technology (IT)-seeking and IT –use behaviour that takes place at the expense of other activities" (Turel et al., 2011). "The abuse or overuse of the Internet is a behavioural manifestation that may lead to many life problems." (Thatcher et al., 2008). The symptoms include withdrawal, mood modification and conflict (Turel et al., 2011).

The Internet has often been blamed for people spending less time with their family; it affects relationships, affects productivity in the office, and may develop psychological problems (Beard, 2002).

A person may overuse the Internet as a behavioural outflow of something problematic in his life (Thatcher et al., 2008). There may be several things which may include or exclude internet addiction. "An individual is addicted when an individual's psychological state, which includes both mental and emotional states, as well as their scholastic, occupational and social interactions, is impaired by overuse of the medium" (Beard, 2002).

University students are addicted to the Internet. They have free wi-fi access; it is a part of the latest teaching pedagogy. Instructors themselves motivate students to use the Internet for gathering the information faster. If the students find difficulty in adjusting with the university culture, they find solace on the Internet. They justify internet users to search for information but are busy with activities that are not related to their studies (Heimonen, 2009).

Newport (2015) in a Gallup survey found that the students in the United States in the age of late teens to mid-twenties check their mobiles very often sometimes every few minutes and most of the times like an addict they do not accept that they are using these mobiles excessively (Richter, 2015).

Contextual factors

With a more passive learning experience, students tend towards being more actively distracted. With so much information available if the lecture is only information sharing, the students' loose interest and are distracted. In numerical subjects, if the instructor cannot come to the level of weak students, they lose interest. Similarly, if the instructor is teaching basics to senior students, they lose interest. In both cases, distraction creeps in. The instructor needs to be entertaining and engaging to get the attention of students. Ugar and Koc (2015) observed that students use digital devices to reduce boredom in a boring class. Students are found saying that, "When we do not need to look at what they are saying because it is all in the book and their reading of the PowerPoints, we think we do not need to pay attention" (Flanigan & Babchuk, 2015). The distraction depends upon the instructor's efforts in making the class engaging and teaching effectively so that this distraction is minimized. The age-old traditional methods do not work many times and lead to distraction. Based on these discussions, this study assumes the instructor's teaching style, the overall class management, the behaviour of other students in the class affects the intensity of class digital distraction and thus leads to social media addiction.

Research Methodology

A questionnaire was designed which consisted of three sections to identify the factors influencing students' in-class digital distraction. First section of the questionnaire was based on the Young's (1998) "Internet Addiction Test" (IAT) to assess Internet addiction. The second part of the questionnaire consisted of contextual factors to determine the possible reasons for using technology in non-class related issues which includes various social media platforms. The third part consisted of Individual factors that asked respondents to provide demographic information. The study was conducted in private universities of Greater Noida, the National Capital Region of New Delhi. The questionnaire was sent to 400 students. After segregating the incomplete questionnaire, a total of 320 responses were used for data analysis.

Structural Equation Model was developed to understand the difference in distraction between engineering and management students, UG and PG students and male and female students in universities.

Reliability Testing

Cronbach alpha reliability test has been obtained to show that the research instrument has strong reliability (Dhiman et al, 2016).

Hypothesis 1: Internet addiction positively affects the university student's classroom "digital distraction".

Hypothesis 2: The contextual factors positively affect university students in class digital distraction.

Hypothesis 3: The individual factors positively affect university students' in-class digital distraction.

4.Results

4.1 *Results for Engineering Students*

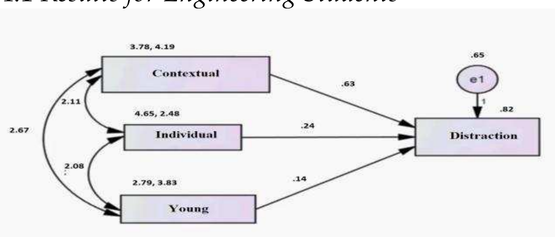

Figure 1: Unstandardized Estimates

Means: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	3.779	.312	13.872	***	
Individual	4.653	.387	14.218	***	
Young	2.785	.412	13.619	.***	

Intercepts: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction	.824	.301	2.142	.002	

"Covariances": (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Individual<-->Young	2.077	.583	3.251	***	
Contextual<-->Individual	2.114	.675	3.462	***	
Contextual<-->Young	2.673	.638	3.917	***	

"Correlations": (Group number 1 - Default model)

			Estimate
Individual	<-->	Young	.773
Contextual	<-->	Individual	.781
Contextual	<-->	Young	.725

Variances: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	1.225	.475	3.208	***	
Individual	1.453	.498	3.208	***	
Young	1.501	.314	3.208	***	
e1	1.907	.430	3.208	***	

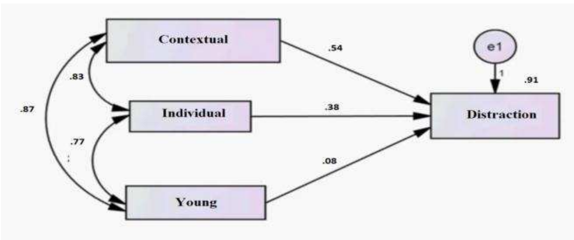

Figure 2: Standardized estimates

Contextual factors have an impact of 0.54 on distraction, and Individual factors impact .38 on distraction. These values are also statistically significant. These three factors explain 91 per cent of the variation in student distraction.

"Regression" Weights: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction<--Contextual	.458	.085	1.872	***	
Distraction<--Individual	.324	.088	1.347	***	
Distraction<---Young	.172	.092	2.835	.***	

Standardized “Regression” Weights: (Group number 1 - Default model)

			Estimate
Distraction	<---	Contextual	.537
Distraction	<---	Individual	.376
Distraction	<---	Young	.084

The full-fledged model suggested that all three factors viz- individual factors, contextual factors and Young’s IAT have statistically significant “digital distraction” effects, thus, suggesting that H1, H2 and H3 were fully supported. However, contextual factors are the best predictor causing distraction in students.

Results for Management Students

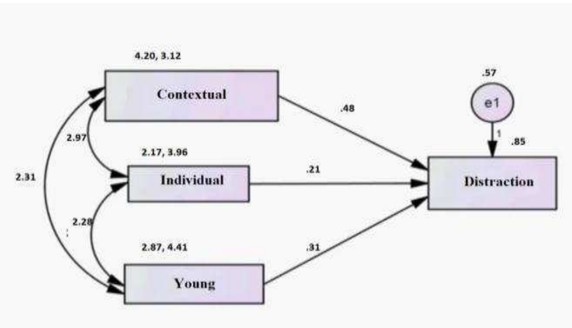

Figure 3: Unstandardized Estimates

Means: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	4.203	.415	12.671	***	
Individual	2.168	.289	11.512	***	
Young	2.873	.376	12.639	.***	

Intercepts: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction	.852	.241	2.724	.007	

“Covariances”: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Individual<-->Young	2.281	.743	2.433	***	
Contextual<-->Individual	2.968	.502	2.366	***	
Contextual<-->Young	2.309	.583	2.221	***	

“Correlations”: (Group number 1 - Default model)

			Estimate
Individual	<-->	Young	.835
Contextual	<-->	Individual	.739
Contextual	<-->	Young	.885

Variances: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	1.576	.536	2.743	***	
Individual	1.592	.440	2.743	***	
Young	1.682	.644	2.743	***	
e1	1.562	.463	2.743	***	

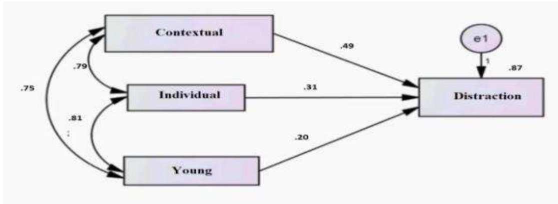

Figure 4: Standardized estimates

Contextual factors have an impact of 0.49 on distraction, and Individual factors have an impact of .31 on distraction. These values are also statistically significant. These three factors explain 87 per cent of the variation in student distraction.

“Regression” Weights: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction<---Contextual	.496	.037	2.856	***	
Distraction<---Individual	.636	.059	2.561	***	
Distraction<---Young	.524	.020	1.523	.***	

Standardized “Regression” Weights: (Group number 1 - Default model)

			Estimate
Distraction	<---	Contextual	.493
Distraction	<---	Individual	.308
Distraction	<---	Young	.204

The full-fledged model suggested that all three factors viz- individual factors, contextual factors and Young’s IAT have statistically significant “digital distraction” effects, thus, suggesting that H1, H2 and H3 were fully supported. However, contextual factors are the best predictor causing distraction in students.

4.3 *Results for UG Students*

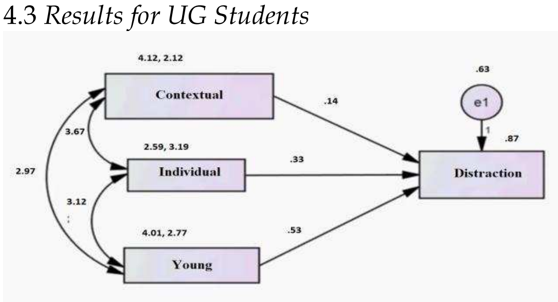

Figure 5: Unstandardized Estimates

Means: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	4.124	.243	13.113	***	
Individual	2.588	.352	14.462	***	
Young	4.013	.425	11.425	.***	

Intercepts: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction	.869	.157	2.352	.002	

"Covariances": (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Individual<-->Young	3.121	.842	2.275	***	
Contextual<->Individual	3.671	.451	2.414	***	
Contextual<-->Young	2.966	.572	2.661	***	

"Correlations": (Group number 1 - Default model)

			Estimate
Individual	<-->	Young	.724
Contextual	<-->	Individual	.749
Contextual	<-->	Young	.735

Variances: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	1.274	.587	2.492	***	
Individual	1.507	.375	2.492	***	
Young	1.285	.472	2.492	***	
e1	1.471	.692	2.492	***	

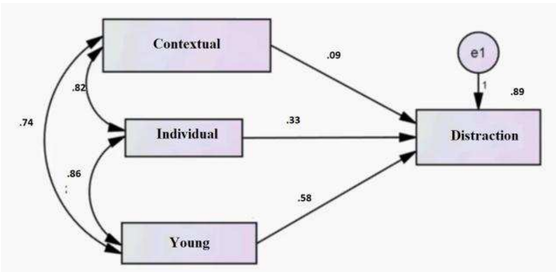

Figure 6: Standardized estimates

Young's IAT factors have an impact of 0.58 on distraction, and Individual factors impact .33 on distraction. These values are also statistically significant. These three factors explain 89 per cent of the variation in student distraction.

"Regression" Weights: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction<-Contextual	.593	.048	1.378	***	
Distraction<-Individual	.415	.052	1.481	***	
Distraction<-Young	.721	.054	2.592	.***	

Standardized "Regression" Weights: (Group number 1 - Default model)

			Estimate
Distraction	<---	Contextual	.087
Distraction	<---	Individual	.339
Distraction	<---	Young	.581

The full-fledged model suggested that all three factors viz- individual factors, contextual factors and Young's IAT have statistically significant "digital distraction" effects, thus, suggesting that H1, H2 and H3 were fully supported. However, contextual factors are the best predictor causing distraction in students.

Results for PG Students

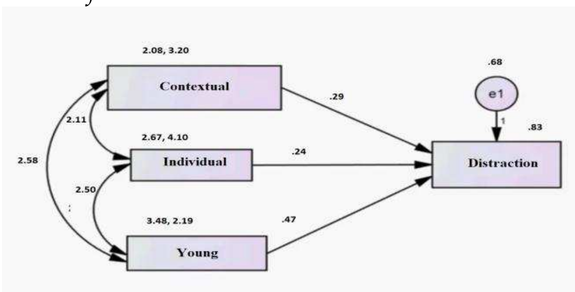

Figure 7: Unstandardized Estimates

Means: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	2.083	.472	13.363	***	
Individual	2.665	.681	13.462	***	
Young	3.484	.632	11.461	.***	

Intercepts: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction	.833	.246	3.173	.001	

"Covariances": (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Individual<-->Young	2.504	.371	2.592	***	
Contextual<-->Individual	2.109	.472	2.461	***	
Contextual<-->Young	2.581	.184	2.265	***	

"Correlations": (Group number 1 - Default model)

			Estimate
Individual	<-->	Young	.825
Contextual	<-->	Individual	.786
Contextual	<-->	Young	.749

Variances: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Contextual	1.483	.353	2.592	***	
Individual	1.364	.472	2.592	***	
Young	1.472	.465	2.592	***	
e1	1.387	.572	2.592	***	

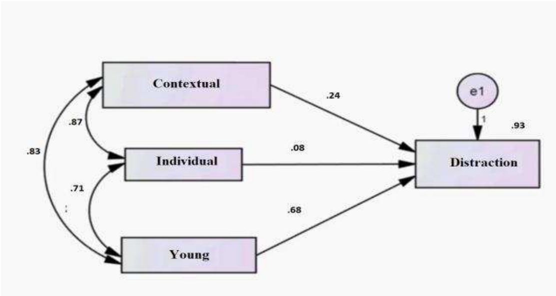

Figure 8: Standardized estimates

Young's IAT factors have an impact of 0.68 on distraction, and contextual factors impact .24 on distraction. These values are also statistically significant. These three factors explain 93 per cent of the variation in student distraction.

"Regression" Weights: (Group number 1 - Default model)

	Estimate	SE.	CR.	P	Label
Distraction<---Contextual	.483	.039	1.244	***	
Distraction<---Individual	.584	.046	1.274	***	
Distraction<---Young	.371	.037	3.361	.***	

Standardized "Regression" Weights: (Group number 1 - Default model)

			Estimate
Distraction	<---	Contextual	.244
Distraction	<---	Individual	.079
Distraction	<---	Young	.682

The full-fledged model suggested that all three factors viz- individual factors, contextual factors and Young's IAT have statistically significant "digital distraction" effects, thus, suggesting that H1, H2 and H3 were fully supported. However, contextual factors are the best predictor causing distraction in students.

DISCUSSIONS

Individual

Individual factors are significant enough in explaining "digital distraction" amongst engineering students and the case of management students. Time spent online is found to be leading to "digital distraction" in both engineering and management students, whereas, an increase in the CGPA score is found to be inversely related to "digital distraction".

When comparing undergraduate programs to postgraduate programs, individual factors are significant enough in explaining "digital distraction" amongst UG students; however, they are not significant in the PG students' case. Time spent online is found to be leading to "digital distraction" in both UG and PG students, whereas, an increase in the CGPA score is found to be inversely related to "digital distraction".

Young's IAT

Young's Internet addiction factors are not significant enough in explaining "digital distraction" amongst engineering and management students. IAT factors in Engineering students explain only 8% of the "digital distraction" score variation and 20% in management students. In the case of UG and PG students, Young's Internet addiction factors are the major contributing factors in explaining "digital distraction". IAT factors in UG students explain 58% of the "digital distraction" score variation and 68% in management students. However, in UG students, the significant distraction sources are Emotional/Psychological conflict and mood modification, whereas, in PG students, time management issues are the major contributing factors for "digital distraction".

Contextual

Contextual factors are found to significant enough in explaining "digital distraction" amongst both engineering and management students. Contextual factors in engineering students explain 49% of the "digital distraction" score variation and 54% in management students. In the case of engineering students, instructor/subject characteristics are the primary sources of "digital distraction", whereas, in the case of management students, classroom management issues lead to "digital distraction". When comparing undergraduate programs to postgraduate programs, contextual factors are significant enough in explaining "digital distraction" amongst PG students; however; they are not very significant in UG students' case. Contextual factors in UG students explain only 9% of the variation in "digital distraction" score. In the case of PG students, both "classroom management issues" and "Instructor/Subject characteristics" are the primary sources of "digital distraction" whereas, in the case of UG students, only "instructor/subject characteristics" lead to "digital distraction".

CONCLUSION

The study hypothesized that among university students, digital distraction and consequent use of social media is rampant. The essential variables that result in this distraction are individual, digital and contextual. A cross-sectional analysis was conducted among university students comparing management and engineering graduates, undergraduates and postgraduates, and males and females. Although the causes and severity of the variables that contributed to the distraction differed, all the groups were distracted. Compared to management graduates, engineering students are themselves more accountable for their distraction. Both of these groups spend a large portion of their time online using social media and their distraction, i.e. their academic success, impacts their CGPA. Since both are professional courses, students are supposed to be serious about their results, but in their classes, they are distracted, and they are the reasons for it. As compared to postgraduates, undergraduates are more distracted. The explanation may be that postgraduates are more serious about their future and are more seasoned and recognize less time left to waste. However, overall, students spend almost the same amount of time online using social media at any age. Males and females are both distracted, but men are more distracted as compared to females. They may be more techno savvy, so they waste time are more distracted.

Internet addiction is widespread in all cross-section of students. Engineering, management, undergraduates, postgraduates, males and females are all internet addicts. The factor affecting engineering students is that they cannot handle time because of this addiction, while management students experience mood swing and psychological conflicts. Similarly, due to internet addiction, male students cannot manage time and females face mood swings.

Although contextual factors such as classroom management and instructor problems are sufficiently crucial in causing "digital distraction" in undergraduate students, in other situations, these factors contribute to "digital distraction" but with different intensities. In PG students and engineering students, the fundamental causes of "digital distraction" are "instructor/subject characteristics", whereas, in the case of management students, only classroom management problems contribute to "digital distraction".

We see, then, that frequent use of social media among university students is becoming a common source of distraction. Their general well-being and academic success are affected by this distraction. There should be a "zero-tolerance" for using mobile devices in a classroom setting (Flanigan & Kiewra, 2018). However, it might not be possible to cut off digital devices in this techno-savvy world completely. In order to minimize "digital distraction", we need to use technology efficiently and provide a multi-faceted approach. It is essential to consider a "holistic approach". Internet addiction needs to be minimized and regulated, not suppressed. Internet addiction can lead to a broad range of positive behavioural and cognitive improvements and a decline in "digital distraction" (Kittinger et al., 2012). Students need to be inculcated and taught the advantages of the Internet to become a tool for construction and not destruction, presentation, brainstorming, debate, team building activities in which a connection can be made with the real world (Frene, 2009). One solution could be to make the content accessible online via learning management systems or MOOC courses. The burden is more on the instructors to make the class worthy of being drawn and interested in the lessons. The response is between the joint where attention economics and generally established concepts of successful teaching-learning currently practised (Schuck et al., 2013). Instructors have to see that these innovations foster awareness as new technologies are introduced into the classrooms and should not be just a source of information. Intellectual interaction needs to be taken care of (American Psychological

Association, 2009). It can lead to some thinking that is logical and critical. Policymakers must understand the "linkage" between sustainable development and mobile use in education and government. (Lwoga & Sangeda, 2019). Instructors need to be mindful of not teaching straight out of the book or from slides that students later have access to, which may decrease the need for them to remain active during class. Use applied, immersive and stimulating experiences to involve students in active learning to engage in learning activities rather than addicted by their gadgets (Flanigan & Babchuk, 2015). A consistent policy on mobile phone usage will minimize its use while the class is in progress (Chen & Yan, 2016).

This study has many consequences for both educators and researchers. This research indicates that university students are a lot of technologically distracted people. Factors that contribute to distraction are present. It is a phenomenon which is universal. We have to deal with it, and a solution needs to be sought. We need to grasp the root of the problem. The alternative is not the total ban or only avoiding it. The need for the hour is to efficiently and effectively handle it.

REFERENCES

Al-Menayes, J. J. (2015). Social media use, engagement, and addiction as predictors of academic performance. International Journal of Psychological Studies, 7, 86–94.

American Psychological Association. (2009). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.

Baer, L., and McCormick, J. (2012), "Building the capacity for change through innovation", in Hoffman, A.and Spangehl, S. (Eds), Innovation in Higher Education: Igniting the Spark for Success, American Council on Education, Rowman & Litttlefield Publishers Inc., Lanham, MD, pp. 165-181.

Banwar, D. M. (2016). *Internet Addiction on Students; A Case Study of EMU School of Computing and Technology* (Master's thesis, Eastern Mediterranean University EMU).

Beard, K. W. (2002). Internet addiction: Current status and implications for employees. *Journal of Employment Counseling*, *39*(1), 2-11.

Bellur, S., Nowak, K. L., & Hull, K. S. (2015). Make it our time: In class multitaskers have lower academic performance. *Computers in Human Behavior*, *53*, 63-70.

Byun, S., Ruffini, C., Mills, J. E., Douglas, A. C., Niang, M., Stepchenkova, S., ... & Blanton, M. (2009). Internet addiction: Metasynthesis of 1996–2006 quantitative research. *CyberPsychology & Behavior*, *12*(2), 203-207.

Campbell, S. W. (2006). Perceptions of mobile phones in college classrooms: Ringing, cheating, and classroom policies. Communication Education 55(3), 280-294.

Chen, L., Nath, R., & Insley, R. (2014). Determinants of digital distraction: a cross-cultural investigation of users in Africa, China and the US. *Journal of International Technology and Information Management*, *23*(3), 8.

Chen, Q., & Yan, Z. (2016). Does multitasking with mobile phones affect learning? A review. Computers in Human Behavior, 54, 34–42.

Cornali, F. (2012). "Effectiveness and efficiency of educational measures", Evaluation Practices,

Coyne, S. M., Padilla-Walker, L. M., & Howard, E. (2013). Emerging in a digital world: A decade review of media use, effects, and gratifications in emerging adulthood. *Emerging Adulthood*, *1*(2), 125-137.

D'Angelo, J. M , & Woosley, S. A. (2007). Technology in the classroom: Friend or foe. Education, 127(4), 462-471.

Dhiman, R. Kumar. R., Gupta, S., & Kumar. M.(2016). Recent trends in the bilateral trade engagement of India and Canada. *International Journal of Applied Business and Economic Research*, *14*(3), 1645-1670.

Desjardins, F., & Alvi, S. (2011). Proceed with caution: technology fetishism and the millennial generation. Interactive Technology and Smart Education.

Duggan, M., & Brenner, J. (2013). The demographics of social media users.

Washington, DC: Pew Research Center's Internet & American Life Project.

Emerick, E., Caldarella, P., & Black, S. J. (2019). Benefits and distractions of social media as tools for undergraduate student learning. *College Student Journal*, *53*(3), 265-276.

Flanigan, A. E., & Babchuk, W. A. (2015). Social media as academic quicksand: A phenomenological study of student experiences in and out of the classroom. Learning and Individual Differences, 44(2015), 40-45.

Flanigan, A. E., & Kiewra, K. A. (2018). What college instructors can do about student cyber-slacking. *Educational Psychology Review*, *30*(2), 585-597.

Frene, L. (2009). Responsabilidad de los "buscadores" de Internet. *La Ley*.

Fried, C. B. (2008). In-class laptop use and its effects on student learning. *Computers & Education*, *50*(3), 906-914.

Froese, A. D., & Carpenter, C. N., & Inman, D. A., Schooley, J. R., Barnes, R. B., Brecht, P. W., & Chacon, J. D. (2012). Effects of classroom cell phone use on expected and actual learning. College

Gupta, S., Mittal, R., & Mittal, A. (2019, March). Modelling the Intentions to Adopt UPIs: A PLS-SEM Approach. In *2019 6th International Conference on Computing for Sustainable Global Development (INDIACom)* (pp. 246-250). IEEE.

Gupta, S. and Kumar, R. (2017) 'Effectiveness of digital marketing a descriptive analysis',International Journal of Applied Business and Economic Research, Vol. 15, No. 2, pp.1–8.

Heimonen, T. (2009, September). Information needs and practices of active mobile internet users. In *Proceedings of the 6th International Conference on Mobile Technology, Application & Systems* (pp. 1-8).

Hembrooke, H., and Gay, G. (2003), "The laptop and the lecture: the effects of multitasking in learning environments", Journal of Computing in Higher Education, Vol. 15 No. 1, pp. 46-64.

Junco, R., & Cotten, S. R. (2012). No A 4 U: The relationship between multitasking and academic performance. Computers & Education, 59(2), 505-514

Kay, R.H. and Lauricella, S. (2011), "Exploring the benefits and challenges of using laptop computers in higher education classrooms: a formative analysis", Canadian Journal of Learning and Technology/La revue Canadienne de l'apprentissage et de la Technologie, Vol. 37 No. 1, pp. 1-18.

Khaddage, F., Müller, W., & Flintoff, K. (2016). Advancing mobile learning in formal and informal settings via mobile app technology: Where to from here, and how?. *Journal of Educational Technology & Society*, *19*(3).

Kuznekoff, J. H., Munz, S. M., & Titsworth, S. (2019). *Mobile Devices and Technology in Higher Education: Considerations for Students, Teachers, and Administrators*. Routledge.

Kittinger, R., Correia, C. J., & Irons, J. G. (2012). Relationship between Facebook use and problematic Internet use among college students. *Cyberpsychology, Behavior, and Social Networking*, *15*(6), 324-327.

Kukulska-Hulme, A. and Viberg, O. (2018), "Mobile collaborative language learning: state of the art", British Journal of Educational Technology, Vol. 49 No. 2, pp. 207-218.

Lau, Wilfred W.F. (2017) Effects of social media usage and social media multitasking on the academic performance of university students. Computers in Human Behavior 68:286–291.

Lawton, O. (2010), Monitoring Caribbean Information Societies, Economic Commission for Latin America and The Caribbean – Project Document Collection, Santiago

Lee, S., Kim, M.W., McDonough, I.M., Mendoza, J.S. and Kim, M.S. (2017), "The effects of cell phone use and emotion-regulation style on college students' learning", Applied Cognitive Psychology, Vol. 31 No. 3, pp. 360-366.

Leung, L. (2006). Stressful life events, motives for Internet use, and social support among digital kids. *CyberPsychology & Behavior*, *10*(2), 204-214.

Lindström, J. (2020). Understanding digital distraction: a longitudinal study on disruptive everyday media multitasking among diginatives.

Lwoga, E.T. and Sangeda, R.Z. (2019), "ICTs and development in developing countries: a systematic review of reviews", The Electronic Journal of Information Systems in Developing Countries, Vol. 85 No. 1, p. e12060.

Martiz, G. (2015). Qualitative case study on cell phone appropriation for language learning purposes in a Dominican context.

Mcmahon, M. and Pospisil, R. (2005), "Laptops for a digital lifestyle: the role of ubiquitous mobile technology in supporting the needs of millennial students", Proceedings of ASCILITE, Brisbane, Australia.

McCoy, B. R. (2016). Digital distractions in the classroom phase II: Student classroom use of digital devices for non-class related purposes.

Mendoza, J.S., Pody, B.C., Lee, S., Kim, M. and McDonough, I.M. (2018), "The effect of cellphones on attention and learning: the influences of time, distraction, and nomophobia", Computers in Human Behavior, Vol. 86, pp. 52-60.

Newport, F. (2015) Most U.S. Smartphone Owners Check Phone at Least Hourly. Retrieved from http://www.gallup.com/poll/184046/smartphone-owners-check-phone-least-hourly.aspx on August 09, 2016.

Pitler, H., Hubbell, E. R., & Kuhn, M. (2012). Using technology with classroom instruction that works. Ascd.

Prensky, M. (2009). H. sapiens digital: From digital immigrants and digital natives to digital wisdom. Innovate: journal of online education, 5(3).

Rainie, L. & Zickuhr, K. (2015). Americans' views on mobile etiquette. Pew Research Centre: Internet, Science & Tech Report. Retrieved on 10 March 2017 from http://www.pewinternet.org/2015/08/26/americans-views-on-mobile-etiquette/

Richter, F. (2015, July 23). Infographic: America's Growing Smartphone Addiction. Statistica. Retrieved from http://www.statista.com/chart/3666/frequency-ofsmartphone-usage/

Salisbury, L., Laincz, J. and Smith, J.J. (2015), "Undergraduate ownership of small mobile devices: engagement and use in an academic environment", Science & Technology Libraries, Vol. 34 No. 1, pp. 91-107

Sana, F., Weston, T., & Cepeda, N. J. (2013). Laptop multitasking hinders classroom learning for both users and nearby peers. Computers & Education, 62, 24-31.Student Journal, 46(2), 323-332.

Schuck, S., Aubusson, P., Kearney, M., & Burden, K. (2013). Mobilising teacher education: A study of a professional learning community. *Teacher Development*, *17*(1), 1-18.

Thatcher, A., Wretschko, G., & Fridjhon, P. (2008). Online flow experiences, problematic Internet use and Internet procrastination. *Computers in Human Behavior*, *24*(5), 2236-2254.

Tindell, D.R. and Bohlander, R.W. (2012), "The use and abuse of cell phones and text messaging in the classroom: a survey of college students", College Teaching, Vol. 60 No. 1, pp. 1-9.

Traxler, J. (2018), "Learning with mobiles in the digital age", Pedagogika, Vol. 68 No. 3, pp. 293-310

Turel, O., Serenko, A., & Giles, P. (2011). Integrating technology addiction and use: An empirical investigation of online auction users. *MIS Quarterly*, 1043-1061.

Tyner, K. (2014). Literacy in a digital world: Teaching and learning in the age of information. Routledge.

Ugar, N. G., & Koc, T. (2015). Time for digital detox: Misuse of mobile technology and phubbing. Procedia - Social and Behavioural Sciences, 195(2015), 1022-1031.

Van dur Schuur, W. A., Baumgartner, S. E., Sumter, S. R., & Valkenburg, P. M. (2015).

The consequences of media multitasking for youth: A review. Computers in Human Behavior, 53, 204–215.

Waterloo, S. F., Baumgartner, S. E., Peter, J., & Valkenburg, P. M. (2018). Norms of online expressions of emotion: Comparing Facebook, Twitter, Instagram, and WhatsApp. *new media & society*, *20*(5), 1813-1831.

Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology & behavior*, *1*(3), 237-244.

Young, K. (2009). Internet addiction: diagnosis and treatment considerations. *Journal of Contemporary Psychotherapy*, *39*(4), 241-246.

Zucker, A. A. and Light, D. (2009), "Laptop programs for students", Science, Vol. 323 No. 5910, pp. 82-5.

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COVERING THE COVID-19: A VERBAL-VISUAL ANALYSIS OF LEADING NEWSPAPERS OF INDIA

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ABSTRACT

On March 11, 2020, the World Health Organization declared the novel coronavirus outbreak a pandemic (World Health Organisation, 2020). As the events unfolded around the world, media became the first responders of information with newspapers taking the responsibility to provide detailed analysis. Taking into consideration the importance of newspapers in times of a public health emergency, this paper analyses the verbal-visual coverage of COVID -19 in two leading newspapers of India, i.e. Dainik Bhaskar and The Times of India. The period chosen was February 15, 2020 to March 25, 2020, because it considers the gradual process of COVID-19 spreading its tentacles in India and the public health response by the government. With the intercoder reliability score at 86.6%, the analysis of the coverage has been conducted with the help of Barbara & Geoff Westwood's criteria for analysis of health-related content viz. design, content categorization, orientation, and tone of news stories. Visual analysis has been conducted with the help of Claire Harison's theory of visual semiotics. The editions chosen for the analysis are city (Chandigarh) editions, yet the sample did not contain an area or community-specific impact of coronavirus. Results show that in the initial days, COVID-19 had to compete with other ongoing events in the country to find a place of importance in the coverage. However, as days go by, coverage effectively highlights the issue while bridging the gap between the government and people with the main aim of supporting the government's narrative.

***Keywords*:** Covid-19, Coronavirus, Newspaper Coverage, Content Analysis, Pandemic Coverage

INTRODUCTION

Newspapers as a medium of mass communication are placed between the public and policy discourse. Acting as the bridge that educates one about the other, the print media can provide a window into the issues of public interest. The purpose of newspaper stories is not just to provide information but also to persuade the readers into action. Therefore, the newspapers are more than public notice boards; they are the forces of action.

Health coverage and campaign strategies can lead to policy formulations, actions on part of governments or health personnel, act as motivators and guides for the common man, and be further used to generate solutions. The way mass media is able to influence the significance of events in the minds of the public is the core point of emphasis in the agenda setting theory (McCombs&Shaw, 1972). Media is perceived as to not only can tell the masses 'what to think', but it is quite successful at telling them 'what to think about' (Ball-Rokeach, 1998). Despite social media promising interesting insights into detection of crises and rapid communication in an emergency, it is the national newspaper coverage that continues to be central to the framing of public and policy discourse on security and health emergencies (Dry&Leach, 2010). If health communication is done well, it can calm the frayed nerves besides saving lives but if not done well, it can lead to chaos.
The objective of the study is to conduct a textual and visual analysis on the front pages

of the sample newspapers during the selected time frame. The main purpose is to identify the individual centric or structural centric approach of the news stories and the presence or absence of agenda or 'frame'. This study follows document analysis method in two stages viz. the verbal analysis of front page newspaper headlines about COVID-19 and the visual analysis of pictorial / illustrative content as well.

The codes for the analysis follow the criteria laid by Westwood & Westwood (1999a) for analysis of health related content. With changes suitable for the study at hand, four categories are identified, namely: Design, Content, Orientation and Tone. Further sub categorization is done within the above-mentioned broad categories.

Since the theoretical dimension stresses on the convergence of agenda setting and framing (Littlejohn, 2011), the visual content is being analysed for visual framing with the help of Claire Harison's theory of visual semiotics (Harison, 2003). This study uses headline size, design and placement as a criterion for framing. Pictures are categorised as symbolic, intimate and action/reaction.

Methods

This study explores the coverage of the COVID-19 on the front pages of two highest circulating Indian newspapers through a purposive sampling method. The newspapers chosen are Dainik Bhaskar (Hindi), henceforth called DB and Times of India (English), henceforth called TOI. February 15th to March 25th 2020 is chosen as the time frame for this study on the basis of the outbreak of COVID-19, its spread, it being declared as an epidemic and pandemic and finally the Janata curfew (Public imposed curfew) in India.

Unit of analysis for textual content is the 'headline'. Headline is that part of the news story that elaborates on the salience of the news item. The size, position and the content of the news story can be discerned from the headline. As per the technique of news writing, the headline is the last part to be written and it emerges out of the lead of the story. Therefore, headlines capture the essence of the news story.

Unit of analysis for the visual content is the Representative Personality (either a person/object or a group with similar traits. Henceforth called as RP)

Choosing nth day for testing (n= 5), two researchers coded the verbal and visual content on the front-page news stories for both the sample papers. In the absence of a story/picture on the nth day, the coder chose the next day. Intercoder reliability score is 86.6% similarity based on Total agreement /total sample formula.

REVIEW OF LITERATURE

It is well recognised that the media plays an enormously influential role in public responses to health issues. The mass media has an unparalleled reach as a communication mechanism and social media in the present scenario has evolved as a communication tool which not only facilitates information dissemination and consumption, but also generation (Gunther, 1998; Tsao et al., 2021). Public health professionals have always been sensitive to the persuasive power of mass media (Chapman, 2007; Martinson and Hindman, 2005). Most recently, three emergency medicine experts from the University of Pennsylvania advocated the use of online platforms to disseminate accurate information to the public (Berman, 2021).

Governments have evolved strategies for dealing with pandemics over a period. In the original policy document, published by the Government of India in 2009, Section 5 of the plan outlines the operational framework for response to a pandemic in which India is affected. The Government of India's pandemic plan lays out pharmaceutical, non-pharmaceutical and risk communication strategies. (National Centre for Disease Control, 2010). The document did not envisage the public reaction to the pandemic. In a recent response to Covid-19, The Government of India has shared a comprehensive section on their NCDC website including Reporting formats, standard operating procedures, advisories, laboratory resources, training materials, case definitions and IEC materials (National Centre for Disease Control, 2020).

The IEC materials include comics on Covid and travel advisories from China, Korea and Italy. The extensive local travel and fear reactions of Indian public do not find mention. Citing the instances of people in India trying to flee isolation wards in government hospitals and hide travel history or dodge the mandatory home quarantine, Patralekha Chatterjee points towards stigmatisation as "fear-based messaging can make a person feel that he or she is responsible for his and her disease" (Chatterjee, 2020).

Public health reporting in the media has the challenge of both influencing the health practices and also countering unhealthy choices. Health communicators have conducted several studies whenever pandemics or epidemics have hit a large population. Studies have also been conducted to form new health promotion models, defining reporting etiquettes, designing and promotion of health communication protocols. Studies on media coverage about pandemics used varieties of methodologies such as content analysis to study text, interviews of media practitioners, and focus groups of different stakeholders and so on.

Through content analysis, researchers have found that public health is presented less prominently and less positively than medical model issues (Westwood and Westwood,1999 b), that the national newspapers reported more factual information, and less information about preventive measures (Kato et al., 2016), that news sources on health issues have been a neglected area on Health Communication (Lopes et al., 2012), that enhanced newsworthiness of localized threat is highlighted even during an emerging pandemic (Smith, 2007), and have suggested that a clear editorial policy on the coverage of the epidemic could guide in a sustained and effective method of coverage of the epidemic (Mogambi et al., 2013). Different newspapers use their front pages differently for instance, The New York Times featured more international and national news stories, depended more frequently on its own staff for both stories and images, and used smaller headlines on its front pages (Kim&Chung, 2017).

Researchers have crossed borders in trying to find a comparison amongst different countries and found that cultural differences dominate. Coverage of a specific issue, such as swine flu, may reveal more general aspects of the place of journalism in society. As a confirmation of globalisation, there are similarities in the amount of media attention and the timing of the spread of the virus, but interpretations of journalists differ as per their country (Cornia et al., 2016). Scholars have promoted the culture-centred approach in health communication because health issues are culturally located and all communication should be 'contextually embedded and co-constructed through dialogue with the cultural participants' (Dutta, 2008).

Secondary data can yield deeper insight into the subject. Results of systematically reviewed prior content-analytic studies show that media attention is immense, that news content stressed threat over precautionary measures, while the pattern of coverage tonality remained nebulous due to conflicting findings (Klemm et al., 2016). Qualitative methodologies such as interviews and focussed groups work effectively for sensitive topics in public health (Leask et al., 2010; Henrich&Holmes, 2011).

Links between epidemic risk, xenophobic responses, and the global economy are visible in the present crisis (White, 2020). COVID-19 pandemic is, first and foremost, a health crisis; however, it is rapidly becoming an economic one too (Mckee & Stuckler, 2020). In previous health communication studies, the relationship between health and economy are clearly emphasised with citizens facing insecurity of employment, income, housing, and even food (McKee et al., 2017). Since news media mirrors public sentiment, economic concerns in the newspapers reflect the global economic concerns. Media are important in shaping our notion of the world beyond what we can experience directly- the world that is beyond the reach of experience (Lippman, 1922).

Several researchers have studied the front pages of newspapers in the context of content prioritisation. Health communication is an area which has always been found wanting with regard to coverage, perhaps its salience is yet not understood except when it takes disastrous proportions like an epidemic or a pandemic for instance, Ghana's The Daily Graphic was found to not give priority to reproductive health issues in its coverage on a regular basis (Laar, 2010). Yet, when newspapers cover health news, they have been found to be effective agenda setters. In fact any mediated communication—in the context of journalism, advertising, public relations, and strategic communication—is an effective mechanism for detecting, responding to, preventing, and controlling global health concerns (Poushter, 2016).

Media does a lot to set the policy agenda and to influence the way an issue is understood by the policy makers, interest groups, and the public (Linsky, 1986). Newspapers are able to highlight current issues according to priority through design, makeup, story structure, subject, appropriate writing style, and tone. On the basis of the importance placed for each news item in the newspapers, the readers are able to discern similar importance and priority for specific news items. There are definite points of convergence between Agenda setting and Framing theory (McCombs & Ghanem, 2001).

Framing can be done with the following techniques: the use of metaphors, stories (narration), tradition, jargon, artifacts, contrast, and spin (Fairhurst & Sarr, 1996). Frames represent 'ideological positions' and 'social narratives' through which journalism 'creates meaning' (Durham, 1998).

One of the main indicators of framing is the 'tone' of the story. Structuring of ideas, and language used along with packaging leads to framing (positive, negative, or neutral). Newspapers may openly criticise, applaud or encourage individuals, policies, systems or plans, persuading the readers to make up their minds and take their decisions according to newspaper stories. A wide range of disciplines have conceptualised the notion of *framing*; seeing frames as cognitive schemata through which we perceive, organise, and communicate experiences or as conscious devices used strategically for casting 'events' in a certain light, defining 'the issues' that we ought to attend to, and prioritising some interventions and responses over other possible ones (Pieri, 2019). Framing is about the emphasis of certain aspects of an event and the suppression of other aspects; it can be performed in four clear functions: problem definition, causal analysis, expression of moral judgment, and promoting a remedy (Entman, 1993). Entman's definition of framing is widely used in media analysis; 'to frame is to select some aspects of a perceived reality and make them more salient in a communicating text' (Halfpenny et al., 2009). In framing of messages, visual framing also forms a large part (D'Angelo&Kuypers, 2010).

An association between the framing of health messages in the media and the public's perception of risk and related behaviour is affirmed and it was recommended that governments need to actively incorporate the media into pandemic communication planning (Sandell et al., 2013). A better understanding of this paradox was explored through the time-dependent interplay among changing influenza epidemiology, media attention, pandemic control measures, risk perception and public health behavior (Reintjes et al., 2016). Journalists must constantly decide which facts to include or emphasize, whom to use as sources, and what is really "an issue" (Gamson & Modigliani, 1989).

Previous research has proven that an average reader perceives 80% of graphic elements and 75% of photographs in newspapers and notices 56% of headlines while being aware of just 25% of the newspaper text, of which only 13% is read in detail (Moses, 2000). Similarly, it has been proved that people do not read but scan newspapers and there exists a so- called entry or access point—a dominant element on the page as the place of initial perceptual approach (reader's attention), more precisely, the point at which scanning stops and readers "enter" the content more deeply (Garcia, 2004). Newspapers have to adhere to certain universal rules i.e., design principles and the Gestalt principle (Dosen & Brkljačić, 2018). Studies on newspaper design point to the interaction of form and content through the influence of visual format on the perception and interpretation of the content. Each element on the front page has its own relevance and changes in the presentation leads to changes in the way the content is observed, perceived, and understood. This results in a new, optimized order of noticing and viewing time, thereby also indirectly affecting the overall impression of the newspaper among readers.

Visual messages possess a certain form, structure, convention, and their own syntax rules that are understood within a particular cultural context (Messaris & Moriarty, 2005). The elements of the visual field create an organized meaningful whole. The ambiguous elements are subconsciously perceived as symmetrical structures by contextuality and interdependence (Lidwell, 2006).

The movement of the reader's eye, the holding of the newspaper, and the language of the publication are some of the elements that decide the design of the front pages. Readers first notice the object on the right, as a result of turning the pages with the right hand as per the Western-style perceptual sequence from left to right and the Gestalt laws of optical weight (Holmqvist&Wartenberg, 2005). Similarly, there is a general dominance of the left over the right-hand side of the newspaper page with regard to the dwell time—61.3% vs. 38.6%. Images are the entry point for the newspaper page and text and images are processed separately (Holmberg, 2004).Front pages do not create gestalt with their verbal and visual content. Another important point to remember is that agenda setting happens over a period of time and not by one month of newspaper coverage (Erbring et al., 1980). Besides, the placement of photographs and the illustrations concentrate on isolated events and depend on many factors other than design principles such as timely availability, quality of picture and space constraints.

Studies from India are rare but focused clearly on the media responsibility aspect. Room for improvement was found in health-related articles, section of publication, and size of the health articles (Paul&Singh, 2016). Levels of vested economic interest and health care available, size of health care stakeholders are factors influencing how risks are portrayed in terms of dread, controllability, familiarity, and uncertainty (Bie et al., 2016). Newsworthiness of the outbreak was dependent on the three t's of tumult, tension and terror (Haneef & Nair, 2003). Incorporation of modern news values and essential news writing techniques, within the local cultural dynamics is also discussed (Sastry and Dutta, 2017). Health inequalities in India are visible in the difficulties faced by people in social distancing measures and evidence on the geographic distribution of access to resources that guides deployment of additional resources during a pandemic (Quinn & Kumar, 2011).

DATA PRESENTATION AND ANALYSIS

The analysis is conducted on both the aspects following the objectives of the study. The 'framing' of the topic is studied in both verbal and visual analysis. The individual centric or structural centric approach of news items and the news values are determined by the verbal analysis.

The data shows that the stories related to Corona virus started to appear only from 16th and 17th February onwards in the sample papers. In fact, on 15th February, there was no story on coronavirus and till the 24th February the salience of the event was not apparent in the newspaper as there was no regularity in the stories. From 17th to 24th February, the stories were limited to one to three columns. Main theme of the stories during the month of February was the economic impact of the outbreak around the world and the government at the centre asking the states to be on alert as three imported cases had been detected. In the initial month of the outbreak of the Coronavirus, it is treated as an issue which does not directly affect India as number of cases is meagre, so major focus on the outbreak's effect on the economy and efforts of the government to evacuate Indians in various parts of the world and other notable impact like possibility of postponement of Olympics. Serious coverage begins from 29th February with stories of economic impact with consistent increase in the COVID-19 related coverage. TOI also started a column called virus watch, which provided relevant information briefs for stories.

In the early phase of the coverage, the location of stories was mostly below the fold except for in instances where India was directly involved (as on 23rd February, where the story described how the effect on economy could be crippling businesses, as these scramble for supply for production). Most headlines are kicker in nature with main headlines double deck. DB used black colour and bold font where it is appropriate to highlight the relevant information, however, it uses other colours like yellow and red in the headlines as the stories pick up in March. The dominant colour used by TOI is Black but it also uses other variations of black, like grey. Newspapers also play with red and yellow, for example: *Corantine (Red bold): Even Indians from EU, Turkey, UK barred entry (Black bold).*TOI also uses blue and orange, especially when the information brief is under the nameplate of the newspaper, for example: On 20th March, information below the nameplate states: *British actor Indira Verma tests positive (black font with light blue-grey background).* In yet another example: on 24th March, one of the information briefs under the name plate states that *Harvey Weinstein tested positive (white font with orange background).* With regard to usage of colour in headlines there are a variety of opinions. Traditionalists believe that headlines should be black only as today we can achieve colorful pages without colorizing headlines (Garcia, 2002). However, newspaper designers evidently think otherwise (Refer Table 1).

the limelight in Indian media relegating COVID-19 related stories into the background.

Visual analysis

The code to study the visual elements primarily identified a Representative Personality (RP) and analysed how it was presented along with the other design elements. Having identified whether the photograph is action, reaction or symbolic, the RP's eyeline, vertical and horizontal level, and distance from the viewer is identified. This pointed towards the message intended for the viewer. In addition, elements like size, focus, angle, perspective, and contrast are studied.

Table 1: Headline types

		Dainik Bhaskar				Times of India			
S.No	Item	Feb 15 to 29	March 1 to 15	March 16-25	Total	Feb 15 to 29	March 1 to 15	March 16-25	Total
1	No. of stories	6	13	29	48	10	34	85	129
2`	No of photos	1	19	43	63	2	15	35	53
3	Headlines								
3.1	Multi deck	0	0	2	2	8	14	23	45
3.2	Double deck	0	1	9	10	2	16	34	52
3.3	Kicker	4	10	11	25		1		1
3.4	Crossline			1	1				
3.5	Hammerhead	0	2	0	2		1	1	2
3.6	Inverted	0	0	0	0		1	3	4
3.7	Banner	0	0	3	3		1	3	4

As the stories get bigger, both in size and in importance, they mix the placement of stories above and below the fold. As the seriousness of the issue grows, the newspapers cover full pages, with colourful illustrations and other design elements, for example on 25th March, the coverage on the front page deals with specific advisory issued by the newspapers for the measures they should be following to protect themselves. It is interesting to note that between 25th February to 3rd March, Dainik Bhaskar does not carry any story on coronavirus, and between 25th February to 28th February, there is no coverage in The Times of India either. This is the period when violent protests broke out in Delhi against the Citizen Amendment Act and President of the United States of America, Donald Trump was also visiting India. These two major stories hogged

The visual content in both the papers consisted of photographs and infographics, although TOI coverage uses graphs/tables/infographics much more than DB. Tables using graphics with various colours and Geometric shapes increase contrast and attention. Stories with stress on economic, medical aspect and supplies of essential items are explained with infographics, for example: a headline in TOI on 19th February states, "Centre plans duty cuts, other steps to soften virus impact" and 29th February coverage deals with "Coronage: Sensex suffers 2nd biggest one day loss ever". In this story, the infographic is accompanied with words like "*CORONAGE*". The word and infographic highlight the magnitude of impact of the virus on the economy. In addition, the colour used is red and the subhead of the infographic uses the word VIRUS-HIT in bold red. A table with multiple colours to highlight statistics adds contrast to the page and attracts viewers. The1st March coverage states, "India starts hunt for alternatives for China to source over 1K items": this story utilizes a table to highlight the items for which India needs supply and which countries are the best alternatives except for China.

DB coverage: Total number of stories in DB is 48 whereas the number of visuals is 63. This data itself highlights the importance given to visuals. Of all the visuals, 33 pictures are symbolic in nature which means that they are used to emphasize the point and situation. The intimate images are 18 in number. These are the images that follow the eyeline of the RP as he is not looking at the viewer. Intimacy is utilized to engage the readers and involve the readers in the situation, for example: in one of the stories of 19th March; '276 Indians in foreign countries test positive, of which 255 in Iran; only 169 in the country' (translated from Hindi). Further, the story also states how the country is ready to fight the pandemic. The picture shows a man holding a placard and it is an intimate, symbolic picture and represents a demand. It has been clicked from a medium angle and from the RP's eye level.

Picture 1: Intimate, symbolic picture

विदेश में 276 भारतीय कोरोना संक्रमित, इनमें से 255 सिर्फ ईरान में; देश में कुल 169 केस

बड़ी जंग को हों तैयार हम

चंडीगढ़ में पहला पॉजिटिव केस, सीबीएसई की 10वीं-12वीं, जेईई, विवि परीक्षाएं 31 तक टलीं

दुनियाभर में एक दिन में सबसे ज्यादा 1,027 मौतें

Sardarji Holding a Placard - Caption: "*Ek doctor ki guzarish... mai aapke liye kaam par data hun, aap hamare liye ghar par rahen.*"

Source: Dainik Bhaskar, Chandigarh Edition, Pg 1, 19th March, 2020. (photographer unknown).

Majority of the pictures used subjects that might not be directly related to the stories but effectively highlight the escalating magnitude of the economic and medical situation in India. The number of action and reaction pictures is only 16 though such pictures provide a real sense of action to ongoing stories. For example: the picture from a story on 9th March is clicked from the eyeline of a man going through a document held by a woman; his arm pointing at something in the document lends a sense of importance to the document and urgency in action. Use of such pictures often enhances the appeal of the verbal message.

Picture 2: Action picture

कोरोनावायरस • तमिलनाडु में 1 मरीज संक्रमित पाया गया था, दिल्ली में 337 लोग आइसोलेशन में रखे

केरल में 5 नए मरीज, संक्रमण के अब 40 केस, अरुणाचल में विदेशी नागरिकों के आने पर रोक

मंगलूरू पोर्ट ने पनामा का झंडा लगे क्रूज को ठहरने की इजाजत नहीं दी

इटली में 1.6 करोड़ लोगों को अलग-थलग किया, आबादी का 25%, 1 दिन में 133 मौतें

Father-Daughter Picture

Source: Dainik Bhaskar, Chandigarh Edition, Pg 1, 9th March, 2020 (Photographer Unknown)

The use of angle in photographs is observed to have a desired impact, especially those clicked from a lower angle. In the coverage of COVID-19, the role, importance and dedication of certain people has been highlighted in many stories. Photographs accompanying them, clicked from a lower angle show them as strong and big. For example, the photograph accompanying a news story on 14th March, is not intimate to the viewer but to the other subjects in the photo.

Picture 3: Authoritative figures wearing masks

कोरोना से देश में दूसरी मौत: दिल्ली में 69 साल की महिला ने दम तोड़ा

चंडीगढ़ और पंजाब समेत 12 राज्यों में स्कूल व कॉलेज बंद, आईपीएल टला

सुप्रीम कोर्ट जरूरी केस सुनेगा, मास्क-सैनिटाइजर महंगे बेचने पर 7 साल की कैद संभव

अमेरिकी राष्ट्रपति ट्रम्प ने नेशनल इमरजेंसी घोषित की

एहतियात: मंदिर से मैदान तक मास्क...

मुंबई के सिद्धिविनायक मंदिर में पुजारी भी मास्क पहने दिखे।

भारत की तैयारी कुछ ऐसी: 30 मार्च तक श्रीलंका, फ्रांस और जर्मनी की उड़ानें रद्द की

3 अप्रैल तक चलने वाला संसद सत्र 18 मार्च को खत्म हो सकता है, पीएम को लिखा पत्र

मौतें रोकने में भारत अव्वल, 131 देशों में वायरस, डब्ल्यूएचओ ने यूरोप को कोरोना का केंद्र बताया

Pujaris Performing Rituals. Caption: "*Ehtiyat: Mandir se Maidaan Tak Mask...*"

Source: Dainink Bhaskar, Chandigarh Edition, Pg 1, 14th March, 2020. (Photographer unknown)

The RP are two priests in a temple who are wearing masks, photographed from a lower angle, they are shown as powerful men who lead the public and set an example by wearing masks. (Refer Table 2).

TOI coverage: One of the striking characteristics of TOI coverage is that pictures and infographics are used as a supplementary material and not something which must be a part of the coverage. For instance, 25th March has a full front page coverage on COVID-19; however, the number of pictures used is just two. One is a table highlighting the cases in different states, and the other is a picture of the prime minister of India. This shows that the focus is on the relevant content which is effectively highlighted with the help of bold black or red fonts and usage of other colours.

As the days progress, TOI starts to use the space below the nameplate (effective use of space with text and a small picture) so that readers are enticed into reading the subsequent coverage. For example, on 18th March, one of the information briefs below the nameplate states how President Trump's tweet against China fuels the fire. Here the image is of Donald Trump in action.

Picture 4: Use of intimate and action oriented picture in Masthead

Trump - Caption: "*Trump's 'Chinese Virus' Tweet Adds Fuel to Fire with Beijing*"

Source: Times of India, Chandigarh Edition, Pg 1, 18th March, 2020. (Photographer Unknown)

This picture is used in combination of white font and orange colour as a background of the

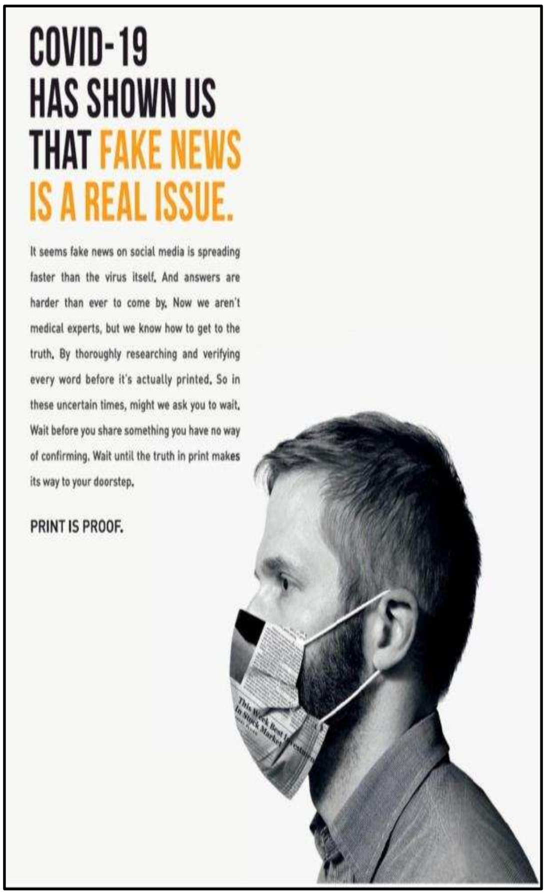
Table 2: Use of visuals in Dainik Bhaskar

Dainik Bhaskar					
S.No	Item	Feb 15 to 29	March 1 to 15	March 16-25	Total
1	No. of stories	6	13	29	48
2	No of photos	1	19	43	63
2.1	Tables/infographic	0	4	9	
2.2	Pictures	1	10	32	
2.3	Pictures with tables	0	5	2	
2.4	Intimate	1	4	13	
2.5	symbolic	1	9	23	
2.6	Action/Reaction		8	8	

text. The intimate and action oriented picture highlights the relevance of the information for international relations, as India trades not only with the USA, but also with China. This coverage also carries a perceptive story on the opposite of the front page.

21st and 22nd March carry an advisory by the newspaper on the front page. In both cases, the advertisement jacket has been analysed as a front page because the advisories on the jacket are directly relevant to the COVID-19 coverage. For example, the advisory on the 21st March edition addresses the issue of fake news during the pandemic, the picture used is not intimate. A man wears a mask and looks towards the text of the advisory. It highlights how one should also protect herself/himself against the fake news and not just the virus, as the mask carries on itself, a text. It promoted print media by saying ,`Print is proof'.

Picture 5: Full page advisory on Jacket



Advisory with Masked Man - Caption: "*Covid-19 has shown us that fake news is a real issue*".

Source: Times of India, Chandigarh Edition, Newspaper Jacket, 21st March, 2020. (Photographer Unknown)

The pictures used in the coverage are an effective mix of intimate and symbolic, taking into consideration that the current situation is unprecedented and not only affects the daily lives of people and economy of the country, it also impacts the way journalists stand on the frontlines to bring information to the readers, in many cases it seemed impossible to get a picture directly related to the story. Hence, some symbolic pictures are used such as one on 5th March states: 'Another city resident among 23 who test positive' uses a box with multiple colours. It also comprises a caricature of a woman wearing a mask.

Picture 6: Symbolic

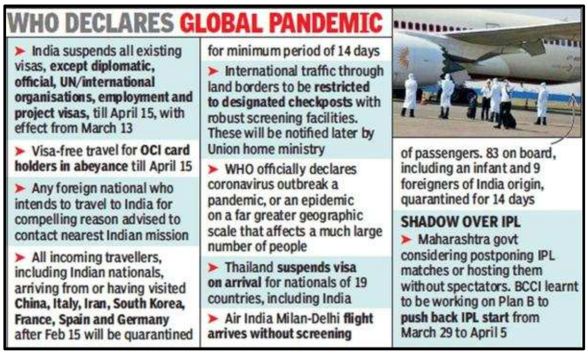
Lady as a Caricature- Caption: "*India to Screen all Incoming Passengers on International Flights*"

Source: Times of India, Chandigarh Edition, Pg 1, 5th March, 2020 (Photographer Unknown)

This picture is symbolic, highlighting the need to use protective gear to protect yourself. Further, the 12th March coverage deals with India quarantining itself from the rest of the world. The story explains how WHO has declared COVID-19 as a global pandemic. So, to highlight the global impact of the outbreak, the picture, which is part of the table, has an aircraft with people dressed in protective equipment with their backs towards the readers.

This picture is in action, and not intimate, but it highlights a distance between the pandemic and the people of India. Since, India had by now taken several measures to isolate itself from the rest of the world, the picture is a fit.

Picture 7: Action oriented but not intimate



WHO DECLARES GLOBAL PANDEMIC

- India suspends all existing visas, except diplomatic, official, UN/international organisations, employment and project visas, till April 15, with effect from March 13
- Visa-free travel for OCI card holders in abeyance till April 15
- Any foreign national who intends to travel to India for compelling reason advised to contact nearest Indian mission
- All incoming travellers, including Indian nationals, arriving from or having visited China, Italy, Iran, South Korea, France, Spain and Germany after Feb 15 will be quarantined for minimum period of 14 days
- International traffic through land borders to be restricted to designated checkposts with robust screening facilities. These will be notified later by Union home ministry
- WHO officially declares coronavirus outbreak a pandemic, or an epidemic on a far greater geographic scale that affects a much large number of people
- Thailand suspends visa on arrival for nationals of 19 countries, including India
- Air India Milan-Delhi flight arrives without screening of passengers. 83 on board, including an infant and 9 foreigners of India origin, quarantined for 14 days

SHADOW OVER IPL

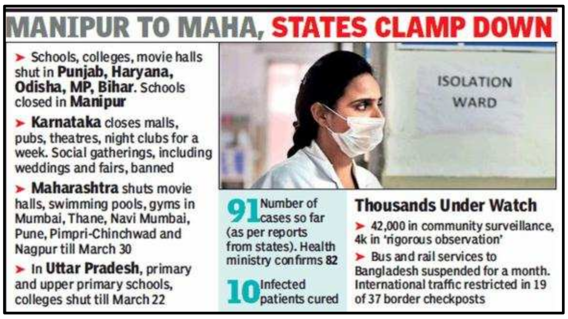
- Maharashtra govt considering postponing IPL matches or hosting them without spectators. BCCI learnt to be working on Plan B to push back IPL start from March 29 to April 5

People Wearing PPE Kits Near an Aircraft -Caption: "WHO Declares Global Pandemic"

Source: Times of India, Chandigarh Edition, Pg 1, 12th March, 2020. (Photographer Unknown)

As important are the symbolic pictures to add more value to the coverage, so are the intimate pictures to engage the reader in the intensity of the ever-evolving situation. For instance, 14th March coverage states that a 68-year-old woman is Delhi's first novel coronavirus casualty. Here the picture is part of the box, highlighting the measures by states across the country.

Picture 8: Intimate and representative



MANIPUR TO MAHA, STATES CLAMP DOWN

- Schools, colleges, movie halls shut in Punjab, Haryana, Odisha, MP, Bihar. Schools closed in Manipur
- Karnataka closes malls, pubs, theatres, night clubs for a week. Social gatherings, including weddings and fairs, banned
- Maharashtra shuts movie halls, swimming pools, gyms in Mumbai, Thane, Navi Mumbai, Pune, Pimpri-Chinchwad and Nagpur till March 30
- In Uttar Pradesh, primary and upper primary schools, colleges shut till March 22

ISOLATION WARD

91 Number of cases so far (as per reports from states). Health ministry confirms 82

10 Infected patients cured

Thousands Under Watch

- 42,000 in community surveillance, 4k in 'rigorous observation'
- Bus and rail services to Bangladesh suspended for a month. International traffic restricted in 19 of 37 border checkposts

Lady Health Worker in Mask - Caption: "Manipur to Maha, States Clamp Down"

Source: Times of India, Chandigarh Edition, Pg 1, 14th March, 2020. (Photographer Unknown)

Here, RP has been clicked from an intimate distance but is looking away. The 13th March coverage states, 'As virus ravages global markets & triggers widespread panic, more countries and cities go into virtual lockdown', and 'World was C: Sensex crashes 2919 pts, by far its worst ever'. This coverage uses a comprehensive infographic with colours like light blue, black and red. It is also complemented with a perceptive coverage about the lessons pertaining to dealing with the virus from countries like South Korea on the opposite of the front page (Refer Table 3).

As we analyse the front pages, we need to be aware that any agenda setting or framing analysis can never be understood in absolute terms because other factors such as personal, political, societal, economic conditions in the real world will limit the newspaper reading experience, degree of perception, and influence across the population. What goes into the front pages is determined by various factors, resources being one of them.

Research has shown that traditional images and close-up shots of individuals should be avoided to frame 'positively'. The RPs in the study are mostly not looking directly at the readers to establish intimate contact. This leads the readers towards the problem and does not assign it to an individual.

Unlike bullet theory, framing does not expect impact to happen in a blanket sweep across populations. Despite the above-mentioned constraints, the front pages do tell the readers what to think about.

Verbal analysis:
This section includes the verbal analysis through the study of design, content

Table 3: Use of visuals in Times of India

	Times of India				
Sr. No	Item	Feb 15 to 29	March 1 to 15	March 16-25	Total
1.	No. of stories	10	34	85	129
2.	No of photos	2	15	38	55
2.1	Tables	2	10	10	
2.1	Pictures		1	21	
2.3	Tables & pictures with tables	2	10 +4	10+7	
2.4	Intimate	-	1	18	
2.5	symbolic		5	21	
2.6	Action/Reaction			8	

categorisation, orientation and tone of the stories.

Design is identified by location on page, headline and text size, headline type, and text colour. Content has been categorised under policy, politics, sociologically based grouping of content components i.e. gender/ age/ ethnicity/ socio-economic, geographic, life-style and community oriented issues, treatment, or more institutionally based aspects of content. Orientation of reporting is based on author /by line, comments or quotes by opinion makers, whether the item is primarily about issues or people, nature of reporting is about the genres of news stories, feature article or editorial and, types of news writing styles identifies the story as either event oriented or perceptive which gives away the organisational agenda. Lastly, the tone of reporting is studied on the basis of positive or negative or neutral. The tone of the reporting and the sources used are direct indicators of framing.

Since the analysis was of the front pages only, the maximum numbers of stories are written in news writing style. DB has included some articles, features, and appeals besides news. The anchor space has not been fruitfully utilised despite the stories being placed at the bottom of the fold. Most news stories in this sample feature salient aspects of an event, as they evolved. While doing so, the overarching patterns or risk factors for particular events got ignored. Since newspaper reporting happens day after day over a period of time, the framing is logically more towards being episodic rather than thematic. Tone is a rhetorical communication and is a characteristic of much political and media discourse. This study has found the 'tone' of the stories to be positive as they are non-threatening, non-argumentative and in agreement with authority (Refer Table 4).

Table 4: Nature, Type and Tone of the stories

		Dainik Bhaskar				Times of India			
S.No		Feb 15 to 29	March 1 to 15	March 16-25	Total	Feb 15 to 29	March 1 to 15	March 16-25	Total
1	No. of stories	6	13	29	48	10	34	85	129
2	No of photos	1	19	43	63	2	15	35	53
3	Nature								
	News	5	11	21	37	10	34	84	128
	Article/feature	1	2	5	8				
	Human interest	0	0	0	0			1	1
	Appeal			3	3				
	Total	6			48				129
4	Type								
	Event	2	10	11	23	10	28	66	104
	Perceptive	4	1	13	18		2	5	7
	Both	0	2	5	7		4	14	18
	Total				48				129
5	Tone								
	Positive	3	7	18	28	5	21	36	62
	Negative	3	3	9	15	5	9	36	50
	Both	0	3	2	5		4	13	17
	Total	6			48				129

The study found that the initial phase of coverage deals with policy aspects where Indian government is not only taking various steps to mitigate the effects of the coronavirus outbreak on the economy but also making efforts to evacuate Indians from various parts of the world. Majority of the TOI coverage focuses on highlighting policy measures of the central and state governments. The decisions to curb trade with China find space in early coverage. The coverage does not paint India in any bad light thereby, bridging the gap and building trust in the minds of people which is essential in policy compliance by people to combat any unprecedented situations like COVID-19. Coverage specifically highlights measures being taken in Haryana, Punjab, and Himachal Pradesh. It was found that social distancing is being mentioned but not stressed enough or explained with clarity.

Table 5: Sources

	Dainik Bhaskar					Times of India			
S.No		Feb 15 to 29	March 1 to 15	March 16-25	Total	Feb 15 to 29	March 1 to 15	March 16-25	Total
1	No. of stories	6	13	29	48	10	34	85	129
2	No of photos	1	19	43	63	2	15	35	53
3	Sources								
3.1	Official	3	9	22	34	10	28	62	100
3.2	Medical/Hospital/ Doctor/WHO	1	1	3	5		5	13	18
3.3	Research	0	1	0	1		2	1	3
3.4	Eye witness	0	0	1	1	1	2	1	4
3.5	Airline	0	0	0	0		1	1	2
3.6	School Mgmt	0	0	0	0		1		1
3.7	Private Com	0	0	0	0		1		1
3.8	Social media/news net/newspaper	1	1	6	8		1	18	19
3.9	Market trends	0	2	1	3		3	5	8
3.11	Celebrities	0	0	1	1			2	2
3.12	Trade Organization/others	1	0	1	2				
3.13	Sportspersons	0	1	1	2				

Major policy decisions highlighted during this period are:

1. Helpline started
2. Punjab put on alert
3. People leaving for Kartarpur corridor being checked and masks distributed
4. Holidays suspended in health department Punjab as health emergency is declared in the department
5. Centre advises people to avoid travelling until 31st March and maintain distance of one metre among each other
6. RBI advises digital payments instead of cash
7. All heritage monuments and museums closed
8. India's four borders sealed and army's help roped in to keep the suspect patients in isolation
9. In Delhi, people more than 50 are not allowed to assemble
10. India bans passengers from EU, turkey and England

Workforce/industrial/educational/legal/ethical: The coverage has taken into account the ethical responsibility of the Indian government to help Indians stuck in various parts of the world due to the coronavirus. Most of the coverage is educational in nature, concentrating on creating awareness. Coverage also takes into account the ethical responsibilities of Indian system in combating the pandemic, so that people are apprised about the government's care for its people.

Major workforce related issues that form the important part of coverage are:

1. Primary schools in Delhi closed
2. People across country kept under observation
3. Advisory issued to businessmen in Himachal
4. Biometric attendance suspended in Punjab

Gender/age/ethnicity/socio-economic, geographic: Majority stories cater to a cross section of readership as they concentrate chiefly on awareness generation about the ever-evolving situation across the country. Stories related to economic impact of the outbreak target businessmen, traders, and special readers such as medical personnel such as the 23rd March headline that states, 'No indiscriminate testing, breaking chain is key: govt'. Coverage does try to target various sections where appropriate, such as school going readers, their parents and school staff where they highlight shutting down of schools. Coverage does highlight which workforce is being affected by the decisions/news that has been mentioned in the newspaper.

Medical/treatment/rehabilitation: Out of the entire sample this category has been

0Table 6: Orientation

Dainik Bhaskar					Times of India			
Item	Feb 15 to 29	March 1 to 15	March 16-25	Total	Feb 15 to 29	March 1 to 15	March 16-25	Total
Orientation								
People	2	2	2	6	2	7	12	21
Issue	3	5	13	21	8	23	55	86
Both	1	6	14	21		4	18	22
Total	6			48				129

highlighted 22 times. Yet, on 21st February, when a suspected COVID-19 patient eloped from the hospital in Gurdaspur, on seeing masked doctors, the coverage stated that hospitals are making an effort to follow protocol which has been established by international standards. Similarly, the story titled, 'LIC clarifies that Coronavirus related treatment will be covered under its policies', directly educates about medical insurance. Most encouraging stories are from this category such as the story of a survivor from Kerala; India has 1 lakh testing kits 20 lakh more have been ordered; to ensure that there is no community transmission random sampling tests have been done; 43000 isolation beds; WHO states that India has the capacity to fight the virus.

Facilities/technology/research: Out of the entire sample this category has only been highlighted 13 times in TOI and 9 days in DB. There is stress on medical /treatment and rehabilitation and only 6 stories highlight the facilities.

Approach and orientation of reporting: The coverage has been found to follow structural centric approach rather than individual centric for news items. TOI uses a mixture of Times news network stories and by line stories by their journalists/correspondents. In the entire sample, 37 person specific by lines are found in TOI whereas DB does not have a single by line story. Maximum sources used for the stories are government or official sources (cited 103 times by TOI and 29 times by DB) and most news stories are event oriented (112). Both the papers have managed to keep their coverage issue oriented with a positive tone.

It is understood that news originates from decisions made in the newsroom rather than by events from the outside yet policy decisions and statements by government officials act as a trigger for newsroom discussion and decision making. The press in this case is not negative and optimism emerges as a prominent theme. In the selected sample, the most common form of narrative frame is the straight news account of the inverted pyramid outlining the basic who, what, when where, why and how. The other frames prominently used are consensus and conjecture, where discussions concentrate on education regarding prevention, facilities, treatment etc. Policy exploring or backgrounding is not common as the stories concentrated on the present scenario rather than conducting any comparative analysis. Policy decisions are accepted at the face value and reality checks are rarely conducted (Refer Table 5).
Although it is commonly understood that newspapers interpret or explain the topics, the front pages found this aspect to be underused. The stories are issue oriented rather than people oriented. Since the newspapers are found developing stories triggered by government action around the health crisis, they have missed an opportunity to place the issue in a larger perspective by explaining the broader implications of policy decisions and how these decisions will fit into other moments of history (Refer Table 6).

CONCLUSION

In the above analysis, it was observed that government agenda has been promoted through both the story headlines and the use of pictures. As government agenda evolved from policy decisions, economic impact to medical, educational, and safety decisions were being taken and advisories given to the readers. The aspect of prioritisation is visible as the best source of information for the newspapers was the government and is used in almost all the stories. Absence of by line stories indicates the use of agencies and source press releases for the stories and also the reliance on established sources.

This study points towards defining the problem by educating through large stories on front pages. Causal analysis has not been conducted as the newspapers have been dealing with everyday coverage of the spread of the virus while movement of the reporters themselves is curtailed. Only the detailed, perceptive stories were accompanied by infographics, graphs and pictures.

Event oriented stories are more in number because the story is constantly evolving. The stories have the 'bad' news value more than 'good', but the tone of the stories is found to be positive. In all the aspects of this study, the frames have been to promote the policy agenda through media agenda to turn into a public agenda. These tie in with a functionalist approach to news values in which 'news selection is not understood as a direct response to certain stimuli but as an intentional act to reach certain ends' (Staab, 1990).

Overall, this study points towards the day-to-day decision making by the newspapers in the absence of a set contingency plan. Devoting full front pages to advisories issued by the government, using government sources for stories, writing multi deck headlines, placing above the fold lead stories, creating new columns for data sharing, using scare heads in colour, are all the measures taken by the newspapers. The front pages of the two newspapers maintained a positive tone and the sheer volume of news that was guiding the readers towards behaviour change emphasised the seriousness of the issue.

BIBLIOGRAPHY

ABC. (2018). *Highest circulated daily newspapers (language wise).* Retrieved March 20, 2020, from Audit Bureau of Circulations: http://www.auditbureau.org/files/JD2018%20Highest%20Circulated%20(language%20wise).pdf

Agency. (2020, March 9). Coronavirus: Tamilnadu main 1 mariz sankramit paya gya tha, Delhi main 337 log isolation main rakhe (verbatim from Hindi). *Dainik Bhaskar: Chandigarh Edition*, pp. 1.

Ball-Rokeach, S.J. (1998). A theory of media power and a theory of media use: Different stories, questions, and ways of thinking. *Mass Communication and Society, 1*(1-2), 5-40.

Bhaskar News. (2020, March 19). Videsh Main 276 Indian COVID se infected, enme se 255 sirf Iran main (verbatim from Hindi). *Dainik Bhaskar: Chandigarh Edition,* pp. 1.

Bhaskar News. (2020, March 14). Corona se desh main dusri maut: Delhi main 69 saal ki mahila ne dum toda (verbatim from Hindi). *Dainik Bhaskar: Chandigarh Edition,* pp. 1.

Bie, B., Tang, L., &Treise, D.M. (2016). Be aware of superbugs: Newspaper coverage of NDM-1 in India, UK, and the USA .*Asian Journal of Communication, 26*(1), 58-75.

Berman, R. (2021, January 12). Embracing social media for public health messaging. *Medical News Today: Healthline Media.* https://www.medicalnewstoday.com/articles/embracing-social-media-for-public-health-messaging

Cornia, A., Ghersetti, M., Mancini, P., & Oden, T.(2016). The partisans, the technocrats and the watchdogs: Domestication in the media coverage of the swine flu pandemic 2009. *Journalism Studies, 17*(8), 1030-1050.

Chapman, S. (2007). The News on Smoking. In: *Public Health Advocacy and Tobacco Control: Making Smoking History*(pp.62-67). Oxford: Blackwell Publishing.

Chatterje, P. (2020). Gaps in India's preparedness for COVID-19 control. *The Lancet: Infectious Diseases, 20*(5), 544.

D'Angelo, P., &Kuypers, J.A. (2010). *Doing News Framing Analysis: Empirical and Theoretical Perspectives.* New York: Routledge.

Dey, S. (2020, March 12). All visas to country with few exceptions suspended till April 15. *The Times of India: Chandigarh Edition*, pp. 1.

Dosen, D.O., &Brkljačić, L. (2018). Key design elements of daily newspapers: Impact on the reader's perception and visual impression. *KOME − An International Journal of Pure Communication Inquiry*.

Dry, S., &Leach, M. (2010).*Epidemics: Science, Governance and Social Justice.* London: Routledge.

Durham, F.D. (1998). News frames as social narratives: TWA flight 800. *Journal of Communication, 48*(4), 100-117.

Dutta, M.J. (2008). *Communicating Health: A Culture-centred Approach.* Cambridge: Polity Press.

Entman, R.M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication, 43*(4), 51-58.

Erbring, L., Goldenberg, E.N., &Miller, A.H. (1980). Front-page news and real-world cues: A new look at agenda-setting by the media. *American Journal of Political Science, 24*(1), 16-49.

Fairhurst, G.T., &Sarr, R.A. (1996). *The Art of Framing: Managing the Language of Leadership.* San Francisco: Jossey Bass.

Gamson, W.A., &Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology, 95*(1), 1-37.

Garcia, M. (2002). Headlines in Color. In: Poynter. Available at: https://www.poynter.org/reporting-editing/2002/headlines-in-color/.

Garcia, M.R. (2004). Rethink, not redesign. New designs, new formats. *World Association of Newspapers, 3*(3), 30-32.

Gunther, A.C. (1998). The persuasive press influence: Effects of mass media on perceived public opinion. *Communication Research, 25*(5), 486-504.

Halfpenny, P., Lin, Y., &Pieri, E. (2009). *Using text mining for frame analysis of media content.* Manchester : Report, JISC E-Infrastructure Programme. Retrieved from: https://www.research.manchester.ac.uk/portal/en/publications/using-text-mining-for-frame-analysis-of-media-content-jisc-einfrastructure-programme-jisc-final-report(3a9a40c5-a176-45bd-bdb7-b4f46659339b).html

Haneef, M.S.M., &Nair, P.P. (2003). SARS: Powder keg or a pinch of salt: Coverage of the pandemic in Indian English dailies. *Media* Asia, 30(4), 228-239.

Harrison, C. (2003). Visual semiotics: Understanding how still images make meaning. *Technical Communication, 50*(1), 46-60.

Henrich, N., &Holmes, B. (2011). Communicating during a pandemic: Information the public wants about the disease and new vaccines and drugs. *Health Promotion Practice, 12*(4), 610-619.

Holmberg, N. (2004). *Eye movement patterns and newspaper design factors: An experimental approach.*(Master's Thesis, Lund University, Sweden). Retrieved from: https://lup.lub.lu.se/student-papers/search/publication/1328870

Holmqvist, K., &Wartenberg, C. (2005). The role of local design factors for newspaper behaviour: An eye-tracking perspective. *Lund University Cognitive Studies, 127,* 1-21.

Jha, D.N. (2020, March 5). Another city resident among 23 who test positive. *The Times of India: Chandigarh Edition*, pp. 1.

Jha, D.N. (2020, March 14). 68 year old woman Delhi's first corona casualty. *The Times of India: Chandigarh Edition,* pp. 1.

Kato, M., Ishikawa, H., &Kiuchi, T. (2016). Media coverage of a global pandemic in Japan: Content analysis of A/ H1N1 influenza newspaper articles. *Journal of Mass Communication and Journalism, 6*(1), 1-5.

Kim, Y.S. &Chung, D.S. (2017). Anatomy of front pages: Comparison between The New York Times and other U.S. major metropolitan newspapers. *International Journal of Communication, 11*, 949-966.

Klemm, C., Das, E., &Hartmann, T. (2016). Swine flu and hype: a systematic review of media dramatization of the H1N1 influenza pandemic. *Journal of Risk Research, 19*(1), 1-20.

Laar, A.K. (2010). Family planning, abortion, and HIV in Ghanaian print media: A 15-month content analysis of a national Ghanaian newspaper. *African Journal of Reproductive Health / La Revue Africaine de la Santé Reproductive, 14*(4), 80-86.

Leask, J., Hooker, C., &King, C. (2010). Media coverage of health issues and how to work more effectively with journalists: A qualitative study. *BMC Public Health.*

Linsky, M. (1986). *Impact: How the Press Affects Federal Policymaking.* New York: Norton.

Lippman, W. (1922). *Public Opinion.* New York: Macmillan.

Littlejohn, S. (2011). *Theories of Human Communication.* Belmont: Wadsworth Publication.

Lopes, F., Ruao, T., Mrinho, S., & Araujo, R. (2012). A media pandemic: Influenza A in Portuguese newspapers. *International Journal of Healthcare Management, 5*(1), 19-27.

Martinson, B.E., &Hindman, D.B. (2005). Building a health promotion agenda in local newspapers. *Health Education Research, 20*(1), 51-60.

McCombs, M.E., &Shaw, D.L. (1972). The agenda setting function of mass media. *Public Opinion Quarterly, 36*(2), 176-187.

McCombs, M., &Ghanem, S.I. (2001). The Convergence of Agenda Setting and Framing. In Reese, S.D., Gandy, O.H. Jr., &Grant, A.E. (Ed.). *Framing Public Life: Perspectives on Media and Our Understanding of the Social World*(pp. 67-81). New York: Routledge.

Mckee, M., &Stuckler, D. (2020). If the world fails to protect the economy, COVID-19 will damage health not just now but also in the future. *Nature Medicine, 26*(5), 640-642.

McKee, M., Reeves, A., Clair, A., &Stuckler, D. (2017). Living on the edge: Precariousness and why it matters for health. *Archives of Public Health, 75*(13), 1-10

Messaris, P, &Moriarty, S. (2005). Visual Literacy Theory. In Smith, K., Moriarty S., Barbatsis, G., &Kenny, K. (Ed.) *Handbook of Visual Communication: Theory Methods and Media*(pp. 481-502). New Jersey: LEA.

Mogambi, H., Kiai, W., &Ndati, N. (2013). Priming HIV messages in Kenyan print media: Patterns, trends, and Issues. *Sage Open*, 1-13.

Moses, M. (2000). Consumer mentality. *The American Editor [online], 808*(4), 6-7.

National Centre of Disease Control. (2020). *COVID19.* Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. Retrieved from https://ncdc.gov.in/index4.php?lang=1&level=0&linkid=132&lid=549

National Centre for Disease Control. (2010). *Draft Pandemic Preparedness and Response for Managing Novel Influenza A H1N1. (earlier called Swine flu).*Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India.

Paul, S., &Singh, A.B. (2016). Coverage of health-related articles in major local newspapers of Manipur. *Journal of Education and Health Promotion, 5*(3).

Pieri, E. (2019). Media framing and the threat of global pandemics: The Ebola crisis in UK media and policy response. *Sociological Research Online, 24*(1), 73-92.

Poushter, J. (2016). Smartphone ownership and Internet usage continues to climb in emerging economies. Pew Research Centre. Retrieved from: https://www.pewresearch.org/global/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies/

Quinn, S.C., &Kumar, S. (2011). Existing health inequalities in India: Informing preparedness planning for an influenza pandemic. *Health policy and planning: The Journal of Health Policy and Systems research, 27*(6), 516–526.

Reintjes, R., Das, E., Klemm, C., Richardus, J.H., Keßler, V., &Ahmad, A. (2016). Pandemic public health paradox: Time series analysis of the 2009/10 Influenza A / H1N1 epidemiology, media attention, risk perception and public reactions in 5 European countries. *PLoSONE, 11*(3), e0151258.

Sandell, T., Sebar, B., &Harris, N. (2013). Framing risk: Communication messages in the Australian and Swedish print media surrounding the 2009 H1N1 pandemic. *Scandinavian Journal of Public Health, 41*(8), 860-865.

Sastry, S., &Dutta, M.J. (2017). Health communication in the time of Ebola: A culture-centred interrogation. *Journal of Health Communication, 22*(1), 10-14.

Smith, J.A. (2007). Hermeneutics, human sciences and health: Linking theory and practice. *International Journal of Qualitative Studies on Health and Well-being, 2*(1), 3-11.

Staab, J.F. (1990). The role of news factors in news selection: A theoretical reconsideration. *European Journal of Communication, 5*(4), 423–443.

Tsao, S-F., Chen, H., Tisseverasinghe, T., Yang, Y., Li, L. & Butt, Z.A. (2021). What social media told us in the time of COVID-19: A scoping review. *The Lancet, 3*(3), E175-E194. https://doi.org/10.1016/S2589-7500(20)30315-0

The Times of India. (2020, March 18). Trump's 'Chinese virus' tweet adds fuel to fire with Beijing. *The Times of India: Chandigarh Edition,* pp. 1.

The Times of India. (2020, March 21). COVID-19 has shown us that fake news is a real issue. *The Times of India: Chandigarh Edition,* pp. Newspaper Jacket.

Westwood, B, &Westwood, G. (1999 a) Assessment of newspaper reporting of public health and the medical model: a methodological case study. *Health Promotion International, 14*(1), 53-64.

Westwood, B., &Westwood, G. (1999 b). Assessment of newspaper reporting of public health and the medical model: a methodological case study. *Health Promotion International, 14*(1), 53-64.

White, A.I. (2020). The art of medicine: Historical linkages: epidemic threat, economic risk, and xenophobia. *Lancet, 395*(10232), 1250-1251.

W. H. (2006). Univerzalnanačeladizajna. *Zagreb: Mate .*

Gumbrecht, J., & Howard, J. (2020, March 12). WHO declares novel coronavirus outbreak a pandemic. CNN Health. Retrieved from: https://edition.cnn.com/2020/03/11/health/coronavirus-pandemic-world-health-organization/index.html

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TWO-STAGE APPROACH USING PLS-SEM TO REANALYZE ATTITUDE TOWARDS ADVERTISING, ITS ANTECEDENT AND OUTCOME

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ABSTRACT

Purpose – The purpose of this paper is to reanalyse the attitude towards advertising by using PLS-SEM. Furthermore, this paper investigates antecedent and outcome on advertising.

Design/methodology/approach – Questionnaire-based survey was administered at universities in Gwalior and Bhopal region and 213 respondents were subsequently sampled Partial least squares structural equation modelling was performed to test the research hypotheses.

Findings – Outcomes of the present study depicts that the attitude of the young consumers of Gwalior towards advertisement is shaped by both positive and negative views. Specifically, personal belief factors square measure found to possess larger impact on their perspective and intention than social belief factors.

Practical Implications – current research is designed to indicate the belief-attitude-intention model in advertising research using two-stage approach in PLS-SEM (Ting and Hiraam,2015). Belief factors are built as formative measurements in the higher order variable model to form personal and societal belief factors.

Originality/value – A very limited work has been conducted to specify the dimensionality of belief factors in elucidation of attitude and intension to advertising in several emerging markets. Therefore, the misconduct of the model and oversight of procedures due to insufficiencies in analysis may likely lead to inappropriate assumption to familiarity and practices. Current research will going to fill this gap in the existing literature.

Keywords: Advertising; Attitude; Belief; Intention; PLS-SEM; Model Specification.

INTRODUCTION

Advertising is considered to be an important concept of Marketing. Various companies and organizations are spending huge amount of money on this tool of marketing. It has been considered as an important social and economic phenomenon (Polly and Mittal, 1993). Advertising not only provides social and economic activities it also put a lot of impact on the life of people, the way they live, communicates and behave. Thus it is believed that the attitude of consumers towards advertisement is considered as an important aspect to understand consumer behavior in an advertising study. As advertising has explanative capacities of successive actions, the concept has been continually researched in marketing studies (Korgaonkar, Silverblatt and O'Leary, 2001; Kwek, Tan and Lau, 2010; Pollay and Mittal, 1993). Several studies as shown that behavioural intent is considered as the outcome and believes as an antecedent of advertisement. In advertising research models like belief- attitude- intention model is very well supported by the Theory of Reasoned Action (TRA) (Ting, De Run and Ramayah, 2015). More explanation towards attitude and intention in advertising is understood by decomposed believes in advertising. Seven - factor belief model which was given by Pollay and Mittal (1993) is widely used to explain advertisements. Similarly, past researchers have been developing a belief factor as an independent variable which points directly to advertisement it as a dependent variable in various ways (Korgaonkar, et al., 2001; Ramaprasad and Thurwanger, 1998; Ting et al., 2015).

In order to predict the intention of advertising in a single model, a limited work has been done. Advertising studies with belief factors are mainly done in North American- European context (Ashill and Yavas, 2005; Walters, 2001; Wang, Sun, Lei and Toncar, 2009). These types of deficiencies lead to model misassumptions and precipitate oversight of trials that is the reason the theoretical inferences and hands-on significance of the theme in diverse situations have been done.

With the limitations of the first generation analysis and the advancement of the algorithm in latent variable Structural Equation Modelling (SEM), the current study is focused to re-examine advising believe- intention-attitude model with the use of the two-stage approach in Partial Least Square Structural Equation Modelling (PLS-SEM). The aim of the current study is to not only offer methodological input to the study but also provide practical implementation and understanding of advertising belief- intention-attitude in terms of developing market.

LITERATURE REVIEW

Attitude towards Advertising

Generally, attitude can be described as a mental state used by an individual to structure the way they see their environment and guide the way they respond to it (Aaker, Kumar, and Day, 2001). This concept is an important concept in research on marketing. Attitude is something which is not instinctive rather it is considered something which is based on past experience or knowledge. In such line predisposition, the person responds to an object, an idea or a matter with permanent evaluation, emotional feeling and action (Aronson, Wilson and Akert, 2002; Kotler, 2000) It is considered that individuals who hold a certain attitude will always demonstrate behaviour that is consistent and compatible with their attitude (Hussain, 1984; Olson and Zanna, 1993).

Advertisement is widely acknowledged as "a learned predisposition to respond in a consistently favourable or unfavourable manner to advertising in general" (Lutz, 1985, p. 53). Advertising has been for long focuses of attention and interest in marketing research (Mittal, 1994; O"Donohoe, 1995; Pollay and Mittal, 1993). Studies on Advertisement is perpetuate by continuous confirmation that shows the positive relationship between advertising attitude and advertising effectiveness (Greyser and Reece, 1971; Kotler, 1988; Mehta, 2000; Mehta and Purvis, 1995), and its effect on attitude towards particular brand and advertisement (Lutz, 1985). Moreover, Advertisement is also considered to have direct consequence on contact and attention to advertisements (Shavitt, Lowrey and Haefner, 1998), and purchase intention and actual behavior (Bush, Smith and Martin, 1999; Ha, et al., 2011). In addition, it is claimed that the understanding of Advertisement can bring in better social policy initiatives (Calfee and Ringold, 1988, 1994; Pollay and Mittal, 1993), thus benefitting the society at large (Pollay and Mittal, 1993; Rotzoll, Haefner and Sandage, 1986). Thus, it is very important to understand and keep close track to Advertisement, given the fact that so much has changed due to rapid societal development and the escalating use of complicated communication devices (Jeong and Lambert, 2001; Chopra and Wallace, 2003; Khatibi, Haque and Karim, 2006).

Beliefs about Advertising

In order to understand the formation of Advertisement, earlier studies have been done in order to experience and determinants. One of the most recognized preceding variables found in earlier empirical studies is the belief about advertising. Belief is largely described as specific statement about the attributes of an object (Brackett and Carr, 2001; Ducoffe, 1996; Pollay and Mittal, 1993; Wang, et al., 2009). One of the most widely adopted models on belief about advertising is the seven-factor belief model by Pollay and Mittal (1993). The model has been extensively used because of its comprehensiveness and validity (Korgaonkar, et al., 2001; Munusamy and Wong, 2007; Rama Prasad and Thurwanger,1998). Two categories of factors are proposed in the model, and they are personal (micro) factors and societal (macro) factors. These factors are reviewed in the following paragraphs.

Personal Belief Factors

Personal belief factors can also be called as micro belief factors, these factors are made up of seven micro factors they are as Product Information, Social Role and Image, Pleasure, Good for Economy, Materialism, Sense and Value Corruption etc. There has been lot of debate about the role of advertising some believe that it provides information to the public in general, some believes that its role to maximize profit for the company or organization (Eze and Lee, 2012; Wang and Sun, 2010). Various empirical studies have shown that there is positive effect of advertisement on product information (Eze and Lee, 2012; Munusamy and Wong, 2007; Taylor, Bonner, and Dolezal, 2002; Wolin, Korgaonkar, and Lund, 2002).

Social and lifestyle image is another important component of advertising (Korgaonkar, et al., 2000). It is believed that these factors affects people's lifestyle and glorifies the current social status and trends (Wang, et al., 2009).Products those are advertised tried to make them relate with the lifestyle of the consumers. By this consumers tries to relate them and feel the association with the product. If idea and message apples to the consumers then they desire to get social image and lifestyle (Tan and Chia, 2007). Advertisement provides up-to-date information about the product which is considered to the positive effect of advertisement (Yaakop, et al., 2011).It is also believe that in order to flaunt their status consumers are ready to pay higher price for the products (Pollay and Mittal, 1993).

Societal Belief Factors

Societal belief factors are also known as macro factors. These factors are made up of four factors they are as Good for the economy, materialism, value corruption and falsity. Advertising motivates the consumers to buy new products and provides employment opportunities, promotes healthy competition among various companies and organizations and raises standard of living of the consumers that is why this is good for the economy (Belch and Belch, 2009). Advertisements done on internet or social media advertising is being widely being used by various companies in order to spread information about new and innovative products more effectively and efficiently in today's competitive world (Korgaonkar, et al., 2001).

These are some of the positive aspects of advertising there are some negative aspects also (Singh and Vij, 2007). It is believed that this technique of promotion is responsible for promoting materialism and makes society more materialistic (Belk, 1988). Advertising is more often use to create false wants .Consumers get fascinated by the coloured and fancy advertisements and tries to relate themselves with that and in this they turn up to be more materialistic (Pollay and Mittal, 1993). And this will end up buying them products which are not needed by them (Pollay and Mittal, 1993). Advertising also believe to provide somewhat false information to the consumers. Falsity in advertising can be said as providing fallacious information about the product and services to their consumers (Greyser and Reece, 1971). This technique has also been regarded as a continues attempt to misguide the consumers point of view and understand about the product (Pollay and Mittal, 1993). Some authors have describe advertising as misleading and manipulative (Alwitt and Prabhaker, 1992; Mittal, 1994). It is believed that advertisements provides positive message but it is also true that negative aspects of the advertisement is easily being remembered by the audience (Munusamy and Wong, 2007). Past empirical studies have also supported that value corruption negate Advertisements (Munusamy and Wong, 2007; Tan and Chia, 2007; Wang and Sun, 2010). It is therefore put forward that value corruption will also cause advertisement to be unfavourable.

Theoretical Consideration

Fishbein and Ajzen in the year 1975 provide a theory as theory of reasoned action (TRA) which gives important aspects to understand and predicts the social behavior. Marketing researchers use this model to understand and predict the consumers attitude and behavior (Bobbit and Dabholkar, 2001; Choo, et al., 2004; Chung and Pysarchik, 2000; Page and Luding, 2003; Soderlund, Vilgon and Gunnarsson, 2001).TRA model states that behavior of individual is determined by intention to perform it and intention is being predicted by attitude and attitude is considered as positive or negative evaluation of performing behavior (Fishbein and Ajzen, 1975). Current study will look only at relationship between beliefs, attitude and intentions of consumers towards advertising. This study will re-specify the model so that it can provide practical understanding towards the advertisements.

Methodological Consideration

Various advancements in statistical techniques mainly in Partial Least Square Structural Equation Modelling (PLS- SEM) permits the development of parsimonious predictive-based research model (Hair, Ringle and Sarstedt, 2011; Becker, Klein and Wetzels, 2012; Hair, Hult, Ringle and Sarstedt, 2013; Hair, Hult, Ringle and Sarstedt, 2016).As Compared to covariance-based SEM (CB-SEM), which is more confirmatory oriented, PLS-SEM uses variance-based technique and relaxes assumption on sample size, number of indicators as well as data normality, thus making theory development possible and relevant in different contexts of study (Barroso, Carrión and Roldán, 2010).

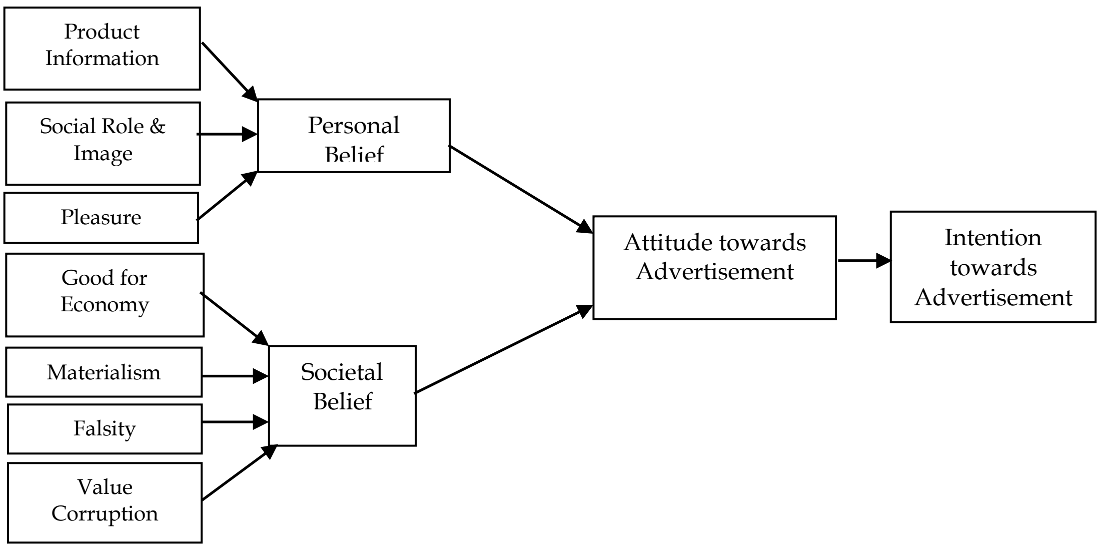
CB- SEM is being complemented by PLS-SEM in several ways like in the field of marketing it addresses various issues which are related to model specification (Jarvis, MacKenzie and Podsakoff, 2003) also it facilitates the use of formative dimensions of the model which increases the validity of the results claimed by the various researchers. The current study is being conducted by using Meta data analysis, Jarvis et al. (2003) analysed that in marketing study 32% is the rate of mis- specified model. Before the use of second generation statistical analysis techniques, researcher had found that higher order construct (HOC) is not feasible to use. After coming of CB-SEM technique which mainly deals with dimensions those are reflective in nature. But when the real research is being conducted then higher constructs are actually formed by different dimensions because they are found to have low correlation with one another. In HOC model of specification PLS- SEM have an advantage because it permits the combination of reflective and formative measurement in the same model (Becker,et al,2012).

The main purpose of current research is to test advertisement model with HOC's by considering belief-attitude-intention in consideration with developing countries. Frame work proposed by Pollay and Mittal (1993) as the base of current research which says that product information, social role and image, pleasure from personal that is micro belief factors which are good for economy, materialism, no sense and value corruption use to form macro belief factors creating a reflective formative HOC. PLS-SEM uses composite factor technique which is better suited to analyse the model under investigation.

RESEARCH MODEL AND HYPOTHESES

From the above discussion model that is developed as shown in Figure 1. Advertisement is the main construct of the research, having each belief factor points directly towards advertisement, HOC are used to focus on personal belief factors and societal belief factors.

Figure 1. Research Model



Authors' Model

Based on the literature review which are related to belief, attitude and intention in various studies related to advertising functional hypotheses has been formulated to investigate the relationship between these factors. As researcher has used has used HOCs that is why only three hypotheses has been formulated which are stated as:

H1: Beliefs about advertising have positive impact on attitude towards advertising.
H2: Societal beliefs about advertising have positive impact on attitude towards advertising.
H3: Attitude towards advertising has positive impact on intention towards advertising.

METHODOLOGY

After analysing the research problem researcher has used Quantitative technique to investigate advertisement and its relationship with beliefs, intentions and attitude. As India is considered one of the growing markets amongst the developing countries which provides ideal environment for advertising research .Researcher have selected only university students (from north India) for the research. As they represent the most meaningful segment of the target population (Beard,2003). As these young adults are growing they are developing and consolidating their own personalities and manners of living (Holbrook & Schindler, 1989; Rogler,2002).Therefore it is believed that this particular section could easily influence the people around them (Leslie, et al.,2001).

Judgmental sampling technique was used to ensure that Indian University students were sampled purposefully to accomplish the objective of the study (Onwuegbuzie and Leech, 2007). For collection of data a self-administered questionnaire has been designed and has been circulated among the students of North India mainly from the city of Gwalior. Five–Point Likert scale has been used in which 1 indicates 'strongly disagree' and 5 indicates 'strongly agree'. As model is consist of both reflective and formative measures so the common method variance is not used (Hair, et al., 2014).

Pre-test was conducted before finalizing the questionnaire on five respondents by debriefing method so as to eliminate problems with questionnaire design so that it would be comprehensive about instructions and statements that has been used (Bazera, 1996; Hunt, et al., 1982). Total of 300 questioners has been distributed mainly in three universities campuses of North India and amongst them 213 usable copies were collected during the month of March- 2020.

Collected data were then keyed into Statistical Package of Social Sciences (SPSS) .Subsequent analyses have been done by using SmartPLS 3.3.2 (Ringle, Wende and Becker, 2015).

To cater the impact of HOCs in the model ,two stage approach technique in PLS-SEM was used (Becker, 2012). Hair et al. (2014) have highlighted the need to have a clear forethought on model specification to avoid erroneous modelling which would lead to Type 1 and Type 2 errors (Edwards and Bagozzi, 2000). Current study utilizes reflective-formative HOC model on the basis of TRA and Polly & Mittal's framework to accommodate distinct belief factors.

FINDINGS AND DISCUSSIONS

Demographic details of 213 young consumers sampled from universities from Gwalior, response rate of 71% suggests appropriate administration of data collection process.

Table 1 Respondent Profile

Variable	*Frequency*	*Percent*
Gender		
Male	123	57.7
Female	90	42.2
Age		
15-20 (years)	61	28.6
21-25 (years)	50	23.4
26-30 (years)	44	20.6
31-35 (years)	33	15.4
36 and above	25	11.7
Region		
Gwalior	130	61.0
Bhopal	83	38.9

Author's Calculations

Above table shows the differentiation in questioner on the basis of gender, age and region 57.7 percent male and 42.2 percent female have respondent . Age group that has been taken is 15-20 years , 21-25 years , 26-30 years , 31-35 years and 36 years and above.

Region that has been taken is Gwalior and Bhopal.

Assessment of Measurement Model

Table 2 depicts the evaluation of construct reliability and convergent validity of the constructs in this study. As illustrate, the composite reliability (CR) values of 0.921 (ATT), 0.920 (INT) and the dimensions of societal belief factors (COR (0.907), FAL (0.904), MAT (0.888), ECO (0.838)), as well as personal belief factors (INF (0.890), SOC (0.892), HED (0.852)) indicate that these constructs possess internal consistency. Similarly, these constructs also demonstrate adequate convergent validity after removing items with low loadings. Hence, they achieve the minimum threshold value of 0.5 for average variance extracted (AVE), which indicates that the items loaded to the respective constructs explain more than 50% of the constructs" variances (Hair, et al., 2014).

The table 3 and table 4 demonstrate the assessment of discriminate validity. To date discriminated analysis is assessed using the Fornell and Larcker (1981) criterion and Henseler's heterotrait-monotrait (HTMT) (2015) criterion. In terms of Fornell and Larcker criterion, it is found that the square root of AVE for each of the constructs are larger than the correlation estimates of the constructs. This signifies that the constructs are particularly different from one another. Similarly, Henseler"s HTMT criterion, which imposes more stringent assessment than the earlier criterion, suggests that all constructs are distinctively different at HTMT0.90 threshold (Henseler, et al, 2015).

Table 2 Internal Consistency and Convergent Validity

Construct	*Item*	*Loading*	*CR*	*AVE*	*Validity*
Intention	INT 1	0.858	0.920	0.821	YES
	INT 2	0.933			
	INT 3	0.936			
Attitude	ATT 1	0.903	0.921	0.811	YES
	ATT 2	0.835			
	ATT 3	0.913			
Product Information	INF 1	0.833	0.860	0.721	YES
	INF 2	0.831			
	INF 3	0.821			
Social Role and Image	SRI 1	0.811	0.831	0.721	YES
	SRI 2	0.889			
	SRI 3	0.818			
Hedonic/Pleasure	HPI 1	0.781	0.821	0.623	YES
	HPI 2	0.821			
	HPI 3	0.871			
Good for the Economy	GFO 1	0.841	0.828	0.732	YES
	GFO 2	0.827	0.881	0.671	YES
Materialism	MET 1	0.764			
	MET 2	0.832			
	MET 3	0.822			
	MET 4	0.832			
Falsity	FNS 1	0.911	0.902	0.821	YES
	FNS 2	0.909			
Value Corruption	VCR 1	0.911	0.903	0.821	YES
	VCR 2	0.903			

Author's Caculations

Table 3 Fornell and Larcker Criterion

	ATT	COR	ECO	FAL	HED	INT	MAT	INF	SOC
ATT	0.904								
COR	-0.001	0.922							
ECO	0.608	0.091	0.831						
FAL	-0.138	0.615	0.081	0.918					
HED	0.656	0.167	0.573	0.071	0.0809				
INT	0.671	0.072	0.421	0.006	0.467	0.912			
MAT	0.021	0.520	0.195	0.643	0.206	0.108	0.815		
INF	0.572	0.044	0.571	-0.023	0.522	0.456	0.089	0.845	
SOC	0.521	0.113	0.421	0.004	0.411	0.488	0.166	0.421	0.867

Note: Diagonal elements highlighted in bold represent the square root of AVE. Off diagonal elements are bivariate correlations between the constructs.
Author's Calculations

Table 4 HTMT Criterion

	ATT	COR	ECO	FAL	HED	INT	MAT	INF	SOC
ATT									
COR	0.033								
ECO	0.821	0.128							
FAL	0.184	0.778	0.114						
HED	0.831	0.221	0.834	0.113					
INT	0.743	0.085	0.577	0.013	0.576				
MAT	0.117	0.636	0.256	0.745	0.259	0.124			
INF	0.677	0.062	0.831	0.071	0.671	0.538	0.129		
SOC	0.613	0.130	0.571	0.057	0.521	0.578	0.198	0.518	

Criteria: Discriminant validity is established at HTMT0.90
Author's Calculations

Assessment of Formative Second Order Constructs

Table 5 provides assessment of formative second order construct. That is why collinearity issue for Personal Belief Factors (PBF) and Societal Belief Factors (SBF) are being analysed. Constructs do not measure the same belief factors that are why evaluation of co linearity is important estimate. Variance Inflation Factors (VIF) which are shown in table for each of formative constructs are lower than threshold value of 3.3 (Diamantopoulous and Sigma, 2006), which suggest that these constructs are distinct which measures different belief aspects.

Table 5 Collinearity Assessment

	PBF	SBF
INF	1.511	
SOC	1.288	
HED	1.462	
ECO		1.041
FAL		2.022
COR		1.670
MAT		1.732

Author's Calculations

Significance of weight for each of the formative constructs is consequently assessed in explaining the first order constructs. Tables 6, which understand the bootstrapping results using sub-samples of 5000 cases, indicates the weights and path co-efficient for each of the formative second order constructs (Hair, et al., 2011).

Results of bootstrapping show that all belief factors are found to be significantly related to personal and societal belief factors respectively. Good for the economy (ECO) is found to be marginally significant at one-tail. Since ECO is in formative measurement, which indicates the relevance of ECO in forming societal factors in advertising, the result is not an issue.

Table 6 Path Co-Efficient Assessment

	Direct Effect	*Standard Error*	*T-statistic*	*P value*
INF ◊ PBF	0.421	0.022	20.838	0.000
HED ◊ PBF	0.431	0.023	18.377	0.000
SOC ◊ PBF	0.401	0.021	19.835	0.000
COR ◊ SBF	0.293	0.016	21.245	0.000
ECO ◊ SBF	0.081	0.046	1.634	0.049
FAL ◊ SBF	0.315	0.017	19.765	0.000
MAT ◊ SBF	0.543	0.019	30.323	0.000

**p< 0.01, *p<0.05 (one-tailed)
Author's Calculations

Assessment of Structural Model

Before assessing structural model , it is important to make ensure that there is no collinearity issue in the inner model of the study. Outcome of collinearity test is present in Table 7. VIF values is below 3.3 for each construct.

Table 7 Collinearity Assessment

	ATT	INT
PBF	1.042	
SBF	1.042	
ATT		1.000

Author's Calculations

Table 8 illustrates the results of path co-efficient assessment using bootstrapping procedure for the hypothesized relationships. The relationships are found to be all significant (Personal Belief Factors □ Attitude, ß = 0.774, $p < 0.01$; Societal Belief Factors □ Attitude, ß = -0.137, $p < 0.01$, Attitude□ Intention, ß = 0.682, $p < 0.01$). Hence, it is concluded that all three hypotheses are supported.

Table 8 Path Co-efficient Assessment

	Direct Effect	*Standard Error*	*T-Statistic*	*P-Value*
ATT ◊ INT	0.672	0.033	19.866	0.000
PBF ◊ATT	0.773	0.035	23.560	0.000
SBF ◊ ATT	-0.138	0.045	2.873	0.004

**$p< 0.01$, *$p<0.05$ (one-tailed)

Author's Calculations

IMPLICATIONS AND CONCLUSION

It is important to understand how advertising beliefs influence advertising and intention to advertise. Belief-attitude-intention model validating the use of TRA in advertisement research in emerging markets like India. The results communicate to previous results that information about the product, social role and image, and hedonic/pleasure (which make up personal belief factors) are stronger predictors of advertisement than societal belief factors (Ting, De Run and Jee, 2015). In spite of the fact that specific convictions about publicizing of shoppers in their late pre-adulthood and early adulthood are discovered to be generally certain in a territory of India (Ting and De Run, 2015), different aftereffects of the current examination discover that it isn't significant for the youthful grown-up buyers in India. Truth be told, what is demonstrated compares to concentrates by Pollay and Mittal (1993), Korgaonkar et al. (2001) and Wolin et al. (2002) whereby Indian youthful grown-ups additionally have both positive and negative convictions about promoting. In any case, different discoveries utilizing a two-stage approach show that individual conviction factors have more effect on notice than cultural conviction factors. This shows that however youthful shoppers in India accept that publicizing advances realism, gives mistaken data and undermines human qualities in certain cases, they actually recognize promoting in an ideal way (Yaakop, et al., 2011).

Notwithstanding the way that particular feelings about publicizing of customers in their late pre-adulthood and early adulthood are found to be commonly sure in a region of India (Ting and De Run, 2015), unique eventual outcomes of the current assessment find that it isn't huge for the energetic adult purchasers in India. Believe it or not, what is shown looks at to concentrates by Pollay and Mittal (1993), Korgaonkar et al. (2001) and Wolin et al. (2002) whereby Indian young adults also have both positive and negative feelings about advancing. Regardless, various revelations using a two-stage approach show that singular conviction factors have more impact on notice than social conviction factors. This shows that anyway young customers in India acknowledge that publicizing propels authenticity, gives mixed up information and subverts human characteristics in specific cases, and they really perceive advancing in an ideal way (Yaakop, et al., 2011).

Furthermore research from hypothetical, methodological and exact points of view, it has a couple of impediments which underscore the requirement for additional examination. Right off the bat, the current examination is restricted to taking a gander at promotions as a rule, instead of notices of specific brands and items. Besides, purposive inspecting is being utilized and the determination of college understudies in the investigation might diminish the generalizability of the discoveries to the populace. Accordingly, upcoming investigations are recommended to bargain into notices of explicit brands and items and analyse its commercials by ages and ethnic gatherings in order to enlarge and broaden the utilization of attitudinal or conduct speculations in promoting research. As non-industrial nations like India are ascending as a potential and beneficial district for global promoting and business exercises, the comprehension of ads in current and dynamic social orders utilizing efficient model may end up being critical to publicizing techniques and adequacy.

REFRENCES

Aaker, D. A., Kumar, V. and Day, G. (2001), *Marketing Research*, John Wiley & Sons. Inc. New York.

Alwitt, L. F. and Prabhaker, P. R. (1992), "Functional and Belief Dimensions to Attitudes toward Television Advertisement", *Journal of Advertising Research,* Vol. 32 No.5, pp. 30-42.

Armstrong, J. S., Morwitz, V. G. and Kumar, V. (2000), "Sales Forecasts for Existing Consumer Products and Services: Do Purchase Intentions Contribute to Accuracy?" *International Journal of Forecasting,* Vol.16 No.3, pp. 383-397.

Aronson, E., Wilson, T. D. and Akert, R. M. (2002), Social Psychology, Prentice Hall, Virginia.

Ashill, N. J. and Yavas, U. (2005), "Dimensions of advertising attitudes: Congruence between Turkish and New Zealand consumers", *Marketing Intelligence & Planning*, Vol. 23 No.4, pp. 340-349.

Bazera, M. S. (1996), *Marketing Research for Planning, Monitoring and Marketing Design Making* (1 ed.), Al-Obikan Press, Riyadh.

Barroso, C., Carrión, G. C. and Roldán, J. L. (2010), Applying maximum likelihood and PLS on different sample sizes: studies on SERVQUAL model and employee behavior model. In *Handbook of partial least squares*, Springer Berlin Heidelberg,pp. 427-447.

Beard, F. K. (2003), "College Student Attitudes toward Advertising's Ethical, Economic, and Social Consequences", *Journal of Business Ethics,* Vol. 48 No.3, pp. 217-

Becker, J. M., Klein, K. and Wetzels, M. (2012), "Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models", *Long Range Planning,* Vol. 45 No. 5, pp. 359-394.

Belk, R. W. (1988), "Possessions and the Extended Self", *Journal of Consumer Research,* Vol.15 No.2, pp. 139-168.

Belch, G. E. and Belch, M. A. (2009), *Advertising and Promotion: An Integrated Marketing Communications Perspective* (8 ed.), McGraw Hill, New York.

Bobbit, L. M. and Dabholkar, P. A. (2001), "Integrating Attitudinal Theories to Understand and Predict Use of Technology-based Self-service: The Internet as an Illustration", *International Journal of Service Industry Management,* Vol.12 No.5, pp. 423-450.

Brackett, L. and Carr, B. (2001), "Cyberspace Advertising vs. Other Media: Consumer vs. Mature Student Attitudes", *Journal of Advertising Research,* Vol. 41 No. 5, pp. 23-32.

Bush, A. J., Smith, R. and Martin, C. (1999), "The influence of consumer socialization variables on attitude toward advertising: a comparison of african-americans and Caucasians", *Journal of Advertising*, Vol. 28 No. 3, pp. 13-24.

Calfee, J.E. and Ringold, D.J. (1988), "Consumer skepticism and advertising regulation: what do the polls show?" *Advances in consumer research*, Vol. 15 No.1, pp. 224- 228

Chopra, K. and Wallace, W.A., (2003), "Trust in electronic environments", In *System Sciences, Proceedings of the 36th Annual Hawaii International Conference on,* IEEE, pp.10.

Choo, H., Chung, J.-E. and Pysarchik, D. T. (2004), "Antecedents to New Food Product Purchasing Behavior among Innovator Groups in India", *European Journal of Marketing,* Vol.38 No.5/6, pp. 608-625.

Chung, J. E. and Pysarchik, D. T. (2000), "A Model of Behavioural Intention to Buy Domestic versus Imported Products in a Confucian Culture", *Marketing Intelligence and Planning,* Vol. 18 No.5, pp. 281-291.

De Run, E. C., Butt, M. and Nee, C. Y. (2010), "The Influence of Role Models on Young Adults Purchase", *Jurnal Kemanusiaan,* Vol. 15, pp. 70-81.

Diamantopoulous, A. & Sigma, J. A. (2006) "Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration", British Journal of Management, Vol. 17 No. 4, pp. 263.

Diamantopolous, A. and Winklhofer, H.M. (2001), "Index construction with formative indicators: An alternative to scale development", *Journal of marketing research*, Vol. 38 No.2, pp. 269-277.

Ducoffe, R. (1996), "Advertising Value and Advertising on the Web", *Journal of Advertising Research,* Vol. 36 No. 5, pp. 21-35.

Edwards, J.R. and Bagozzi, R.P. (2000), "On the nature and direction of relationships between constructs and measures", *Psychological methods*, Vol.5 No.2, pp. 155.

Eze, U. C., and Lee, C. H. (2012), "Consumers' Attitude towards Advertising", *International Journal of Business and Management,* Vol. 7 No. 13, pp. 94-108.

Farley, J. U., Lehmann, D. R. and Ryan, M. J. (1981), "Generalizing from 'Imperfect Replication", *Journal of Business,* Vol.54 No 4, pp.597-610.

Fornell, C. and Larcker, D.F. (1981), "Structural equation models with unobservable variables and measurement error: Algebra and statistics", *Journal of marketing research*, pp. 382-388.

Grant, I. C. and Waite, K. (2003), "Following the Yellow Brick Road - Young Adults" Experiences of the Information Super-Highway", *Qualitative Market Research: An International Journal*, Vol. 6 No.1, pp. 48-57.

Greyser, S. A. and Reece, B. B. (1971), "Businessmen look hard at advertising", *Harvard Business Review*, Vol. 49 No.3, pp.18.

Ha, H. Y., John, J., Janda, S. and Muthaly, S. (2011), "The Effects of Advertising Spending on Brand Loyalty in Services", *European Journal of Marketing,* Vol. 45 No. 4, pp. 673-691.

Hair, J. F., Ringle, C. M., and Sarstedt, M. (2011), "PLS-SEM: Indeed a silver bullet", *Journal of Marketing theory and Practice*, Vol. 19 No. 2, pp. 139-152.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. and Sarstedt, M. (2013), *A primer on partial least squares structural equation modelling (PLS-SEM)*, Sage Publications.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015)," A new criterion for assessing discriminant validity in variance-based structural equation modelling", *Journal of the Academy of Marketing Science*, Vol. 43 No.1, pp.115-135.

Huang, J.-H., Lee, B. C. Y. and Ho, S. H. (2004), "Consumer Attitude toward Gray Market Goods", *International Marketing Review,* Vol. 21 No, 6, pp. 598-614.

Hunt, S. D., Sparkman, R. D. J. and Wilcox, J. B. (1982), "The Pretest in Survey Research: Issues and Preliminary Findings", *Journal of Marketing Research,* Vol. 19 No. 2, pp. 269-273.

Jarvis, C. B., MacKenzie, S. B., and Podsakoff, P. M. (2003), "A critical review of construct indicators and measurement model misspecification in marketing and consumer research", *Journal of consumer research*, Vol. 30 No. 2, pp. 199-218.

Jeong, M. and Lambert, C. U. (2001), "Adaptation of an Information Quality Framework to Measure Customers' Behavioural Intentions to Use Lodging Website", *International Journal of Hospitality Management,* Vol. 20 No.2, pp. 129-146.

Kim, M. S. & Hunter, J. E. (1993), "Relationships among Attitudes, Behavioural Intentions, and Behavior: A Meta-anaylsis of Past Research, part 2", *Communication Research,* Vol.20 No. 3, pp. 331-364.

Korgaonkar, P. K., Karson, E. J. and Lund, D. (2000), "Hispanics and Direct Marketing Advertising", *Journal of Consumer Marketing,* Vol. 17 No. 2, pp. 137-157.

Korgaonkar, P. K., Silverblatt, R. and O'Leary, B. (2001), "Web Advertising and Hispanics", *Journal of Consumer Marketing,* Vol. 18 No. 2, pp. 134-152.

Kotler, P. (1988), Marketing management: analysis, planning, implementation, and control (6th), Prentice Hall, NJ.

Kwek, C. L., Tan, H. P. and Lau, T. C. (2010), "The Determinants of Consumers'

Attitude towards Advertising", *Canadian Social Science,* Vol. 6 No. 4, pp. 114- 126.

Law, K.S. and Wong, C.S. (1999), "Multidimensional constructs M structural equation analysis: An illustration using the job perception and job satisfaction constructs", *Journal of Management*, Vol.25 No.2, pp. 143-160.

Leslie, E., Sparling, P. B. and Owen, N. (2001), "University Campus Settings and the Promotion of Physical Activity in Young Adults: Lessons from Research in Australia and the USA", *Health and Education*, Vol.101 No.3, pp. 116-125

Lutz, R. J. (1985), "Affective and Cognitive Antecedents of Attitude towards Ad: A Conceptual Framework", In L. F. Alwitt and A. A. Mitchell (Eds.), *Psychological Processes and Advertising Effects*, Hillsdale, Lawrence Erlbaum, NJ, pp. 45-63.

MacKenzie, S. B., Lutz, R. J. and Belch, G. E. (1986), "The Role of Attitude Toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations", *Journal of Marketing Research,* Vol. 23, pp. 130-143.

Mehta, A. (2000), "Advertising Attitudes and Advertising Effectiveness", *Journal of Advertising Research,* Vol. 40, pp. 67-72.

Mehta, A. and Purvis, S. C. (1995), "When attitudes towards advertising in general influence advertising success", In *Conference of the American Academy of Advertising* in Baylor University, Norfolk, VA, Waco, TX.

Netemeyer, R. G. and Bearden, W. O. (1992), "A Comparative Analysis of Two Models of Behavioural Intention", *Journal of the Academy of Marketing Science,* Vol. 20 No.1, pp. 49-59.

Nulty, D. D. (2008), "The Adequacy of Response Rates to Online and Paper Surveys: What Can be Done?" *Assessment and Evaluation in Higher Education,* Vol. 33 No. 3, pp. 301-314.

O'Donohoe, S. (1995), "Attitudes to Advertising: A Review of British and American Research", *International Journal of Advertising,* Vol. 14 No. 3, pp. 245-261.

Oliver, R. L. and Bearden, W. O. (1985), "Crossover Effects in the Theory of Reasoned Action: A Moderating Influence Attempt", *Journal of Consumer Research,* Vol.12, pp. 324-340.

Olson, J. M. and Zanna, M. P. (1993),"Attitudes and attitude change. *Annual review of psychology"*, Vol. 44 No.1, pp. 117-154.

Onwuegbuzie, A. J. and Leech, N. L. (2007), "Sampling Designs in Qualitative Research: Making the Sampling Process More Public", *The Qualitative Report,* Vol. 12 No. 2, pp. 238-254. Page, C. and Luding, Y. (2003), "Bank Managers' Direct Marketing Dilemmas -

Customers' Attitudes and Purchase Intention", *International Journal of Bank Marketing,* Vol.3, pp. 147-163.

Petrovici, D. and Marinov, M. (2007), "Determinants and Antecedents of General Attitudes towards Advertising", *European Journal of Marketing,* Vol.41 No.3/4, pp.307-326.

Pollay, R. W. and Mittal, B. (1993), "Here's the Beef: Factors, Determinants, and Segments in Consumer Criticism of Advertising", *Journal of Marketing,* Vol. 57, pp. 99-114.

Ting, H., De Run, E. C. and Ramayah, T. (2015), "Young Adults‟ Attitude towards Advertising: Multi-group Analysis by Ethnicity", *RBGN-Revista Brasileira de Gestao de Negocios (Review of Business Management)*, Vol. 17 No. 54, pp. 769-787.

Ting, H., De Run, E. C. and Jee, T. W. (2015), "Attitude towards Advertising among Young Adults: A Comparative Study by Ethnicity," *International Journal of Business and Society*, Vol. 16 No. 3, pp. 397-407.

Walters, P. (2001), "Research at the 'Margin' Challenges for Scholars Working outside the 'American-European' Domain", *International Marketing Review,* Vol. 18 No.5, pp. 48-473.

Wang, Y. and Sun, S. (2010), "Assessing Beliefs, Attitudes, and Behavioural Responses toward Online Advertising in Three Countries", *International Business Review,* Vol. 19 No. 4, pp. 333 344.

Wang, Y., Sun, S., Lei, W. and Toncar, M. (2009), "Examining Beliefs and Attitudes toward Online Advertising among

Chinese Consumers", *Direct Marketing: An International Journal,* Vol. 3 No. 1, pp. 52-66.

Wolin, L., Korgaonkar, P. and Lund, D. (2002), "Beliefs, attitudes and behavior towards web advertising", *International Journal of Advertising*, Vol. 21 No. 1, pp. 87-113.

Yaakop, A. Y., Hemsley-Brown, J. and Gilbert, D. C. (2011), "Attitudes towards advertising Malaysians vs. non-Malaysians", *Asian Journal of Business and Management Science*, Vol. 1 No. 2, pp. 77-94.

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BIBLIOMETRIC ANALYSIS OF GLOBAL RESEARCH DEVELOPMENTS ON THE ROLE OF TECHNOLOGY DURING COVID-19: CURRENT TRENDS AND FUTURE PROSPECT

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ABSTRACT

This is the first study, to the authors' knowledge, to evaluate and quantify the role of technology during COVID-19 as there are no research that maps out the emerging use of technology during crisis. This research aimed to retrieve journal articles related to technology usage during pandemic and suggest new avenues for future research. Within the span of less than two years, this study was able to conduct a bibliometric analysis of 3,490 publications related to the theme. By using Scopus database, the bibliometric procedures examined the research performance and development within the framework of international impact, while VOS Viewer 1.6.11 visualized the overall research trend of technology during COVID-19. The results indicate that the United States is the country with the most publications related to technology and COVID-19. Javaid, M. and Haleem, A. are the two prominent scholars in this field based on the total number of publications. Most of the articles published in this field are found in both natural sciences and social sciences, in which the top two journals are Sustainability Switzerland and International Journal of Environmental Research and Public Health. While Biosensors and Bioelectronics and Scientific Reports are the top two leading CiteScore journals in technology and COVID-19 studies. Among the most recent author keywords are climate change, academic performance, e-Learning, medical devices, digital health, vaccines, e-mental health, and e-commerce, which demonstrated the current keen interest associated with technology and COVID-19. This paper is beneficial for academicians, organizations, and policymakers in understanding the general picture of the field and enable future scholars to understand the emerging technological development trends during world crisis in "real-time" bibliometrics.

Keywords: Bibliometric, Scopus, VOS Viewer, Technology, COVID-19

INTRODUCTION

Technology related studies has continued to capture interest and attention in recent years due to the emerging technologies and the evolution of Internet such as web 4.0 (Internet of Things) and artificial intelligence (Mukhadis et al., 2021). The role of technology has amplified in the current pandemic which force the world to an emergency lockdown restriction. When the crisis first hit the world in 2020, individuals across the globe were forced to an unprecedented phenomenon such as an increase in online-based consumption such as online education, online shopping, and online media consumption (Lemenager et al., 2021). For example, in response to the coronavirus disease outbreak demonstrated how technology transformed the way we learn and work due to the unplanned and rapid move to online and remote learning and working. The global health crisis called for quick action in adapting to new ways of running business operations and we have seen digitalisation in every sector, particularly in online businesses.

Previous research includes a bibliometric analysis studies of science and technology planning (Huang et al., 2014); technology foresight of personalised medicine (Stelzer et al., 2015); technology mining (Madani, 2015); nanogenerator technology in China (Wang et al., 2018) and artificial intelligence (Zhang et al., 2021). However, to the best of the researchers' knowledge, there is no specific bibliometric analysis done on the current trends and future prospect of technology during global crisis such as COVID-19. Thus, the present study contributes to the existing literature by providing the first bibliometric analysis on the influence of technology during pandemic (i.e., COVID-19). This is because the COVID-19 crisis has highlighted a different set of needs to analyse trends in scholarship as they occur (i.e., real-time bibliometrics). This borderless and digital world encourages future research to have deeper insights on the importance role of technology especially during global crisis such as COVID-19.

This study aims to present a full picture and map the knowledge of previous research on this area. Moreover, this study suggests new avenues for future research using bibliometric analysis techniques depending on Scopus database. This paper brings a worldwide perspective because it analyses and organise large amounts of journal articles on technology during COVID-19 by identifying the global research trend, the top leading journals published in this area, most influential researcher, and regions where most publications and citations are taking place. As a result, this research provides new insight for future scholars in examining upcoming directions of technology and COVID-19 studies.

METHODS

The main objective of a bibliometric analysis is to examine the current literature development of a particular topic. The analysis results could be useful to provide directions and suggestions for future researchers in the area. In addition to that, bibliometric analysis could provide the trend of research, identifying top authors in writing the relevant papers, and identifying leading journals. These inputs differentiate a review paper and a bibliometric paper (Cobo et al., 2011). In this paper, the authors collected the bibliometric data from Scopus database. Data that was collected is such as affiliation of authors, countries, titles, abstracts, and others. Besides these, other indicators of performance in Technology and COVID-19 were also collected, such as total citations, total publications, and amount of single publication of top countries.

Searching Strategy

The necessary information was extracted on 29th April 2021, from Scopus database. This was done by setting a central theme in our searching, which was "Technology and COVID-19". These keywords were focused to mining the data in order to examine the global trend of Technology in COVID-19.

Due to COVID-19 was announced as a "pandemic" since the year of 2020, only journal articles that were published in the year of 2020 and 2021 were analysed in this bibliometric paper. Hence, the oldest paper was in 2020, and the latest paper was in 2021. Based on this information, the query string is as follows: (TITLE-ABS-KEY ("technology") AND TITLE-ABS-KEY (covid-19) OR TITLE-ABS-KEY (coronavirus) OR TITLE-ABS-KEY (covid)) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020)) AND (LIMIT-TO (LANGUAGE , "English")). The result of this query string showed that a total of 5, 113 papers were found.

However, since the authors intended to focus on empirical studies, non-empirical papers were needed to be excluded from the list. Hence, the authors unticked all review papers in the Scopus database. After excluding irrelevant studies, 3, 490 documents remained in the final stage of searching and the authors proceeded to bibliometric analysis. The details of query strings were shown in Table S1 (Supplementary Material).

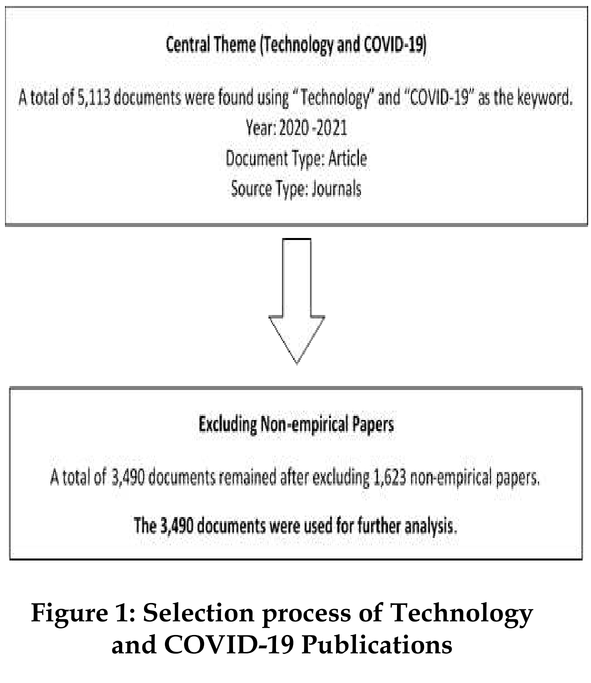


Figure 1: Selection process of Technology and COVID-19 Publications

Bibliometric Map

To illustrate bibliometric map in this analysis, the authors analysed the bibliographical information via VOS Viewer software. This is because VOS Viewer is known as a tool that visualising the bibliometric information by developing a bibliometric map, which to be presented in the coming sections in this paper. The co-authorship and author keywords patters will be presented in the following sections using bibliometric maps which were exported from VOS Viewer.

Co-authorship Analysis

The publications of Technology and COVID-19 involved 129 countries that were affiliated with each other to publish the papers in this topic. The authors ensured that the names of countries were not repeated in different abbreviations, hence thesaurus file was created. In that thesaurus file, similar country names were grouped together, such as "US" and "United States" were grouped as "United States". These affiliated countries were categorised into few regions, which were United States, Europe, United Kingdom, Middle East, Africa, Asia, Eurasia, and Oceania.

Analysis of Co-occurrence

A total of 324 author keywords was analysed in the co-occurrence analysis. Similar to co-authorship analysis, a thesaurus file was created before the authors developed the bibliometric map of author keywords. This is to prevent the similar author keyword to be repeated and affected the co-occurrence analysis. For example, "coronavirus", "covid", and "covid-19" were grouped as one author keyword, which was "COVID-19".

RESULTS AND DISCUSSION

Research Growth

From the information of Scopus database, the research growth of Technology and COVID-19 publications was analysed. From the graph showed in Figure 2, it can be seen that a huge number of publications was published under the theme, which was a total of 2, 061 publications in the year of 2020. The growth of this research scope is still growing rapidly till April 2021, where 1, 429 papers were published in just four months, which was about 70% of the number of publications in 2020. Cumulatively, a total of 3, 490 empirical papers was published in only 16 months.

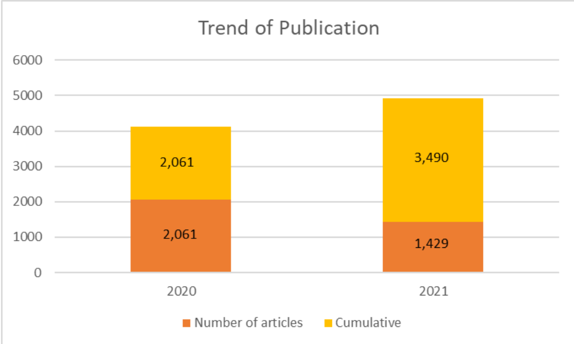


Figure 2: Trend of publications of Technology in COVID-19

The authors conducted further analysis on the subject area. Due to COVID-19 is a disease, Medicine was ranked as the first subject area (1, 405 articles), followed by Social Sciences (1, 014 articles), Computer Science (467 articles), Engineering (440 articles), and Biochemistry, Genetics and Molecular Biology (326 articles). The information here indicated that technology requires the research of computer science and engineering to assist COVID-19 happenings, as well as the technology in medicine and biochemistry. The role of technology during COVID-19 could also be seen when it was connected to Social Sciences, where human might need technology to stay connected with each other when social distancing was practiced.

Top Productive Journals Analysis

Table 1 indicated the top ten journals in terms of their total publication and the amount of citation in Scopus. As indicated in Table 1, top journals were from seven different publishers. The top two journals were from Multidisciplinary Digital Publishing Institute (MDPI). Out of seven publishers, MDPI, Journal of Medical Internet Research, and Frontiers Media S.A. had the greatest number of journals, where each of them had 2 out of 10 journals were from these publishers, followed by Public Library of Science, IEEE, American Chemical Society, and Elsevier. In addition to that, all the top journals were from Quartile 1 and 2 only, none of the leading journals were from Quartile 3 and 4. This proved that the attention towards Technology and COVID-19 was great, where top quality journals were publishing these relevant papers.

Sustainability Switzerland is the most leading journal that published the greatest number of papers (TP: 87, 2.5%) in Technology and COVID-19, followed by International Journal of Environmental Research and Public Health (TP: 81, 2.3%), Journal of Medical Internet Research (TP: 41, 1.2%), and Plos One (TP: 29, 0.8%). International Journal of Environmental Research and Public Health has the greatest number of citation (TC: 491). The Cite Score analysis showed that, two journals scored more than 5.0 in Cite Score, namely Plos One and Biosensors and Bioelectronics. Cite Score is one of the important information as it can help the future readers to decide which journals to publish their works (Khudzari et al., 2018).

Table 1: Top journals on Technology and COVID-19 Studies

Rank	Journal	Quartile	TP (%)	TC	Cite Score 2019	The most cited article (Reference)	Times cited	Publisher
1	Sustainability Switzerland	Q2	87 (2.5)	157	3.2	The impact of the COVID-19 pandemic on user experience with online education platforms in China (Chen et al., 2020)	19	Multidisciplinary Digital Publishing Institute (MDPI)
2	International Journal of Environmental Research and Public Health	Q2	81 (2.3)	491	3.0	Corona virus (Covid-19) "infodemic" and emerging issues through a data lens: The case of china (Hua & Shaw, 2020)	111	MDPI
3	Journal of Medical Internet Research	Q1	41 (1.2)	145	3.9	Framework for managing the COVID-19 infodemic: Methods and results of an online, crowdsourced who technical consultation (Tangcharoensathien et al., 2020)	47	Journal of medical Internet Research
4	Plos One	Q1	29 (0.8)	54	5.2	Pathogen reduction of SARS-CoV-2 virus in plasma and whole blood using riboflavin and UV light (Ragan et al., 2020)	17	Public Library of Science
5	IEEE Access	Q1	28 (0.8)	195	3.9	A Comprehensive Review of the COVID-19 Pandemic and the Role of IoT, Drones, AI, Blockchain, and 5G in Managing its Impact (Chamola et al., 2020)	112	IEEE
6	Journal of Chemical Education	Q2	27 (0.8)	46	3.4	Development and Use of Kitchen Chemistry Home Practical Activities during Unanticipated Campus Closures (Schultz, Callahan, & Miltiadous, 2020)	10	American Chemical Society
7	Frontiers in Psychology	Q1	26 (0.7)	25	3.2	Teacher Learning in Difficult Times:	6	Frontiers Media S.A.

Rank	Journal	Quartile	TP (%)	TC	Cite Score 2019	The most cited article (Reference)	Times cited	Publisher
						Examining Foreign Language Teachers' Cognitions About Online Teaching to Tide Over COVID-19 (Gao & Zhang, 2020)		
8	Frontiers in Public Health	Q2	19 (0.5)	48	2.0	Telemedicine as the New Outpatient Clinic Gone Digital: Position Paper From the Pandemic Health System Resilience PROGRAM (REPROGRAM) International Consortium (Part 2) (Bhaskar et al., 2020)	15	Frontiers Media S.A.
9	Biosensors and Bioelectronics	Q1	18 (0.5)	105	17.6	Diagnostic methods and potential portable biosensors for coronavirus disease 2019 (Cui & Zhou, 2020)	51	Elsevier
10	Jmir Mhealth And Uhealth	Q2	18 (0.5)	107	2.1	Peer-to-peer contact tracing: Development of a privacy-preserving smartphone app (Yasaka, Lehrich, & Sahyouni, 2020)	56	Journal of medical Internet Research

Note: TP= Total Publication; TC= Total Citation

Top Nations, Collaboration, and Institutions Analysis

This section discussed the top ten leading countries based on their number of publications in Scopus. In Table 3, the analysis result indicated that United States was ranked as first among the ten leading countries, where it owned 1019 publications, covering 29% of the worldwide publications (3, 490 papers). This brings a meaning that United States is the main contributors in this Technology and COVID-19 research, followed by top second country, China (371 publications), United Kingdom (370 publications), India (251 publications), and Italy (222 publications). As an addition to Table 3, a detailed list of top 30 leading countries and institutions was provided in Table S3, in the section of supplementary material.

As for the single-country publications (SCP) ranking, almost half of the countries scored more than 50% in SCP, where the highest SCP values (72.91%) was from India. Although United Kingdom owned the third highest in number of publications, its SCP value was lower than 50%. The value of SCP should be communicated to readers in this analysis because it shows the frequencies of collaborations between the involved countries (Khudzari et al., 2018). Hence, the higher the SCP value, it means the particular country has higher frequencies to share the knowledge with other countries through collaboration.

Based on the World University Rankings 2021, in the list of productive academic institution, more than half (6/10) of the universities were ranked as the top 200 best universities (THE, 2021), which were University of Oxford (5th), Sapienza Università di Roma (171st), Monash University (55th), University of Toronto (25th), Universitat de Barcelona (183rd), and King Abdulaziz University (143rd). This shows that much attention was gained from the universities to study or explore about technology in COVID-19. It is believed that the attention of top global universities could help to increase the awareness of the importance of technology in COVID-19.

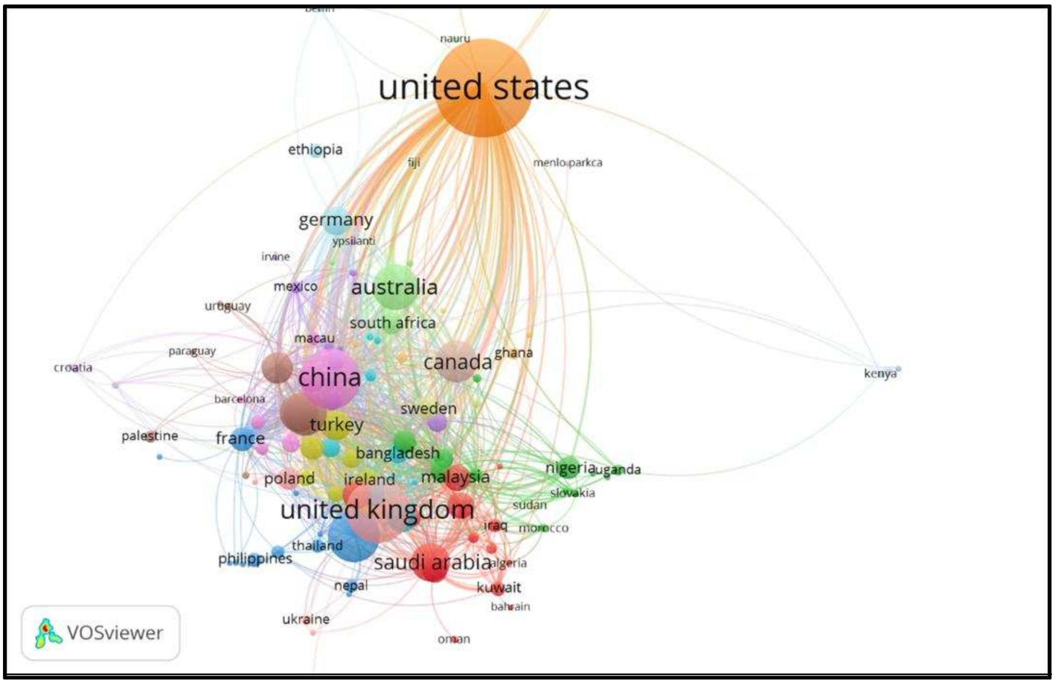
Other than presenting the data in Table 3, the co-authorship was analysed via VOS Viewer in order to visualize the information. As shown in Figure 3, each country was located in different points, where the stronger the link between the countries, both countries will be closer to each other in the map (Khudzari et al., 2018). In addition to that, the lines that were connected each country in the map showed the strength of links as well. The thicker the line, the stronger the link between the countries. The country with the greatest number of publications usually has the biggest font in the map, which was United States as shown in Figure 3.

The analysis of co-authorship indicated that United States had the most affiliations (102 links, 794 co-authorship), followed by United Kingdom (82 links, 639 co-authorship), Spain (79 links, 347 co-authorship), Australia (74 links, 356 co-authorship), Italy (74 links, 447 co-authorship) and other countries. In addition, the analysis result revealed that about half (53%) of the countries had less than 15 co-authorships. This highlighted that, in future, the 53% countries need to collaborate

Table 3: Top Nations and Institutes in Technology and COVID-19 Studies

Rank	Country	TPC	SCP (%)	Productive Academic Institution	TPI
1	United States	1019	69.87	Harvard Medical School	55
2	China	371	59.03	Huazhong University of Science and Technology	30
3	United Kingdom	370	42.70	University of Oxford	30
4	India	251	72.91	Jamia Millia Islamia	12
5	Italy	222	49.55	Sapienza Università di Roma	17
6	Australia	183	41.53	Monash University	23
7	Canada	182	47.25	University of Toronto	38
8	Spain	154	56.49	Universitat de Barcelona	10
9	Germany	133	39.10	Charité – Universitätsmedizin Berlin	9
10	Saudi Arabia	97	44.33	King Abdulaziz University	11

Note: TPC: total publications of the country; SCP: single-country publications; TPI: total publications of the organization



with more international countries in order to speed up the process of knowledge sharing across countries. In order to achieve this, the countries could improve the situation by increasing the research fund, improving the diversity in universities, and encouraging research climate in working places.

Most Productive and Highly Cited Authors

The data of most leading scholars was exported from Scopus database. Table 4 showed the top ten active scholars in the scope of Technology and COVID-19. The top ten scholars were from five nations, namely India, Italy, Australia, Canada, and France. Among the ten scholars, three of them were first author, two of them were second author, and half (5/10) of them were third author and above. Javaid, M., Haleem, A., and Vaishya, R. were the major contributors in Scopus database with 11, 9, and 9 total publication, respectively. Among the three major contributors, as expected, Javaid, M owned the highest citation among the scholars, where TC = 373. In addition to this, although Bragazzi, N.L. was ranked as 4th leading author, Bragazzi, N.L. owned the highest citation among all the ten scholars, where TC = 523. From Table 4, it could be seen that most of the authors were from India, and this result is tally with the ranking of leading country, where India was one of the most active countries in this research area. The top two authors from India were from the same affiliation, namely Jamia Millia Islamia, which was the most productive institution in India in this research area, as indicated in Table 3. This

Table 4: The top 10 productive scholars in Technology and COVID-19 research

Rank	Author	ID of Author in Scopus	First publication year*	TP	h-index	TC	Current Affiliation	Country
1	Javaid, M.	57201798958	2020b	11	19	373	Jamia Millia Islamia, New Delhi	India
2	Haleem, A.	25627604500	2020c	9	30	364	Jamia Millia Islamia, New Delhi	India
3	Vaishya, R.	6602902951	2020a	9	20	310	Indraprastha Apollo Hospitals, New Delhi	India
4	Bragazzi, N.L.	57212030091	2020b	5	33	523	York University, Toronto	Canada
5	Leocani, L.	26643042800	2020c	5	33	62	Università Vita-Salute San Raffaele, Milan	Italy
6	Suman, R.	57191022246	2020c	5	6	216	Govind Ballabh Pant University of Agriculture and Technology, Pantnagar	India
7	Ammar, A.	24491660300	2020a	4	13	267	Université Paris Nanterre, Nanterre	France
8	Bastoni, S.	57217001267	2020c	4	5	267	Università Cattolica del Sacro Cuore, Milan	Italy
9	Bhaskar, S.	57192268582	2020a	4	12	35	NSW Health	Australia
10	Bottiroli, S.	24471204500	2020c	4	15	18	Giustino Fortunato University, Benevento	Italy

Note*= a: First Author, b: Second Author, c: Third Author and above; TP=Total Publication; TC=Total Citation indicated that this university was active in publishing Technology and COVID-19 research.

Author Keywords

The authors documented 374 author keywords, where 17% (65 author keywords) were used for five times, 18% (69 author keywords) were used for six times, 10% (38 author keywords) were used for seven times, 5% (18 author keywords) were used for eight times, 2% (9 author keywords) were used for nine times, while 33% (125 author keywords) were used for more than ten times.

To avoid identical keywords, the researcher created a thesaurus file in which similar author keywords were re-labelled. As a result, there was a total of 324 author keywords (minimum of five occurrences) generated from the new analysis.

Concept and Terminology

The analysis of the author keywords co-occurrences suggested that 'COVID-19' was the most frequently used keywords in previous studies. There were 1947 occurrences and 314 links to other related keywords as shown in Figure 4.

There were several author keywords often used in relation to COVID-19 studies such as 'technology', in which it had 190 occurrences and 150 links (i.e., third highest occurrences after 'COVID-19'). Several author keywords were also found in conceptualising 'COVID-19' and 'technology'. For instances, 'digital technology' comes in 10th place for the highest number of occurrences with 190 occurrences and 150 links.

Besides that, there were few terms associated with 'COVID-19' and 'technology' found in author keywords analysis, namely 'artificial intelligence' (63 occurrences and 65 links), 'social media' (51 occurrences and 58 links), 'mobile apps' (39 occurrences and 66 links), 'Internet of Things' (34 occurrences and 50 links), 'big data' (31 occurrences and 41 links), 'virtual reality' (20 occurrences and 29 links), 'digital transformation' (20 occurrences and 34 links), and 'digitalisation' (20 occurrences and 23 links). As suggested by past researcher, the use of technology is more prominent during the pandemic and there is now wide range and advancement of digital technology consume by the public (Ting et al., 2020).

In particular, the role of 'Internet of Things' and 'artificial intelligence' is evidence in Table 1, in which these two terms are among the most cited papers when assessing 'COVID-19' such as article by Chamola et al., (2020) on 'a Comprehensive Review of the COVID-19

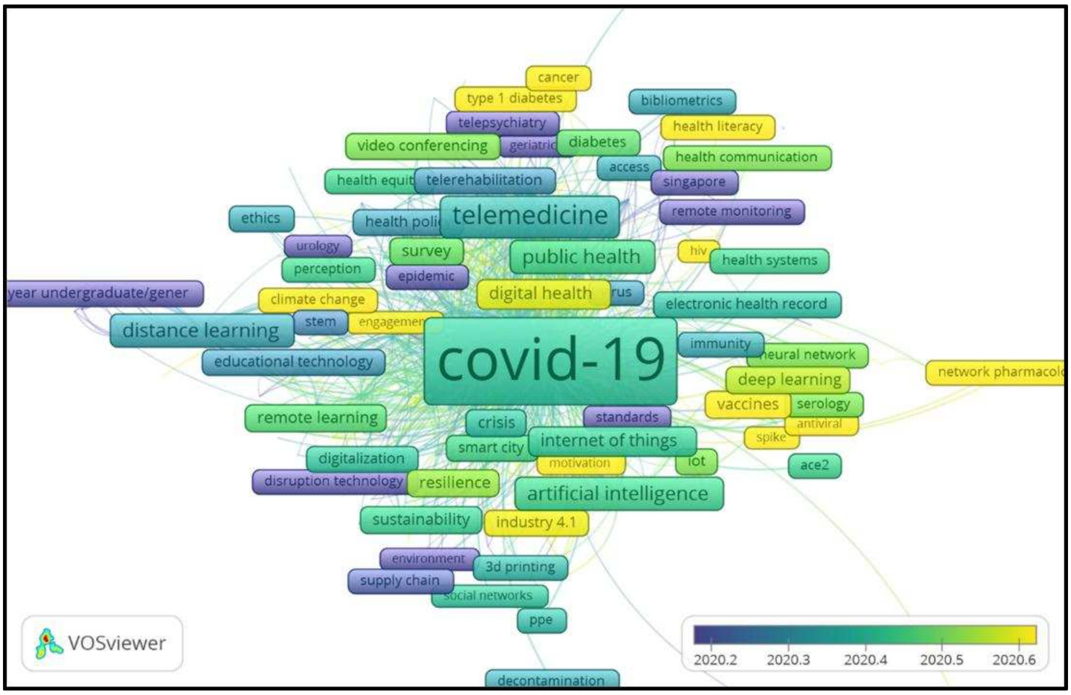


Figure 4: The Bibliometric Map of Author Keywords (Minimum Occurrences: 5)

Source: This Study

Pandemic and the Role of IoT, Drones, AI, Blockchain, and 5G in Managing its Impact'.

Based on the analysis, the author keyword such as 'contact tracing' (42 occurrences and 46 links) and 'mobile apps' (39 occurrences and 66 links) had a lot of occurrences in relation to COVID-19 studies. This finding is consistent with the analysis in Table 1, where one of the top cited papers mentioned about 'contact tracing' and 'mobile apps', namely 'Peer-to-peer contact tracing: Development of a privacy-preserving smartphone app' by Yasaka, Lehrich, and Sahyouni (2020). For instances, the adoption of COVID-19 contact-tracing technology is widely used globally as a tool to control and break the transmission of the infectious disease outbreaks (Walrave et al., 2020)

Topic of Interest

The bibliometric analysis revealed that the author keywords were related to technology and medical sciences such as 'telemedicine' (198 occurrences and 126 links), 'telehealth' (122 occurrences and 89 links), 'telerehabilitation' (17 occurrences and 20 links), and 'digital health' (42 occurrences and 75 links). For instances, 'telemedicine' is the second highest occurrences after 'COVID-19', with 198 occurrences and 126 links, and 'telehealth' is the fourth highest occurrences after 'technology', in which it had 122 occurrences and 89 links. This finding is evidence by one of the most cited articles in Table 1, in which it is linked to 'telemedicine', namely, 'Telemedicine as the New Outpatient Clinic Gone Digital: Position Paper from the Pandemic Health System Resilience Program (Reprogram) International Consortium (Part 2)' by Bhaskar et al., (2020), and 'Diagnostic methods and potential portable biosensors for coronavirus disease 2019' by Cui and Zhou (2020). This is because the current health system is using telemedicine and virtual care for remote treatment in response to COVID-19 pandemic (Jnr, 2020).

Besides the link between COVID-19, technology and medical sciences, the analysis of author keywords suggested the essential roles of technology and education during COVID-19 such as 'online learning' (117 occurrences and 75 links), 'higher education' (68 occurrences and 61 links), 'distance learning' (64 occurrences and 51 links), 'remote learning' (26 occurrences and 30 links), 'educational technology' (20 occurrences and 23 links), and 'blended learning' (16 occurrences and 14 links). As evidence in Table 1, 'online education' is among the most cited papers when assessing COVID-19 such as article by Chen et al., (2020) on 'The Impact of the COVID-19 pandemic on User Experience with Online Education Platforms in China', and article by Gao and Zhang (2020) on 'Teacher Learning in Difficult Times: Examining Foreign Language Teachers' Cognitions About Online Teaching to Tide Over COVID-19'. Moreover, this finding is consistent with the analysis in Table 1, where one of the top cited papers mentioned about remote and distance learning due to unanticipated campus closured during the pandemic, namely 'Development and Use of Kitchen Chemistry Home Practical Activities during Unanticipated Campus Closures' by Schultz, Callahan, and Miltiadous (2020).

The bibliometric analysis revealed that the author keywords were indeed related to the excessive amount of information concerning the pandemic and the technological capacity to store information such as 'information and communication technologies' (47 occurrences and 56 links) and 'infodemic' (6 occurrences and 9 links). This finding is consistent with the analysis in Table 1, where two of the top cited papers mentioned about 'infodemic', which is the combination of the word information and pandemic, for example, article by Hua and Shaw (2020) on 'Evidence by Corona virus (Covid-19) 'infodemic' and emerging issues through a data lens: The case of china'; and article by Tangcharoensathien et al. (2020) on 'Framework for managing the COVID-19 infodemic: Methods and results of an online, crowdsourced who technical consultation'.

Accordingly, scholars have also explained the relation between individuals' well-being, health, technology, and COVID-19. For instances, the analysis of author keywords suggested the following: 'mental health' (68 occurrences and 84 links), 'public health' (64 occurrences and 71links), 'healthcare' (39 occurrences and 52 links), 'vaccines' (22 occurrences and 25 links). These findings are consistent with the analysis in Table 1, where one of the top cited papers mentioned about 'digital mental health' in relation to COVID-19, namely, 'Digital Mental Health and

COVID-19: Using Technology Today to Accelerate the Curve on Access and Quality Tomorrow by Torous et al., 2020. Due to the social distancing and remote living, the public is turning to technology to support wellbeing of their own during this pandemic challenging times (Goldschmidt, 2020).

The analysis of author keywords recommended that future research should concentrate on 'climate change'. This is because 'climate change' (8 occurrences, 11 links) had become one of the latest author keywords in COVID-19 studies (Average Publication Year: 2020). The COVID-19 pandemic not only changed human lives but also had a global implication for energy management systems and climate change, especially since experts warn that pandemics are recurring risks that worsen with climate change (Chen et al., 2021; Meinrenken et al. 2020).

Besides that, the analysis of author keywords suggested that future studies should also concentrate on examining the effect of COVID-19 on academic performance, as well as the effect of e-Learning. This is because 'academic performance' (6 occurrences, 9 links) and e-Learning (5 occurrences, 10 links) had become two of the recent author keywords in COVID-19 studies (Average Publication Year: 2020). The changes in emergency remote learning have caused massive disruption in the way traditional education system deliver the knowledge to students, as well as psychological distress among school children due to the school suspension (Iglesias-Pradas et al., 2021; Chen et al., 2020).

Future research should continue to investigate the positive and negative effects of online and remote learning during the pandemic on the overall academic performance. There are still room for future research to shed light on this matter by examining the advantages, limitations and recommendations of virtual teaching and learning during this global catastrophe.

The analysis of author keywords recommended that future studies should focus on the relationship between medical related studies during COVID-19 such as medical devices, digital health as well as health literacy and vaccines. This is because 'medical devices' (6 occurrences, 13 links), 'digital health' (42 occurrences, 75 links), 'health literacy' (6 occurrences, 5 links), and 'vaccines' (22 occurrences, 25 links) have become among the recent author keywords in COVID-19 studies (Average Publication Year: 2020). For example, future scholars should further explore medical devices advancement and ensuring the safety and effectiveness of those devices in assisting those in need during this pandemic (WHO, 2020). In the race of finding the solution to the contagious disease outbreak, it is vital for future researchers to continue investigate the significant role of digital health, health literacy and vaccines.

The author keyword such as 'acceptance' (5 occurrences, 9 links), 'quality of life' (7 occurrences, 10 links), 'new normal' (5 occurrences, 7 links), 'uncertainty' (7 occurrences, 10 links), 'well-being' (15 occurrences, 22 links) and 'e-mental health' (5 occurrences, 15 links) has also been getting a significant attention in the recent years (Average Publication Year: 2020), especially when this unprecedented deadly disease has affected the way people lives their life and transition towards the 'new normal of living'.

Future research should investigate individuals' acceptance towards the new norms that requires fewer human interactions and social distancing. To ensure a sound and healthy social well-being, future scholar is encouraged to further develop the mental health technology revolution such as technology-based therapy in the COVID-19 pandemic to assist individuals in thriving during this challenging and uncertain times (Figueroa and Anguilera, 2020).

Finally, future studies should emphasize on the role of 'e-commerce' (6 occurrences, 6 links) and 'industry 4.1' (12 occurrences, 19 links) as both are the recent authors keywords in relation to COVID-19 studies (Average Publication Year: 2020). A major concern in COVID-19 studies is related to the adoption of e-commerce (Gao et al., 2020). Future studies should further explore the role of e-commerce and industry 4.1 as there may be opportunities to build on social changes catalysed by COVID-19 and further improve the economic recession, especially that the pandemic has accelerated e-commerce trends post-lockdown (Tran, 2021).

Limitations of Study

In the query string, this bibliometric analysis focused on only empirical studies from journal articles. This searching strategy might overlook other types of journal articles such as review papers, as well as other sources of information, such as book chapters and conference proceedings. In addition to that, the data mining was conducted in Scopus database only, which could limit the searching result. Web of Science (WOS) is recommended for future researchers to combine both database in order to obtain a more thorough result.

CONCLUSION

The current study has successfully analysed and discussed the research growth trend of technology and COVID-19 based on 3,490 related studies in Scopus database. Within the span of less than two years, the growth of COVID-19 and technology studies has been increasing rapidly and will continue to expand as the world start to recover from this deadly disease and the development of technology advancement.

It was also discovered that climate change, academic performance, e-Learning, medical devices, digital health, vaccines, e-mental health, and e-commerce were new area in examining COVID-19 and technology with average publication year of 2020. These topic areas have the potential to become prominent upcoming topic in the future, hence future researcher should investigate these concepts in relation to COVID-19 and technology.

REFERENCES

Bhaskar, S., Bradley, S., Chattu, V. K., Adisesh, A., Nurtazina, A., Kyrykbayeva, S., ... and Ray, D. (2020). Telemedicine as the new outpatient clinic gone digital: position paper from the pandemic health system Resilience PROGRAM (REPROGRAM) international consortium (Part 2). *Frontiers in public health*, *8*.

Chamola, V., Hassija, V., Gupta, V., and Guizani, M. (2020). A comprehensive review of the COVID-19 pandemic and the role of IoT, drones, AI, blockchain, and 5G in managing its impact. *Ieee access*, *8*, pp.90225-90265.

Chen, T., Peng, L., Jing, B., Wu, C., Yang, J., and Cong, G. (2020). The impact of the COVID-19 pandemic on user experience with online education platforms in China. *Sustainability*, *12*(18), p.7329.

Chen, I.H., Chen, C.Y., Pakpour, A.H., Griffiths, M.D. and Lin, C.Y., 2020. Internet-related behaviours and psychological distress among schoolchildren during COVID-19 school suspension. *Journal of the American Academy of Child and Adolescent Psychiatry*, *59*(10), p.1099.

Cui, F., & Zhou, H. S. (2020). Diagnostic methods and potential portable biosensors for coronavirus disease 2019. *Biosensors and Bioelectronics*, *165*, p.112349.

Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., and Herrera, F. (2011). Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for information Science and Technology*, *62*(7), pp.1382-1402.

Figueroa, C.A. and Aguilera, A., 2020. The need for a mental health technology revolution in the COVID-19 pandemic. *Frontiers in Psychiatry*, *11*.

Gao, L. X., and Zhang, L. J. (2020). Teacher learning in difficult times: Examining foreign language teachers' cognitions about online teaching to tide over COVID-19. *Frontiers in Psychology*, *11*, p.2396.

Gao, X., Shi, X., Guo, H. and Liu, Y., 2020. To buy or not buy food online: The impact of the COVID-19 epidemic on the adoption of e-commerce in China. *PloS one*, *15*(8), p.e0237900.

Goldschmidt, K., 2020. The COVID-19 pandemic: Technology use to support the wellbeing of children. *Journal of Pediatric Nursing*.

Hua, J., and Shaw, R. (2020). Corona virus (Covid-19)"infodemic" and emerging issues through a data lens: The case of china. *International journal of environmental research and public health*, *17*(7), p.2309.

Huang, L., Zhang, Y., Guo, Y., Zhu, D. and Porter, A.L., 2014. Four dimensional Science and Technology planning: A new approach based on bibliometrics and technology road mapping. *Technological Forecasting and Social Change*, *81*, pp.39-48.

Iglesias-Pradas, S., Hernández-García, Á., Chaparro-Peláez, J. and Prieto, J.L., 2021. Emergency remote teaching and students' academic performance in higher education during the COVID-19 pandemic: A case study. *Computers in Human Behavior*, *119*, p.106713.

Jnr, B.A., 2020. Use of telemedicine and virtual care for remote treatment in response to COVID-19 pandemic. *Journal of Medical Systems*, *44*(7), pp.1-9.

Khudzari, J. M., Kurian, J., Tartakovsky, B., and Raghavan, G. V. (2018). Bibliometric analysis of global research trends on microbial fuel cells using Scopus database. *Biochemical engineering journal*, *136*, pp.51-60.

Lemenager, T., Neissner, M., Koopmann, A., Reinhard, I., Georgiadou, E., Müller, A., Kiefer, F. and Hillemacher, T., 2021. COVID-19 Lockdown Restrictions and Online Media Consumption in Germany. *International journal of environmental research and public health*, *18*(1), p.14.

Madani, F., 2015. 'Technology Mining 'bibliometrics analysis: applying network analysis and cluster analysis. *Scientometrics*, *105*(1), pp.323-335.

Mukhadis, A., Putra, A.B.N.R., Kiong, T.T., Sutadji, E., Puspitasari, P., Sembiring, A.I. and Subandi, M.S., 2021, March. The innovation of learning plan designer based mobile web to improve quality of learning media in vocational technology for education 4.0. In *Journal of Physics: Conference Series* (Vol. 1833, No. 1, p. 012030). IOP Publishing.

Meinrenken, C.J., Modi, V., Mckeown, K.R. and Culligan, P.J., 2020. New Data Suggest COVID-19 Is Shifting the Burden of Energy Costs to Households. *Columbia University*.

Ragan, I., Hartson, L., Pidcoke, H., Bowen, R., and Goodrich, R. (2020). Pathogen reduction of SARS-CoV-2 virus in plasma and whole blood using riboflavin and UV light. *Plos one*, *15*(5), e0233947.

Schultz, M., Callahan, D. L., and Miltiadous, A. (2020). Development and use of kitchen chemistry home practical activities during unanticipated campus closures. *Journal of Chemical Education*, *97*(9), pp.2678-2684.

Stelzer, B., Meyer-Brötz, F., Schiebel, E. and Brecht, L., 2015. Combining the scenario technique with bibliometrics for technology foresight: The case of personalized medicine. *Technological Forecasting and Social Change*, *98*, pp.137-156.

Tangcharoensathien, V., Calleja, N., Nguyen, T., Purnat, T., D'Agostino, M., Garcia-Saiso, S., ... and Briand, S. (2020). Framework for managing the COVID-19 infodemic: methods and results of an online, crowdsourced WHO technical consultation. *Journal of medical Internet research*, *22*(6), e19659.

Tran, L.T.T., 2021. Managing the effectiveness of e-commerce platforms in a pandemic. *Journal of Retailing and Consumer Services*, *58*, p.102287.

THE (2021), Retrieved from https://www.timeshighereducation.com/world-university-rankings/2021/world-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats

Ting, D.S.W., Carin, L., Dzau, V. and Wong, T.Y., 2020. Digital technology and COVID-19. *Nature medicine*, *26*(4), pp.459-461.

Torous, J., Myrick, K.J., Rauseo-Ricupero, N. and Firth, J., 2020. Digital mental health and COVID-19: using technology today to accelerate the curve on access and quality tomorrow. *JMIR mental health*, *7*(3), p.e18848.

Van Eck, N. J., and Waltman, L. (2018). VOS viewer Manual 1.6. 11. *Manual, (version 1.6. 9)*.

Wang, B., Liu, Y., Zhou, Y. and Wen, Z., 2018. Emerging nanogenerator technology in China: A review and forecast using integrating bibliometrics, patent analysis and technology road mapping methods. *Nano energy*, *46*, pp.322-330.

Walrave, M., Waeterloos, C. and Ponnet, K., 2020. Ready or Not for Contact Tracing? Investigating the Adoption Intention of COVID-19 Contact-Tracing Technology Using an Extended Unified Theory of Acceptance and Use of Technology Model. *Cyberpsychology, Behavior, and Social Networking*.

World Health Organization, 2020. *Priority medical devices list for the COVID-19 response and associated technical specifications: interim guidance, 19 November 2020* (No. WHO/2019-nCoV/MedDev/TS/O2T. V2). World Health Organization.

Yasaka, T. M., Lehrich, B. M., and Sahyouni, R. (2020). Peer-to-peer contact tracing: development of a privacy-preserving smartphone app. *JMIR mHealth and uHealth*, *8*(4), e18936.

Zupic, I., and Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, *18*(3), pp.429–472.

Zhang, Y., Wu, M., Tian, G.Y., Zhang, G. and Lu, J., 2021. Ethics and privacy of artificial intelligence: Understandings from bibliometrics. *Knowledge-Based Systems*, p.106994.

SUPPLEMENTARY MATERIALS

Supplementary information:
Table S1: Search strategies and query strings
Table S2: The leading Cite Score journals in Technology and COVID-19 studies (Minimum 15 research articles)
Table S3: The top 30 most productive institutions in Technology and COVID-19 studies

Table S1: Search strategies and query strings

Items	Theme	Search for:	Query Strings
i.	Central	Technology and COVID-19	(TITLE-ABS-KEY ("technology") AND TITLE-ABS-KEY (covid-19) OR TITLE-ABS-KEY (coronavirus) OR TITLE-ABS-KEY (covid)) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020)) AND (LIMIT-TO (LANGUAGE , "English"))
ii.	Central	Technology and COVID-19 (Journal Articles only)	(TITLE-ABS-KEY ("technology") AND TITLE-ABS-KEY (covid-19) OR TITLE-ABS-KEY (coronavirus) OR TITLE-ABS-KEY (covid)) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020)) AND (LIMIT-TO (LANGUAGE , "English"))

Table S2: The leading CiteScore journals in Technology and COVID-19 studies (with minimum requirement of 15 publications and above) rank based on cite score

Rank	Name of Journal	Cite Score in 2019	Publisher	Amount of Publication
1	Biosensors and Bioelectronics	17.6	Elsevier	18
2	Scientific Reports	7.2	Springer Nature	15
3	Journal of Diabetes Science and Technology	5.4	Diabetes Technology Society	16
4	Plos One	5.2	Public Library of Science	29
5	Journal of Medical Internet Research	3.9	Journal of medical Internet Research	41
6	IEEE Access	3.9	IEEE	28
7	Journal of Chemical Education	3.4	American Chemical Society	27
8	Sustainability Switzerland	3.2	Multidisciplinary Digital Publishing Institute (MDPI)	87
9	Frontiers in Psychology	3.2	Frontiers Media S.A.	26
10	International Journal of Environmental Research and Public Health	3	Multidisciplinary Digital Publishing Institute (MDPI)	81
11	Journal of Intelligent and Fuzzy Systems	2.6	IOS Press	18
12	Diabetes and Metabolic Syndrome Clinical Research and Reviews	2.6	Elsevier	15
13	Jmir Mhealth And Uhealth	2.1	Journal of medical Internet Research	18
14	Frontiers in Public Health	2	Frontiers Media S.A.	19
15	Medicine	0.9	Elsevier	18
16	Education Sciences	0.8	Multidisciplinary Digital Publishing Institute (MDPI)	15
17	Library Philosophy and Practice	0.3	University of Idaho Library	18

Table S3: The top 30 most productive institutions in Technology and COVID-19 Research

Rank	Institution	Country	No. of Publications
1	Harvard Medical School	US	55
2	University of Toronto	Canada	38
3	Huazhong University of Science and Technology	China	30
4	University of Oxford	UK	30
5	Massachusetts General Hospital	US	28
6	Tongji Medical College	China	26
7	Imperial College London	UK	26
8	University of Cambridge	UK	26
9	King's College London	UK	25
10	University of California, San Francisco	US	25
11	University College London	UK	24
12	Monash University	Australia	23

Rank	Institution	Country	No. of Publications
13	University of Washington	US	22
14	The University of British Columbia	UK	21
15	Stanford University	US	21
16	UNSW Sydney	Australia	21
17	Ministry of Education China	China	20
18	University of Pennsylvania	US	20
19	Brigham and Women's Hospital	US	20
20	Chinese Academy of Sciences	US	20
21	University of Melbourne	Australia	20
22	University of Alberta	Canada	20
23	University of Michigan, Ann Arbor	US	19
24	Stanford University School of Medicine	US	19
25	University of Calgary	Canada	18
26	The University of Hong Kong	Hong Kong	18
27	Harvard University	US	18
28	The University of Sydney	Australia	17
29	University of Minnesota Twin Cities	US	17
30	The University of Queensland	Australia	17

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EXAMINING THE IMPACT OF TEAM BASED LEARNING ON PERSONALITY, COMMUNICATION, ITS MANAGERIAL IMPLICATIONS AND OUTCOMES

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ABSTRACT

There have been innumerable researches linking personality traits to jobs and job outcomes. However, little has been talked about in terms of linking innovative teaching pedagogy and its impact on personality, with specific reference to managerial students, keeping in mind their future job profiles. This research aims to empirically study the impact of Team Based Learning (TBL) on personality and the changes in proficiency levels of management-school students, post a Business-Communication Course. For this research, Descriptive Cross-sectional Research Design was employed. The data was collected using a close ended questionnaire as the survey instrument. Furthermore, the data was analysed using multivariate data analysis tools like EFA, Cluster Analysis and Regression Analysis. Results indicate that there is a definite impact on two aspects of the personality which are: Functional and Social/Outward. Further, the research indicates that in males, TBL points towards an outward development, whereas in females, the results are more towards inner development. Furthermore, on the basis of cluster analysis, three clusters are proposed which are; protean, enterprising and affable. Each cluster has distinctive traits which are specified in the study. So, TBL aids future mangers to think about an issue from various angles and helps reduce gloss phobia. Further, findings are suggestive that since Protean, enterprising and affable personalities are approximately equal in number, future academic planning can adopt this new conceptualization.

Keywords: Personality, Team Based Learning, multivariate analysis, functional aspects, social and outward aspects, communication skills.

INTRODUCTION

A recent study by Rachel Williamson Smith and Michael M. DeNunzio (2020), has integrated the theory of purposeful work behavior and the job demands-resources model, while taking into account the distinctive interactions between the individual personality and job characteristics. The research further examined job resources and challenging job demands as moderators, and eventually perceived a mixed support for their hypotheses across the two studies.

The current research examines the impact of Team Based Learning (TBL) on the personality of managerial students, while keeping their future job profiles in mind. Prior to understanding the current trends in management pedagogy and its impact on personality, it would be interesting to note that the year 1958 witnessed a change in management teaching pedagogy. That is to say, pedagogy was inclined towards being more research based rather than vocational (Schlossman et al., 1998). Thereafter, the 70's reported dearth of relevance with reference to topics under research. In addition to this, the course content was highly quantitative, and it was marked with an absence in terms of readiness for entrepreneurial careers (Schlossman et al., 1998).

As a result of these findings, business schools modified courses to include topics related to teamwork, organizational behavior and entrepreneurial tracks. The pedagogy used was faculty driven and focused primarily on knowledge creation and assimilation. It was only in 1998, after the introduction of rankings for business schools through media, that management schools became proactive towards making changes in pedagogy (Schmotter, 1998; Segev et al., 1999).

Quite clearly, major changes occurred because of the advent of technology and its usage in the current scenario. As a result, the concept of conventional classrooms and teaching in an orthodox fashion faded into the oblivion. There has been a drastic revamping of the conformist classroom; it has been transformed to a network learning milieu where knowledge routing and achievement-based outcomes are some of the main elements of education (Dolence and Norris, 1995; Leavitt, 2000).

The new model of teaching requires educators to consider new meanings and methods of learning along with teaching models that are suitable for a society of the Information age (Konyu-Fogel, 2009; Kalliath and Laiken, 2006).

In the latest scenario, knowledge is built by combined inputs of faculty and students, unlike the earlier model wherein it was a one-way traffic of faculty passing on knowledge to students mainly through lecture pedagogy (Boyatzis and Kram, 1999). Students have become active constructors and discoverers of knowledge, while faculty has donned the cap of facilitators. The aim of instructors today is to build and tap key competencies in students. Relationship building among students and faculty is a vital component in nurturing cooperative learning and teamwork.

Resultantly, in the current educational scenario, with specific reference to management institutions, there is an emphasis on Active Learning (AL). This is specifically because active learning impacts students' learning in a positive manner (Beghetto and Kaufman, 2009; Chu and Libby, 2010; Hermanson, 1994). This comprises of the act of learning by doing rather than passively listening to the instructor (Paulson and Faust, 2014). There are various means in which students can be actively engaged in the learning process. These techniques include simulations, case-studies, team-based learning, problem solving, role plays, group discussions and presentations to name a few.

Team-based learning (TBL) is a relatively new teaching approach that makes extensive use of intensive interactive team activities in the classroom to deepen learning (Chace, 2014). TBL is one of the components of Active Learning and one of the reasons for an increase in Active Learning is that students nowadays are wary of the old-age pedagogy of simply listening to the instructor (Grauer et al., 2008).

Today, the idea is to learn through the act of doing. In addition to this, recruiters in today's day and age place a major emphasis on effective communication, the ability to work in teams, the skills of problem-solving, increasing content knowledge and the ability to be an independent thinker.

Business Communication courses in management schools are designed in a manner wherein students practice and learn through team-based learning amongst various other pedagogical tools. One of the prime reasons for promoting team-based learning is that it increases efficiency of students by developing their teamwork skills (Chen et al., 2004). Team-based learning provides a platform where there is a free exchange of knowledge, a flow of ideas and interaction of different minds. While working in teams, individuals become aware of the thought processes of others in their peer group, there is a critical examination of facts and figures while working on specific problems and there is a dynamic interaction amongst team members. This eventually sheds inhibitions of students and tends to increase their professional communication skills. Resultantly, students are able to express their views in a more coherent and concise manner (Hwang et al., 2008). Similarly, it has been found that students' attitudes and satisfaction with reference to team-based learning changes with the duration of time, is positive, and students recognize its benefits, especially in the development of team-work skills (Reinig et al., 2011).

Management schools nowadays practice imparting knowledge on the Outcome Based Education (OBE) framework (Anderson and Krathwohl, 2001). The entire idea is to design course modules in a manner wherein the progress of students can be mapped. Sharples et al. (2016) have talked about ways and means to innovate during teaching and have also stated the importance of teachers as policy makers of innovation.

Team-based learning is one such practice wherein the changes in students can be measured in an evident fashion. One of the vital facts about team-based learning is that it has been listed as one of the key skills that should be taught to students pursuing undergraduate degrees (Plice and Reinig, 2009).

Research on team-based learning has talked about a range of issues in the productive use of student teams which are inclusive of virtual teams, dialogic communication, collaborative learning designs and team leadership (Kalliath and Laiken, 2006). However, there is not much thrust upon the perspective of the student and their views when it comes to team-based learning (Jassawalla et al., 2009). Therefore, there are research gaps in terms of self-perception of management students with respect to team-based learning and its usefulness therein.

The paper specifically focusses on ten statements related to team based learning and its perceived impact on students, as stated by them. It aims at probing whether students find learning in teams beneficial, if TBL has increased the student's existing vocabulary, whether working in teams gives a deeper understanding on topics discussed, if confidence has increased as a result of team based learning, whether their fear of public speaking has decreased because of working in teams and if students have become more sociable as a result of team based learning.

The self-perception also reflects whether or not TBL has increased the student's ability to think out of the box, if students have become more assertive in expressing their views because of working in teams, their comfort while working in teams and finally whether TBL has increased students' managerial skills. The respondents of this research are management students from five management schools in Lucknow, India. This paper focuses on the self-perception of management students with respect to team-based learning and its impact on personality. Various parameters of communication skills have been taken into account and students have rated themselves after the delivery of the course. The respondents of this research are management students from various management colleges in Lucknow, India.

LITERATURE REVIEW

Team Based Learning is an instructional strategy where students work in small groups to enhance/deepen learning (Michaelsen et al., 1997). In it, student teams can give individuals insights and understanding that cannot be achieved alone (Johnson and Johnson, 1998). According to Michaelsen and Sweet (2009), "the four essential elements of TBL consist of: (1) appropriately created and managed teams, (2) students held accountable for the quantity and quality of their individual and team work, (3) regular and timely feedback, and (4) team assignments that promote learning and team development."

When the four essential elements of TBL are successfully implemented, cohesive learning communities can evolve. TBL may provide an opportunity for students to develop problem solving skills that are aided by regular feedback from the instructor and team members. Problem solving occurs in team settings where "individuals share tasks and contribute to resolving problems that are not well defined" (Hunt et al., 2003).

TBL provides opportunities for students to recognize gaps in one's knowledge. These gaps are exposed during team discussions and reporting, which can become a strong motivator for continued learning. The instructor needs to monitor how the groups are being formed to make sure that the group will succeed and become cohesive. In order to monitor TBL, it is essential that students should be in the same group for the entire semester. Students must be accountable to both their faculty and their group. Individual learning, group development, and group cohesiveness are limited when there is a lack of preparation (Michaelsen and Sweet, 2008). A grading system that is best for a TBL course is one that provides incentives for group and individual work.

Although team-based learning can be effective, there are challenges as well. Some of the challenges are cultural differences, technical challenges, and participation challenges. According to Miller (2009) "cultural differences can become a challenge when the differences are not realized and for which no preparation has been taken." To overcome cultural differences students should talk about their culture at the beginning of the class and openly discuss any cultural factors that may influence the way they learn and participate in the class. The instructor should instruct students to be sensitive to other students so they do not offend anyone. Technical problems can be a challenge in any online class. In some cases, the technical support is not adequate. In addition to this, participation problems are obvious in team-based learning. No matter how much an instructor stresses upon the importance of participation, there are still going to be some who do not participate. Working in online groups can be extremely frustrating when group members fall behind or do not complete tasks they were assigned by the group. Students must identify and discover specific roles to allow the group to operate effectively. Students must be able to trust the members of the group or success might be limited to one person doing all the work, or not completing the assignment at all. Developing a sense of trust has been found to be related to group success (Morgan et al., 2009). In addition to this, immediate feedback helps individuals retain the material.

The last essential element of TBL is assignment design. First and foremost, instructors have to make sure that the assignments are focused on learning, and secondly, that the assignments concentrate on further development of the teams. Thompson and Ku (2010) note that teams that collaborate more during their online classes "initiated more interactions among team members, generated more new ideas through discussions, and solved problems more independently with less guidance from the instructor, and ultimately retrieved better learning results." This indicates that TBL in online learning can help students generate ideas, improve independent thinking, and solve problems. In addition, TBL could assist passive learners to become active participants in online discussions. For example, in most online classes, students are required to participate in weekly discussions by posting responses to topical questions and responding to other classmates' posts (Konyu-Fogel, 2009). To complete these tasks, students need to understand and apply the concepts learned so they can have a productive discussion in the class. This is different from a face-to-face class where some students tend to hide and don't engage in classroom discussions (Gomez et al., 2009). Teaching an online class can be very difficult for some teachers to accomplish. Faculty need to make sure the students feel connected and part of the class. Faculty should oversee the discussions and help students focus on the topic by encouraging student participation and an ongoing exchange of ideas. "Communicating with students and building relationships with them are among the hardest but most important parts of online teaching (Ash, 2011)." Developing an online course is a long process which includes extensive planning and organization. Faculty should provide as much detail as possible about discussions and assignments so expectations are clear. Teamwork assignments must be nurtured by faculty to assure member participation and effectiveness of accomplishing tasks. The use of teamwork deepens the learning experience and promotes active learning. Doing this in the classroom extends the business world practice of working in teams to the students who will need to develop these skills in order to be successful (Gomez et al., 2010). As the business world continues to expand globally, team-based virtual teams have become an increasingly important factor that schools must consider when designing online classes. Research shows that the success of online classes depends on two main factors: course design and student interaction and collaboration (Grezda et al., 2008). According to Kearsley (1998), "the single most important element of successful online education is interaction among participants." If you are developing an online course, being able to incorporate meaningful and appropriate interactions must be a major goal. One way to get students interact with each other is through group projects and team based activities. To assure that students understand the importance of collaboration and have motivation to participate in online groups, there are specific strategies that instructors may use.

For example: making sure that students know the expectations for participation; are clear on what they are supposed to do; the assignments have relevance to the real world; student groups are formed early so there is an opportunity to develop cohesiveness; monitoring the groups and giving feedback; and allowing sufficient time to complete the tasks. The social interaction between students is critical in the success of the team meeting its goal. In the online setting, the social interaction of virtual groups highlights the importance of a sense of community (Grzeda et al., 2008). Conrad (2005) defined community as of "a sense of connection, belonging, and comfort that develop over time among members of a group who share a common goal." Learning community has been linked to a sense of safety, trust, and sharing. Trust is especially important, as team members must be able to rely on others to do their part. The difficulty of this is magnified in an online environment due to the lack of interaction between members. Trust has been identified as being the most critical factor of effective team process and performance on a project (Liu et al., 2008). To alleviate some of these difficulties in online courses, we recommend the use of rubrics.

There have been various researches conducted on how students from different areas respond to various AL methodologies. Some of these researches discuss a range of issues that crop up while using student-learning teams or groups in management education (Kalliath and Laiken, 2006). Nevertheless, there is a major chunk missing when it comes to the perception of students when it comes to team-based learning (Jassawalla et al., 2009).

When talking about team-based learning, Haak et al. (2001) state there is an unequal benefit to students of a lecture-free format involving quizzes on pre-class readings and significant informal teamwork in the class when compared to a lecture-intensive class. A major reason behind this could be that students are at ease while asking questions because of the informal learning environment. Another explanation could be that the collaborative and independent nature of learning permits students to learn at their own speed. On the other hand, there are arguments against AL which state that disadvantaged groups lag behind further in classrooms where AL is actively used because of pre-existing achievement differences, differences in style of learning and cultural differences amongst students (Petrilli, 2013).

This paper highlights the perceptions of students with specific reference to communication skills after a series of team-based learning activities. The benefits of AL depend on the particularities of the student population because of cultural context and various other factors (Brownell et al. 2013). For example, Asian-American students learn less when they are expected to describe problems out loudly as compared to when they work on them silently (Kim, 2002). Another research finds differences based on language reporting that low-achieving students benefit more from talking through problems, whereas high-achieving students benefit from writing about them (Rivard, 2004). There are three factors related to AL's impact on student performance (Eddy and Hogan, 2014). Firstly, it leads students to devote more time on the course on a weekly basis. Secondly, it inspires students to view the class as a community of learners and thirdly, it upturns the apparent value of the course (Haidet et al., 2014). Other research on TBL has given insights into how it has aided students develop an appreciation for teamwork and team collaboration while strengthening and readying them for jobs (Betta, 2016).

Carrie et al. (2017) have demonstrated the strategic benefits of TBL along with challenges of large-scale implementation. Furthermore, their study has successfully integrated content, graduate capabilities and transitional goals in undergraduate courses.

OBJECTIVE OF THE RESEARCH

The purpose of this paper is to add to the existing Constructivist theory of Communication proposed by Jesse G. Delia (1977). The existing theory gives a cognitive account for communication competence in individuals. Constructivism in itself aims at exploring individual differences in the ability communicate skillfully in social situations (Delia, 1977). The idea of constructivism is to explore the development of social, cognitive and behavioural skills, in addition to studying its impact on interpersonal relations. The aim of this research is to conduct and establish empirically, results on the self-assessment of management students with specific reference to Team Based Learning and comprehend its contribution to Constructivism.

The idea is to gain an understanding of an individual's proficiency levels related to various parameters when working in teams post a Business Communication Course and gauge its applicability in all courses with specific reference to Outcome Based Education. These parameters include vocabulary, level of understanding of topics, confidence, ability to speak in public, sociability, knack of thinking out of the box, assertiveness, comfort level and managerial skills. The results may be used primarily to build upon curriculum in management institutes which focus on leveraging TBL and adding value to 'Outcome Based Education'.

Here, the proposed hypotheses are:

H1: There exists underlying perceptual dimensions in the concept of 'Team-Based Learning'.

H2: There exists segments among the students vis-à-vis perceptions related to the 'Team-Based Learning'.

H3: The Team Based Learning is perceived to be useful and contribute to Constructivism.

RESEARCH METHODOLOGY

This paper aims at exploring the impact of Team Based Learning among students who are studying in different management courses, at various managerial institutes. Furthermore, the results are based with specific reference to a Business Communication Course. In order to analyse the impact of TBL, various activities related to TBL were conducted during the course. These activities included project making and role-plays.

Each team comprised of six students and as a part of summative evaluation, each team was to complete a field project which comprised of student groups studying any business e.g. NGO or Retail store or a business enterprise, according to their choice (Annexure 1). Thereafter, students had to identify gaps in communication, impart training and submit a report along with a transcript of training.

On the other hand, the formative assessment comprised of role plays wherein students had to build a play on persuasive ad-making (Annexure 2). Both projects were to be completed during the duration of the trimester under the Business Communication Course.

Towards the end of the trimester and the completion of the course, students were given questionnaires which were linked to TBL. A Descriptive Cross-sectional Research Design was employed for the research-study with a close-ended questionnaire as the survey-instrument. The questionnaire comprised of 10 statements which were meant to evaluate various skills related to TBL. Of these, the first statement evaluates whether the students found learning in teams beneficial. Other nine statements analysed students' proficiency in vocabulary, comprehension, confidence, public-speaking, social skills, ability to think out of the box, assertiveness, comfort level and managerial skills.

The respondents had to self-assess their communication skills on a five-point Likert scale. These questions were based on self-perception and had been finalized after applying Exploratory Research Design, which consists of Literature-Review, in-depth interviews with educationists, faculty members and Focus Group Discussions with faculty-members and management students. A pilot survey was also conducted to check the validity of the proposed questionnaire.

In this research, 202 postgraduate students of different management institutes/colleges were selected using Stratified Random Sampling. They were given questionnaires after the completion of their managerial program. Institutes were selected based on the year in which they commenced management education. Resultantly, five of oldest management institutes were selected for the study. Apart from age, their occupancy ratio was also taken into consideration and all selected institutes had a history of 100% filled seats as per their allocation by the concerned authorities/agency. Within these institutes, 20-25 students were selected on the basis of their interest and willingness for participation in the study. The students were briefed about the research and its objective.

DATA ANALYSIS AND INTERPRETATIONS

The demographic profile of the respondents has been mention in Table 1.

Table 1. Demographic profiles of respondents

Item	Category	Number	Percentage
Gender	Male	116	57.43
	Female	86	42.57
Place of Residence	Tier I City	61	30.20
	Tier II City	76	37.62
	Tier III City	65	32.18
Parent's Monthly Income (in '000Rs)	<50	32	15.84
	50-100	61	30.20
	100-150	68	33.66
	>150	41	20.30
Graduation Subject Stream	Humanities	25	12.38
	Commerce	92	45.54
	Science	31	15.35
	Professional	54	26.73
Total		202	100.00

Author's Calculations

Exploratory Factor Analysis (EFA) was performed to examine the underlying dimensions inherent in the perceptual variables related to 'Team-Based Learning' (TBL). Principal Component Analysis (PCA) was performed using Varimax Rotation with Kaiser Normalization. The data was found to be appropriate for the Factor Analysis, as suggested by the significant value of Bartlett's Test of Sphericity (sig. = 0.00<0.05) and high value of KMO Measure of Sampling Adequacy (0.698) as per Table 2.1.

Table 2.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.698
Bartlett's Test of Sphericity	Approx. Chi-Square	473.713
	df	28
	Sig.	.000

Author's Calculations

Table 2.3: Rotated Component Matrix[a]

	Component	
	1	2
Increased vocabulary	0.673	0.041
Deeper understanding of topics	0.846	-0.077
Confidence increased	0.728	0.13
Fear of public speaking decreased	0.115	0.758
More sociable	0.02	0.783
Increased out of the box thinking	0.676	0.274
More assertive in expressing	0.109	0.745
Increased managerial skills	0.68	0.142
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A		
a. Rotation converged in 3 iterations.		

Author's Calculations

Further, two factors were extracted from amongst eight perceptual variables (Table 2.2). Here, 56.31% of the variation extracted.

Rotated Component Matrix (Table 2.3) suggest two underlying factors which are as follows;
Factor 1: This consists of perceptual variables like: Increased Vocabulary, Deeper Understanding of Topics, Increased Confidence, Increased Out –of-the-Box Thinking and Increased Managerial Skills. Therefore, evidently this factor may be thought of representing the functional part of the Team-Based Learnings converting into Functional aspect.

Factor 2: The second factor consists of perceptual variables like decreased Fear of Public Speaking, More Sociable, More Assertive in Expressing. This dimension may be taken as representation of the Social and Outward aspect of Team-Based Learning.

Table 2.2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.292	41.146	41.146	3.292	41.146	41.146	2.643	33.033	33.033
2	1.213	15.161	56.308	1.213	15.161	56.308	1.862	23.274	56.308
3	.944	11.795	68.102						
4	.782	9.775	77.877						
5	.602	7.530	85.408						
6	.541	6.760	92.168						
7	.372	4.656	96.823						
8	.254	3.177	100.000						
Extraction Method: Principal Component Analysis.									

Author's Calculations

After exploring the underlying dimensions inherent in the data, Cluster Analysis has been employed to examine the segments present among the students vis-à-vis perceptual variables related to the 'Team-Based Learning'. The objective was to ascertain presence of 'internally homogenous' and 'externally heterogeneous' group of learners with respect to their perception and behaviours with respect to different facets of 'team based learning'. The cluster analysis has been employed in two steps. In the first step Hierarchal Clustering was used with agglomeration algorithm using average linkage concept with the distance measure as Squared Euclidean Distance. Here, optimum stopping rule suggested that we are having three clusters in the data (Table 3.1)

Thereafter, Non-Hierarchical Clustering in the form of k-mean clustering was attempted to profile the three clusters as obtained by the Hierarchal Clustering algorithm. Here, optimizing partition method was employed for the said objective. Table 3.2 suggested that 'more sociable (F= 83.921) and 'more assertive in expressing' (F= 53.547) have been found to be the most important clustering variables, followed by 'confidence increased' (F= 53.547) and 'increased managerial skills' (F = 47.298) and so on. These variables are mainly responsible for creating clusters (internally homogeneous and externally heterogeneous groups of learners)

In order to profile the three clusters, 'Final Cluster Centres' (Table 3.3) have been interpreted as per the cluster means of different clustering variables for the three clusters. Accordingly, the three clusters may be defined as:

Table 3.3: Final Cluster Centres

	Cluster		
	1	2	3
Increased vocabulary	4	3	1
Deeper understanding of topics	4	4	2
Confidence increased	4	2	4
Fear of public speaking decreased	4	2	4
More sociable	4	1	3
Increased out of the box thinking	4	4	1
More assertive in expressing	4	1	4
Increased managerial skills	4	4	2

Author's Calculations

Cluster 1 consists of such students who have high score on all the clustering variables i.e. that perceive and perform good on all the aspects of TBL. The cluster may be termed as "*Protean*"

The second cluster consists of such learners who have high score on variables like: 'increased vocabulary', 'deeper understanding of topics', 'increased out of the box thinking'

Table 3.1: Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	185	202	.000	0	0	18
2	183	201	.000	0	0	20
197	1	57	19.838	196	181	200
198	2	27	19.876	195	0	199
199	2	4	21.171	198	184	200
200	1	2	34.768	197	199	201
201	1	25	62.279	200	0	0

Author's Calculations

Table 3.2: ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Increased vocabulary	32.746	2	1.011	199	32.390	.000
Deeper understanding of topics	19.912	2	.579	199	34.417	.000
Confidence increased	27.436	2	.512	199	53.547	.000
Fear of public speaking decreased	32.174	2	.839	199	38.353	.000
More sociable	47.376	2	.565	199	83.921	.000
Increased out of the box thinking	21.453	2	.623	199	34.444	.000
More assertive in expressing	36.620	2	.553	199	66.186	.000
Increased managerial skills	20.739	2	.438	199	47.298	.000

Author's Calculations

and 'increased managerial skills' while these students perform not so good on other clustering variables. So, this cluster consists of such management students who are good in the functional aspects of the TBL. Hence, this cluster may be named as "*Enterprising*"

The third cluster shows the opposite characteristics from the second cluster. It consists of such students who are good in the social and personality aspects of TBL i.e. they have high perception and performance on clustering variables: 'confidence increased', 'decreased fear of public speaking', 'more sociable' and 'more assertive in expressing'. But they are not so good on the other set of variables i.e. academic and skill based variables. Accordingly, this cluster may be classified as "*Affable*".

Further, the division of the sample among the three clusters have been presented in the table 3.4. The number of students in the three clusters are 77, 65 and 60 respectively. So, it may be inferred that there is insignificant difference in the size of these clusters so there is approximately equal presence of these three clusters among students of a typical b-school.

Table 3.4: Number of Cases in each Cluster

Cluster	1	77.000
	2	65.000
	3	60.000
Valid		202.000
Missing		.000

Author's Calculations

Regression Analysis has been attempted to examine the impact of the perceptual variables upon the perceived usefulness of the team-based learning i.e. upon 'learning in the team beneficial'. Results from the ANOVA Table (Table 4.1) show that there exists significant relationship between perceptual variables and perceived usefulness of team based learning i.e. these considered perceptual variables may have beneficial results in students' learning. Value of Adj. R-Square (0.265) suggests the moderate relationship between dependent variable and the considered predictors (Table 4.2).

Table 4.1: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.037	8	4.630	10.054	.000[b]
	Residual	88.869	193	.460		
	Total	125.906	201			
a. Dependent Variable: Learning in teams beneficial						

Author's Calculations

Furthermore, the results from the table 4.3 suggest that the predictors 'Confidence increased' (sig.= 0.027 <0.05), 'Increased out of the box thinking' (sig.= 0.006 <0.05) and 'Increased managerial skills' (sig.= 0.006 <0.05) were found to be significant at 5% level of significance. Therefore, these three predictors have a significant impact on perceived usefulness of the team-based learning.

Durbin-Watson Statistics (1.848) and Collinearity Statistics (Tolerance & VIF) suggest that there is no issue of Autocorrelation and Multicollinearity (Table 4.2 and 4.3).

Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.542[a]	.294	.265	.679	1.848

Author's Calculations

Regression Analysis was also replicated for the gender-wise subsamples to examine the moderating effect of "gender". The results from Table 5.1 and 6.1 reflect that the

Table 4.3: Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.393	.316		4.407	.000		
Increased vocabulary	.066	.049	.096	1.350	.179	.726	1.378
Deeper understanding of topics	.091	.079	.101	1.156	.249	.476	2.100
Confidence increased	.164	.074	.161	2.216	.027	.533	1.876
Fear of public speaking decreased	-.033	.054	-.044	-.603	.547	.674	1.484
More sociable	-.037	.065	-.047	-.567	.571	.530	1.888
Increased out of the box thinking	.194	.069	.223	2.801	.006	.578	1.731
More assertive in expressing	.050	.062	.060	.794	.428	.643	1.555
Increased managerial skills	.170	.075	.172	2.262	.025	.632	1.583

Author's Calculations

proposed regression model is significant for both the genders (sig. = 0.000<0.05 and 0.00<0.05). In addition to this, the value of Adj. R-square is 0.346 and 0.336 for males and females respectively. Hence, it can be inferred that there is no substantial difference in the significance and the strength of the proposed regression model for males and females.

Author's Calculations

Table 5.1: ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.927	8	2.741	8.616	.000[c]
	Residual	34.039	107	.318		
	Total	55.966	115			

a. Dependent Variable: Learning in teams beneficial. b. Selecting only cases for which Gender = Male

Author's Calculations

Table 5.2: Model Summary

R		R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic	
Gender = Male (Selected)	Gender ~= Male (Unselected)				Gender = Male (Selected)	Gender ~= Male (Unselected)
.626[a]	.366	.392	.346	.564	2.019	1.109

a. Unless noted otherwise, statistics are based only on cases for which Gender = Male.
b. Author's Calculations

Table 5.3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.646	.368		4.468	.000		
Increased vocabulary	.101	.057	.170	1.765	.080	.616	1.624
Deeper understanding of topics	-.023	.087	-.027	-.264	.793	.535	1.869
Confidence increased	.076	.089	.090	.859	.392	.523	1.913
Fear of public speaking decreased	-.030	.060	-.046	-.502	.617	.685	1.460
More sociable	-.064	.075	-.093	-.852	.396	.474	2.110
Increased out of the box thinking	.183	.071	.255	2.565	.012	.576	1.737
More assertive in expressing	.275	.070	.362	3.917	.000	.667	1.500
Increased managerial skills	.119	.079	.144	1.504	.136	.620	1.613

a. Dependent Variable: Learning in teams beneficial. b. Selecting only cases for which Gender = Male.

Author's Calculations

Table 6.1: ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.620	8	3.327	6.369	.000
	Residual	40.229	77	.522		
	Total	66.849	85			

a. Dependent Variable: Learning in teams beneficial. b. Selecting only cases for which Gender = Female

Author's Calculations

Table 6.2: Model Summary

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic	
	Gender = Female (Selected)	Gender ~= Female (Unselected)				Gender = Female (Selected)	Gender ~= Female (Unselected)
1	.631[a]	.314	.398	.336	.723	1.600	1.652

a. Unless noted otherwise, statistics are based only on cases for which Gender = Female.

Author's Calculations

Table 6.3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.321	.523		2.528	.014		
Increased vocabulary	-.049	.088	-.062	-.561	.576	.641	1.561
Deeper understanding of topics	.421	.154	.447	2.736	.008	.293	3.417
Confidence increased	.269	.133	.289	2.031	.046	.386	2.592
Fear of public speaking decreased	-.146	.099	-.178	-1.472	.145	.533	1.875
More sociable	-.031	.112	-.035	-.276	.783	.484	2.066
Increased out of the box thinking	.082	.152	.076	.540	.591	.391	2.560
More assertive in expressing	-.057	.123	-.062	-.461	.646	.436	2.296
Increased managerial skills	.090	.148	.076	.612	.542	.512	1.953

a. Dependent Variable: Learning in teams beneficial. b. Selecting only cases for which Gender = Female
Author's Calculations

The predictors 'More assertive in expressing' (sig. 0.000 < 0.05, Beta =0.362) and 'Increased out of the box thinking' (sig. 0.012< 0.05, Beta =0.255) were found to be significant for the "male sub-group" whereas the predictors 'Deeper understanding of topics' (sig. 0.008< 0.05, Beta =0.447) and 'Confidence increased' (sig. 0.046< 0.05, Beta =0.289) were found to be significant for the "female sub-group". This shows that have been differences in the types of the predictors impacting the perceived benefits of team-based learning. That is, for 'males', the outward development has been more important while for 'females', inner development has been more important.

Thereafter, Regression Analysis was applied once again to explore the relationship between the perceptual variables and the other impact variable being 'Comfortable working in teams'. Here again, significant relationship (Sig = 0.000 <0.05) exists as per the results from ANOVA table (Table 7.1). Value of Adj. R-square = 0.294, shows that the considered predictors have been able to explain around 30% of the variation in the dependent variable 'Comfortable working in teams' (Table 7.2). Only one predictor, that is, 'Increased managerial skills' was found to be significantly affecting (sig. 0.000< 0.05) the dependent variable representing perceived comfort in working in teams (Table 7.3).

Table 7.1: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.108	8	6.263	11.450	.000[b]
	Residual	105.575	193	.547		
	Total	155.683	201			

a. Dependent Variable: Comfortable working in teams
Author's Calculations

Table 7.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.567[a]	.322	.294	.740	1.974

Author's Calculations

Table 7.3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.980	.344		2.845	.005		
Increased vocabulary	-.062	.053	-.082	-1.175	.241	.726	1.378
Deeper understanding of topics	.119	.086	.119	1.385	.168	.476	2.100
Confidence increased	.071	.081	.071	.876	.382	.533	1.876
Fear of public speaking decreased	.072	.059	.088	1.214	.226	.674	1.484
More sociable	.118	.071	.137	1.676	.095	.530	1.888
Increased out of the box thinking	-.001	.075	-.001	-.009	.993	.578	1.731
More assertive in expressing	-.053	.068	-.057	-.775	.439	.643	1.555
Increased managerial skills	.466	.082	.424	5.682	.000	.632	1.583

a. Dependent Variable: Comfortable working in teams
Author's Calculations

To examine the moderating effect of "gender" on the relationship between perceptual variables and the impact variable 'Comfortable working in teams', regression modelling has been attempted for both the genders and results being compared.

For both the genders, regression models have been found to be significant (Sig. = 0.000 < 0.05 and Sig. = 0.000 < 0.05 respectively) as evident from Table 8.1 and Table 9.1. There has been substantial difference in the values of Adj R-square (0.464 for 'male' sub-group vs. 0.293 for the 'female' sub-group). This signifies that the proposed regression model holds better in the 'male' sub-group (Table 8.2 and 9.2).

For the 'male' sub-group, 'Deeper understanding of topics' (sig. = 0.038 < 0.05), 'More assertive in expressing' (sig. = 0.006 < 0.05) and 'Increased managerial skills' (sig. = 0.000 < 0.05) have been found to be significant predictors (Table 8.3). Among these three significant predictors, 'Increased managerial skills' (beta = 0.456) was found to be the most important in affecting the dependent variable followed by 'More assertive in expressing' (beta =0.235) and 'Deeper understanding of topics' (beta =0.197) (Table 7.3).

Furthermore, for the 'female' sub-group, the corresponding significant predictors affecting the dependent variable 'Comfortable working in teams', were found to be 'More assertive in expressing' (sig. = 0.006 < 0.05) and 'Increased managerial skills' (sig. = 0.009 < 0.05) (Table 9.3). Here, the predictor 'More assertive in expressing' (beta = -0.387) was found to be more important than the other significant predictor in impacting the 'Comfortable working in teams' but the beta coefficient was found to be negative indicating the less assertion on the part of female students gives them more comfort in working in team (Table 9.3).

Table 8.1: ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.595	8	5.699	13.433	.000[c]
	Residual	45.397	107	.424		
	Total	90.991	115			

a. Dependent Variable: Comfortable working in teams. b. Selecting only cases for which Gender = Male
Author's Calculations

Table 8.2: Model Summary

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic	
	Gender = Male (Selected)	Gender ~= Male (Unselected)				Gender = Male (Selected)	Gender ~= Male (Unselected)
1	.708[a]	.249	.501	.464	.651	2.134	1.775

a. Unless noted otherwise, statistics are based only on cases for which Gender = Male.
Author's Calculations

Table 8.3: Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.234	.425		.551	.583		
Increased vocabulary	-.099	.066	-.131	-1.500	.137	.616	1.624
Deeper understanding of topics	.211	.100	.197	2.105	.038	.535	1.869
Confidence increased	-.056	.103	-.051	-.545	.587	.523	1.913
Fear of public speaking decreased	.001	.069	.001	.015	.988	.685	1.460
More sociable	.163	.086	.187	1.883	.062	.474	2.110
Increased out of the box thinking	.023	.082	.025	.283	.778	.576	1.737
More assertive in expressing	.228	.081	.235	2.814	.006	.667	1.500
Increased managerial skills	.482	.092	.456	5.260	.000	.620	1.613

a. Dependent Variable: Comfortable working in teams. b. Selecting only cases for which Gender = Male
Author's Calculations

Table 9.1: ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.191	8	2.899	5.413	.000[c]
	Residual	41.239	77	.536		
	Total	64.430	85			

a. Dependent Variable: Comfortable working in teams. b. Selecting only cases for which Gender = Female
Author's Calculations

Table 9.2: Model Summary

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic	
	Gender = Female (Selected)	Gender ~= Female (Unselected)				Gender = Female (Selected)	Gender ~= Female (Unselected)
1	.600[a]	.332	.360	.293	.732	1.753	2.189

a. Unless noted otherwise, statistics are based only on cases for which Gender = Female.
Author's Calculations

Table 9.3: Coefficient [a,b]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.960	.529		3.705	.000		
Increased vocabulary	.017	.089	.022	.191	.849	.641	1.561
Deeper understanding of topics	.050	.156	.055	.324	.747	.293	3.417
Confidence increased	.142	.134	.155	1.054	.295	.386	2.592
Fear of public speaking decreased	.172	.100	.215	1.719	.090	.533	1.875
More sociable	.103	.113	.120	.916	.362	.484	2.066
Increased out of the box thinking	-.056	.153	-.054	-.367	.715	.391	2.560
More assertive in expressing	-.349	.124	-.387	-2.805	.006	.436	2.296
Increased managerial skills	.399	.149	.340	2.670	.009	.512	1.953

a. Dependent Variable: Comfortable working in teams. b. Selecting only cases for which Gender = Female
Author's Calculations

CONCLUSION

While drawing the conclusion and making sense of it as a whole, it is imperative that results be discussed on the basis of tests conducted. First and foremost, results from Factor Analysis suggest that perceptual outcomes of TBL may be divided into two aspects of the personality which are; a) Functional and b) Social and Outward. It is evident that the functional aspect takes into account perceptual variables like increased vocabulary, a deeper understanding of topics, increased confidence, increased out –of-the-box thinking and increased managerial skills.
On the other hand, the second factor, that is, Social and Outward aspect of TBL consists of perceptual variables like decreased fear of p public speaking, being more sociable and more assertive in expressing.

The second stage of the study, which comprises of cluster analysis, depicts three main clusters which are; a) *Protean*, b) *Enterprising* and c) *Affable*.

An individual who falls under the "*Protean*" category is multi-faceted and multi-talented. These are individuals, who in simple terms, are all-rounders. They happen to surpass in both the Functional Aspects and Social and Outward aspects of the personality, which is why they tend to be exceptional in all spheres. The Protean have a flair for being adaptive to changes and are highly flexible. Another trait of people who fall under this category is that they tend to reflect on past experiences and use them to respond to future events. In short, they are what is termed as "wilful eclectic." These individuals tend to be liked by all but may be misread as people pleasers at times.

On the other hand, individuals who happen to fall under the "*Enterprising*" cluster tend to fair well as far as the functional aspects of TBL are concerned. These are individuals who are promising and have high score on 'increased vocabulary', 'deeper understanding of topics', 'increased out of the box thinking' and 'increased managerial skills.' They showcase the fact that they are willing to learn more and explore more. Hence, they are "enterprising." When talking about this specific personality, they have the characteristics of being gifted when it comes to organizing, leading and managing. In addition to this, they are confident, assertive and they tend to take risks while solving a problem since they rely on their intuition.

The final cluster, that is, those who are termed "*Affable*," comprises of individuals who are good in the social and personality aspects of but somewhat lack in academic and skill based variables. These are individuals who are enthusiastic, approachable, friendly, sociable and amicable. They might not ace in whatever they do, but they are definitely liked by all.

It should be noted that the sizes of these clusters are approximately equal. This implies that there is an equal presence of these three clusters among students of a typical B-school.

Thereafter, the study conducted regression analysis to examine the impact of the perceptual variables upon the perceived usefulness of the team-based learning. This showed a significant relationship. The study replicated regression analysis for gender-wise subsamples and it was found to be significant for both the genders. The purpose of considering "gender" as a moderating variable is that gender can be an important differentiator in imparting education and learning, and other related issues in the developing societies like India. The proposed model infers no substantial difference in the significance and the strength of the proposed regression model for males and females. However, the prominent predictors in the male sub-group were that they were 'more assertive in expressing' and depicted an 'increased out of the box thinking.' On the other hand, the prominent predictors of the female sub-group were 'deeper understanding of topics' and 'confidence increased.' Simply put, while males find outward development more important, it is the inner development which matters most in the case of females.

On applying regression analysis to explore the relationship between the perceptual variables and the other impact variable being 'Comfortable working in teams,' the relationship was found to be significant. Only one predictor, that is, 'Increased managerial skills' was found to be significantly affecting the dependent variable, representing perceived comfort in working in teams. On comparing regression modelling for both the genders, it has been found that that although the variable 'comfortable working in teams' is significant in both genders, the model holds better in the male sub-group.

In addition to this, while 'Deeper understanding of topics,' 'More assertive in expressing' and 'Increased managerial skills' have been found to be significant predictors in the male sub-group, the predictor, 'Increased managerial skills' was found to be the most important in affecting the dependent variable followed by 'More assertive in expressing' and 'Deeper understanding of topics.'

On the other hand, for the female sub-group, the corresponding significant predictors affecting the dependent variable 'Comfortable working in teams', were found to be 'More assertive in expressing' and 'Increased managerial skills.' Here, the predictor 'More assertive in expressing' was found to be more important than the other significant predictor. Quite clearly, the order of priority for both male and female sub-groups is different. That is to say, while the male sub-group holds 'Increased managerial skill' as the most important, the female sub-group prioritizes 'More assertive in speaking.'

The regression results point towards a significant relationship between perceptual variables and their perceived usefulness. This further implies and strengthens the fact that learning in teams is beneficial.

Furthermore**, t**here is a moderating effect upon gender which is significant. That is to say, the overall effect of TBL on males is that they are more assertive while expressing their views and there is an increase in their out-of-the-box thinking. Therefore, there is greater outward development in males. On the other hand, for females, there has been a significant increase in deeper understanding of topics and their confidence. Resultantly, for them, inner development is more vital. It can therefore, be concluded that TBL has a significant impact upon both genders with respect to their personality. That is to say, while in males, the results point towards an outward development, in females, the results are more towards inner development. Nevertheless, in both cases, the significance is one that can be perceived and measured.

Based on results and its analysis, it is evident that TBL has had a positive effect on functional aspects as well as social and outward aspects of personality. There is a significant relationship between perceptual variables and perceived usefulness of team based learning.

This further suggests that TBL aids in exchange of ideas through peer learning and peer discussions. Resultantly, students tend to be more expressive since open discussions lead to an increase in confidence. The numerous ideas tabled in teams help students to be more creative and think out-of-the-box. TBL, therefore, is an activity which aids future mangers to think about an issue from various angles, be receptive to views of others and become more confident about themselves by shedding their inhibitions. It may be concluded that there is a reduction in gloss phobia because of open and frequent discussions within teams.

Although the results are formulated on the self-perception of managerial students on TBL, they may act are forerunners for facilitators and faculty of communication to aid and design curriculum, which further aids in building personalities of both genders. Findings are suggestive that since Protean, enterprising and affable personalities are approximately equal in number, for TBL in forthcoming semesters/ trimesters (as the case might be), groups may be formed keeping earlier assessments in mind so that each Team has an equal number of personalities. It would be interesting to note performance parameters of each student post personality identification and regrouping.

LIMITATIONS & FUTURE DIRECTION FOR RESEARCH

This study is based on management colleges of the Northern India only. The study should be extended to other socio-geographical locations to map performance of students and applicability of TBL across the globe. Furthermore, with reference to global societies, results may vary because of difference in culture. Therefore, one of the future implications could be to conduct the study in various geographies to validate the results and explore new possibilities.

In addition to this, since this research was based with specific reference to a Business Communication course, the scope of TBL may be explored in various other areas or domains to measure its impact. Based on extended research, new avenues may be explored to design curriculum in a manner that facilitates TBL for enhancing existing skill sets in students.

Lastly, in the present study, Cross-sectional research design, one-time descriptive research, has been used to study pedagogical impact of TBL. As a result of various technological and pedagogical changes in the education sector, it would be worthwhile to conduct a panel study (that is, a combination of longitudinal and cross-sectional research designs) for studying the impact of team-based learning (TBL) on various aspects of students learning.

REFERENCES

Anderson, L.W., & Krathwohl, D. (2001). *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Ash, K. (2011). Teachers make the move to the virtual world. *Education Digest, 76* (5), 32-34. Barker, R. T. (2005). Learning from our students: Teaching strategies for MBA professors. *Business Communication Quarterly, 68*(4), 481–487.

Beghetto, R. A., & Kaufman, J. C. (2009). Intellectual estuaries: Connecting learning and creativity in programs of advanced academics. *Journal of Advanced Academics, 20*(2), 296–324.

Betta, M. (2016). Self and others in team-based learning: Acquiring teamwork skills for business. *Journal of Education for Business*, *91*(2), 69–74.

Biggs, J. (1987). Student approaches to learning and studying. *Research Monograph*. Melbourne: Australian Council for Educational Research.

Biggs, J., & Collis, K. (1982). *Evaluating the quality of learning: The SOLO taxonomy (Structure of the Observed Learning Outcome)*. New York: Academic Press.

Bloom, B. S. (1956). *Taxonomy of Educational Objectives*. New York: Longmans.

Boyatzis, R. E., & Kram, K. E. (1999). Reconstructing management education as lifelong learning. *Selections*, *16*(1): 17-27.

Brookfield, S. (1995). *Becoming a Critically Reflective Teacher*. San Francisco, CA: Jossey-Bass.

Bruner, J. S. (1960). *The Process of Education*. Cambridge, MA: Harvard University Press.

Brownell, S. E., Price, J. V., & Steinman, L. (2013). Science communication to the general public: why we need to teach undergraduate and graduate students this skill as part of their formal scientific training. *Journal of Undergraduate Neuroscience Education*, *12*(1), E6-E10.

Carrie, D. G., Mulla, P., Patterson, A., Kilkolly-Proffit, M., Brookes, R., Sima, H., & Agee, T. (2017). Adding value to first-year undergraduate marketing education: team-based learning as a strategic response to changing modern educational environments. *Journal of Strategic Marketing, 25*(2), 138–151.

Chace, J.F. (2014). Collaborative Projects Increase Student Learning Outcome Performance in Non-majors Environmental Science Course. *Journal of College Science Teaching, 43*(6), 58-63.

Cameron, B. A., Morgan, K., Williams, K. C., & Kostelecky, K. L. (2009). Group projects: Student perceptions of the relationship between social tasks and a sense of community in online group work. *The American Journal. of Distance Education*, *23*(1), 20-33.

Chen, G., Donahue, L. M., & Klimoski, R. J. (2004). Training undergraduates to work in organizational teams. *Academy of Management Learning & Education, 3*(1), 27–40.

Chu, L., & Libby, T. (2010). Writing Mini-Cases: An Active Learning Assignment. *Issues in Accounting Education, 25*(2), 245-265.

Conrad, D. (2005). Building and maintaining community in cohort-based online learning. *Journal of Distance Education, 20*(1), 1-20.

Cooperstein, S. E., & Kocevar-Weidinger, E. (2004). Beyond active learning: A constructivist approach to learning. *Reference Services Review, 32*(2), 141–148.

Delia, J. G. (1977). Constructivism and the study of human communication. *Quarterly Journal*

of Speech, 63:1, 66–83. doi: 10.1080/00335637709383368.

Dolence, G., & Norris, D.M. (1995). *Transforming Higher Education for Colleges and University Planning*. USA: Ann Arbor.

Eddy, S. L., & Hogan, K. A. (2014). Getting under the hood: How and for whom does increasing course structure work? *CBE—Life Sciences Education*, *13*(3), 453-468.

Hermanson, D.R. (1994). The Effect of Self-Generated Elaboration on Students' Recall of Tax and Accounting Material: Further Evidence. *Issues in Accounting Education, 9*(2), 301-318.

Gomez, E. A., Wu, D., & Passerini, K. (2009). Traditional, hybrid and online teamwork: Lessons from the field. *Communications of the Association for Information Systems*, *25*(1), 395-412.

Gomez, E. A., Wu, D., & Passerini, K. (2010). Computer-supported team-based learning: The impact of motivation, enjoyment and team contributions on learning outcomes. *Computers & Education*, *55*(1), 378-390.

Grauer, G.F., Forrester, S.D., Shuman, C., & Sanderson, M.W. (2008). Comparison of Student Performance After Lecture-Based and Case-Based/ Problem-Based Teaching in a Large Group. *Journal of Veterinary Medical Education, 35*(2), 310-317.

Grzeda, M., Haq, R. & LeBrassuer, R. (2008). Team building in an online organizational behavior course. *Journal of Education for Business, 83*(5), 275-282.

Haidet, P., Kubitz, K., & McCormack, W. T. (2014). Analysis of the team-based learning literature: TBL comes of age. *Journal on Excellence in College Teaching, 25* (3-4), 303–333.

Hunt, D. P., Haidet, P., Coverdale, J. H., & Richards, B. (2003). The effect of using team learning in an evidence-based medicine course for medical students. *Teaching and Learning in Medicine*, *15*(2), 131-139.

Hwang, N.R., G. Lui, and M. Tong. (2008). Cooperative Learning in a Passive Learning Environment: A Replication and Extension. *Issues in Accounting Education, 23*(1), 67-75.

Jassawalla, A. R., Sashittal, H. C., & Malshe, A. (2009). Students' perceptions of social loafing: Its antecedents and consequences in undergraduate business classroom teams. *Academy of Management Learning & Education, 8*(1), 42–54.

Johnson, D., Johnson, R., and Smith, K. (1998). *Active Learning: Cooperation in the College Classroom* (2nd ed). Edina, MN: Interaction Book Co.

Kalliath, T., & Laiken, M. (2006). Use of teams in management education. *Journal of Management Education, 30*(6), 747–750.

Kearsley,G.(1998). *A Guide to Online Education*. Retrieved October 8, 2019, from http://home.sprynet.com/~gkearsley/online.htm.

Kim, A., & Yeh, C. J. (2002). *Stereotypes of Asian American Students*. New York, NY: ERIC Digest.

Konyu-Fogel, G. (2009). A model of learning-centred approach and best practices in distance education. *In: Academy of Business Economics Proceeding*. Chicago, IL Midwest Business Administration Association Annual Conference.

Leavitt, H. J. 2000. The old business school and the new world: Real trouble ahead? *Selections, 16*(2): 33-34.

Liu, X., Magjuka, R., & Lee, S. (2008). The effects of cognitive thinking styles, trust, conflict management on online students' learning and virtual team performance. *British Journal of Educational Technology, 39*(5), 829-846.

Michaelsen, L. K., Fink, L. D., & Knight, A. (1997). Designing effective group activities: Lessons for classroom teaching and faculty development. In D. DeZure (Ed.), *To improve the Academy: Resources for faculty, instruction and organizational development*. Stillwater, OK: New Forums.

Michaelsen, L. K., & Sweet, M. (2008). The essential elements of team-based learning. *New Directions for Teaching and Learning, 116*, 7–27.

Miller, R. E., & Blair, P. D. (2009). *Input-output analysis: foundations and extensions*. Cambridge: Cambridge University Press.

Paulson, D., & Faust, J. (2014). Active Learning for the College Classroom. *Journal on*

Excellence in College Teaching, 9 (2), 3-24.

Petrilli, S. (2013). *The Self as a Sign, the World, and the Other.* London: Transaction Publishers.

Plice, R. K., & Reinig, B. A. (2009). Leveraging alumni and business community relations to assess the information systems curriculum. *Journal of Education for Business, 84*(3), 142–150.

Rachel Williamson Smith, Michael M. DeNunzio (2020).Examining personality—Job characteristic interactions in explaining work outcomes. *Journal of Research in Personality, Volume 84,* 103884, ISSN 0092-6566, https://doi.org/10.1016/j.jrp.2019.103884.

Reinig, B. A., Horowitz, I., & Whittenburg, G. E. (2011). The effect of team- based learning on student attitudes and satisfaction. *Decision Sciences Journal of Innovative Education*, *9*(1), 27-47.

Rivard, L. P. (2004). Are language- based activities in science effective for all students, including low achievers? *Science Education*, *88*(3), 420-442.

Schlossman, S., Sedlak, M., & Wechsler, H. (1998). The "new look": The Ford Foundation and the revolution in business education. *Selections*, *14*(3): 8-27.

Schmotter, J. W. (1998). An interview with Dean B. Joseph White, *Selections*, *14*(2): 22-26.

Sharples, M., de Roock, R., Ferguson, R., Gaved, M., Herodotou, C., Koh, E., & Weller, M. (2016*). Innovating Pedagogy 2016: Open University Innovation Report 5*. Singapore: Institute of Educational Technology, The Open University.

Segev, E., Raveh. A. & Farjoun, M. (1999). Conceptual maps of the leading MBA Programs in the United States: Core courses. concentration areas, and the ranking of the school. *Strategic Management Journal, 20*(6): 549-565.

Thompson, L., & Ku, H. Y. (2010). Degree of online collaboration and team performance: A case study. *Quarterly Review of Distance Education*, *11*(2), 127.

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Annexure 1: Businesses Studied for Field Project

1. Ma Annapurna Chinese Centre
2. Gulab Tea Stall
3. K.M Store
4. Spicy Momos
5. Fruit Vendor: Mr. Mohammed Shaheed
6. Chola Bhatura Stall- Mr. Kamlesh Gupta
7. Hari Om Juice Corner
8. Subhash Chinese Corner
9. Moradabad Biryani Corner
10. Tunday Kebabi
11. Mr. Brown Bakery
12. Vegetable Vendor: Mr. Mohan Lal
13. Nainital Momos
14. Singh Chat Corner
15. King's Bakery
16. Twisted Food Store: Cineplos Mall
17. Royal Bites

Annexure 2

Role Play: Persuasive Ad- Making: Students were to build ads based on products they planned to market.

1. Insurance Policy
2. Chat-pat Cola
3. Dry Shampoo
4. Language Translator Spectacles
5. Security Camera
6. Accidental Perfume
7. Flavored Curd
8. Safety watches
9. Jewellery Store
10. PDP-DVD
11. Product Finder
12. Hairfall Product
13. Tropico
14. Pro-weight gainer
15. Health Policy
16. Kent Travel Plus
17. Mixed Language Translator
18. Mouth freshener
19. Get-chocolates

INTEGRATING BRAND COMMUNICATION AND BRAND EQUITY: A SYSTEMATIC REVIEW FROM 2000-2020

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ABSTRACT

Over the past few years brand equity has been recognised as one of the most crucial intangible assets for companies, irrespective of their industry or business. This relevance generated an interest among scholars to understand the effect of different factors on brand equity and to develop a financial scale for measuring its impact on the business. It is considered to be an important determinant of price evaluation during mergers and acquisitions. Various scholars have called attention the importance of brand communication in achieving positive brand equity for a company. Especially while considering Aaker's model of brand equity, where brand equity is considered to be a composition of brand loyalty, brand awareness and brand associations. These three components are highly dependent on an efficient brand communication strategy for personalised and transparent interactions with consumers and other brands. Brand equity is a developing concept, although there has been solidarity on the importance of brand equity among the scholars still there has not developed any universally accepted definition and measuring standard of it. As a result, the aim of this paper is to examine current researches in the domain of brand equity and highlight the focus areas of these studies over the last two decades. So as the areas which have been left out or the recent trends in the market can be approached as a topic for further research. In this paper, Bibliometric analysis is conducted with the help of Biblioshiny software, which would evaluate the data extracted from Scopus and provide both graphical and tabular representation of the desired output. Around 1110 papers with the title or keyword "Brand Equity" were extracted from Scopus and then analysed based on the publishing trends, most cited authors, most cited publications, most relevant sources of publication, most influential countries and term factor analysis. The period of 20 years was then divided into 2 decades i.e. 2000-2010 and 2010-2020. For universal acceptability, papers published only in English were considered and the rest were removed. Bibliometrix analysis enabled us to recognise the publishing trends of the paper, maximum papers were published in the decade of 2000-2010 but the maximum citation belonged to the period of 2000-2020. The United States of America was found to be the most influential country in the discipline of brand equity having the highest publications among the top 10 publishing countries. The contribution of authors towards the research is determined based on the citations they receive. Yoo B. having the maximum citation was considered to be the most cited author along with his publication: "*Developing and validating multidimensional consumer-based brand equity scale*" (Yoo & Donthu, 2001) ranked as the most influential publication on brand equity. The factorial analysis highlighted the important factors and the other equity terms indirectly related to brand equity which could be used in further research by different scholars and institutions

Keywords- Brand Equity, Brand Communication, Bibliometric, Biblioshiny, Factor analysis

INTRODUCTION

Brand equity is not merely a marketing term, it is considered to be the utmost valuable asset that a company can acquire. There are unlimited options for customers to choose from and it is the brand perception and brand loyalty that results in its choice of one specific brand among the others. "The brand image allows the customer to recognise their relevant needs and understand the effective mechanism for achieving fulfilment through the brand." (Hossain, Anthony, Beg, Hasan, & Zayed, 2020). How can a brand differentiate it from others and how its products can be differentiated from their generic equivalent are all the play of brand equity.

The customer's past experiences with the product create a perception in his mind and while making his purchase decision he will always introspect those experiences. It is therefore difficult to measure brand equity or even provide an established definition of it.

Brand equity as a concept popularised in the 1980s and since then it has become an important determinant of the overall evaluation of the brand. The term is directly or indirectly related to brand loyalty, which was observed by "David Aaker" in his model of brand equity. He considered brand loyalty, brand awareness and brand associations as the most crucial components of brand equity. The new era of social media brand communication can create a positive perspective of the brand in the customer's mind, creating awareness about it and leveraging brand loyalty.

Digitisation and the internet have created a space for the brands to personalise with the customers and gain their trust and loyalty. "The perception of the brand value by customers impacts its performance and improves the company's financial gains" (Ebrahim, 2019). Every business organisation must take this opportunity and create a strong digital brand presence and perception to reach customers worldwide eliminating the barriers of distance. "Brand associations are more powerful when they are built on a variety of interactions or communications exposures rather than just a few." (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991). He highlighted the fact that brand equity not only adds value to the brand but also the customer. It harbours the customer with the capacity to efficiently process analyse information and make better purchase decisions.

While grasping the definition of brand equity, we must not overlook the value of brand communication and its role in helping consumers build a sense of belonging. Brand communication is the best tool to influence the stakeholders of the company which includes the investors, employees, financers and most importantly the customers. It is more of a promotional tool, with the use of social media, feedback and advertising a healthy conversation is sparked with the customer. It is two-way communication with equal participation from both counterparts. The brand's value or brand equity rises and falls with effective and ineffective communication. It is a prominent tool to create an overall perception of the brand and communicate the beliefs and vision of the brand to the customers. "It is evident that firms and users are both important stakeholders of social media communication that contribute to brand equity, thus, company should monitor user-generated content on various social media platforms as it influences brand equity" (Dewi, Syah, & Kusumapradja, 2020). With the increasing use and importance of social media and taking advantage of the internet, brands have developed them as a platform to promote and publish their information.

"The traditional one-way communication is now multi-dimensional, two-way and peer-to-peer communication." (Berthon, Pitt, & Campbell, 2008). Hence it is not incorrect to say that **b**rand equity and brand communication are interrelated and without effective brand communication the value of brand would not be increased. "Brand communication is positively correlated with brand equity, as long as the message leads to a satisfactory customer reaction to the product in question, compared to a similar non-branded product" (Yoo, Donthu, & Lee, 2000). It can be simply being exclaimed that brands that withstood the test of time are those which did not lose the vision behind their establishment and the ideals of their founders. This promise of authenticity combined with modernisation is what brand equity depicts.

LITERATURE REVIEW

This chapter includes a summary of the literature on the subjects discussed in this research paper, it would be structured as (2.1) Brand equity as a concept and (2.2) Brand communication as an integral component of Brand equity.

Brand Equity as a concept

Brand equity is considered as one of the most crucial asset or resource for the companies of the 21st century. Scholars have been interested in this topic since the 1980s; this period of almost 4 decades has focused on different trends and different factors which either negatively or positively impacted the brand equity of a company. There is still no universally accepted definition of brand equity, but it is considered to be a social valuation of a brand. The brand image, it's positioning and its recognition all depend on how the brands presents itself; how well and personally it can communicate with its customers. "Brand equity is very important in the increasingly fierce competition of the market particularly for similar products, which require companies to survive" (Saidarka & Rusfian, 2019). A customer is willing to buy any product that has the logo of your brand on it and is willing to pay a premium price for your product offerings, instead of the fact that a better price is being offered by the competitors. This is a competitive advantage in the true sense and is only possible through positive brand equity

"The impact that is mainly attributed to brand is known as brand equity" (Keller, 1993). In simple words any actions or effects that take place solely due to the image of the brand, it is considered to be brand equity. In 1993 he highlighted the fact that there has been increased interest in the research on brand equity, there are mainly two motivations behind these researches. The first is to financially evaluate brand equity for the purpose of acquisitions and mergers and the second reason is to frame an effective strategy for reducing the marketing cost and increasing the marketing productivity.

"Brand as a concept developed in the 18th century when producers started using the images of animals and symbols for better differentiation" (Farquhar, 1989). Branding was always there, but the purpose has evolved. The evaluation of a brand financially has always been difficult as it is intangible. There are no set criteria to measure brand equity, different firms use different scales to measure it. "There are majorly two competitive advantages that positive brand equity could have, the first is the ease in expansion and getting a license for it and the second is the ability of a strongly positioned brand to face any uncertainty or downfall in the market"(Farquhar, 1989).

"Until the 20th century, the terms related to brand equity were not actually at the centre of considerations for the organisations" (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991). In the views of "David Aaker", brand equity comprises assets and liabilities. These assets and liabilities can vary for the companies, but they can generally be clustered into 5 major sub-headings namely brand loyalty, name awareness, perceived quality, brand associations and other assets such as relationships, patents etc. The cost of creating a brand value has increased drastically if compared to the past decades. This is usually because of the advancing cost of marketing and distribution. Aaker emphasized the nurturing of the brand, in simple terms he meant that cost efficiency must be limited to production, daily functioning and logistics. What happens is that in the pressure of maintaining cost efficiency, companies end up cutting the cost of customer satisfaction focusing on reducing the production expenses. Aaker introduced "Brand Equity Ten" a group of ten measures aimed at measuring brand equity. "These measures were then grouped into 5 categories namely loyalty measures, perceived quality measures, differentiation measures, awareness measures and market behaviour measures" (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991). "Price premium is the most effective and single measuring unit for brand equity as it shows the ability of the brand to convince the customer to pay a price for its products" (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991)

"Positive brand equity can only be achieved through strategic brand management" (Wood, 2000). Brand management is the management of the top management and they must aim to achieve a common goal.

"Brand awareness is a crucial element that influences brand equity among the youth. Young consumers can easily differentiate the desired product from its competitors by using the information and characteristics it gains from social media" (Sasmita & Suki, 2015). Hence, they highlighted the importance of the new developing concept of social media brand communication.

Brand communication an integral component of Brand equity

Brand communication over the years has developed to be one of the most important components for the development of positive brand equity. Unlike the traditional communication methods, social media and technology have revolutionised the whole concept of brand communication, making it a tool for the company to aware, educate, persuade, attract, market their brands to the relevant stakeholders.

"Marketing communication may provide the means for developing strong, customer-based brand equity" (Keller, 2003). In his paper, Keller highlighted the fact that to create positive brand equity the most important thing is to create awareness about the brand among the customers followed by the development of favourable associations, enticing positive image of the brand in consumers subconscious minds and establish an effective brand-stakeholder communication the most important aspect to achieve all this is an effective **brand communication strategy**. There are numerous options or media of brand communication, among the most popular is advertising. Although it is not the only means of communication, conventionally it is the most famous and considered very effective. Many global brands have been successful even by not involving conventional advertising as the core of marketing communication strategy. They focused on brand associations and environmental concern, which was visible in the manufacturing and packaging of the product. Therefore, the mode of communication is not important, what's important is the effect on the consumer's mind. Every mode of communication has different striking areas and strengths, owing to this fact only Keller emphasised on having a mix of communication options that would individually contribute to the development of brand equity.

"IMC is a strategic tool that can help firms to be more effective in realizing their brand communication goals." (Madhavaram, Badrinarayanan, & Mcdonald, 2013).

Integrated marketing communication plays a very important role in developing brand equity as it focuses on contacts. Contacts are basically the consumer experiences with the brand which is then utilised for maintaining brand equity, they can be of two types, brand equity contacts and brand identity contacts. IMC ensures that all the contacts must reach the relevant customer at the right time, over time it has been presented as a strategic component for enhancing brand value. The first step before moving forward towards the implementation of the IMC strategy is the process of presenting a brand image in the mind of the customer. An effective brand image strategy creates a path for the implementation of the IMC strategy through brand identity contacts. Brand identity shows the aspirations of the brand and the means to achieve it, every goal and ethics of the brand must be depicted in its image. "Brand identity helps in establishing a relationship between the brand and the customer by generating a value proposition involving functional, emotional, or self-expressive benefits" (Aaker, 1996). Therefore, an effective and well-defined brand identity is the key to expressive integrated business communication, which in terms enhances brand equity.

"Brand equity is not merely built through independent forms of brand communication (such as advertising or public relations), but is generated by managing brand equity contacts via IMC" (Schultz, 2004). The synergy among the vehicles of communication is very crucial to generate a high level of persuasion among the consumers. Brand equity is a vast concept with different components to satisfy, a single mode of communication is not capable of targeting every component. As a result, synergy among the various modes of communication through IMC can be used to target specific focus areas such as brand identity creation, brand recognition, and brand associations.

Therefore this is evident from the above-mentioned reviews of the scholars that brand equity has turned out to be at the centre of business. There have been numerous researches towards this concept; various scholars have developed different models for building brand equity. Still, there is no proper definition to define the term brand equity and with the evolution in technology and increasing digitisation, various new opportunities and challenges have emerged for the brands to communicate and connect with the customers.

Bibliometric analysis

"Generally, a bibliometric analysis is performed to evaluate both research trends and scholarly networks in different research disciplines" (Eck & Waltman, 2010). The term bibliometrics was first used by "Alan

Pritchard" in his paper "Statistical Bibliography or Bibliometrics?" In 1969, he explained the term as "the application of mathematics and statistical methods to books and other media of communication" (Pritchard, 1969). Biometric analysis refers to the utilisation of statistical methods to analyse scholarly publications, books and articles. Though historically it was merely used to analyse the relationship between citations in journals, today it is being used by various researchers to know the impact of their field, impact of research and particular paper. The first step in the bibliometric analysis is to analyse, extract and organise the data in an effective manner, as it makes it easier to identify various aspects of the research paper. One of the most important areas of it is citation analysis, which helps to establish links between authors and their papers. While conducting a bibliometric analysis of scholarly publications, a person can identify the most cited author, most influential publications, contribution of various countries in the research and the research focus of authors over the period. There are primarily four steps involved in an effective bibliometric analysis beginning with the objective of the research, choosing the research design, collecting data from relevant database sources, selecting the methodology and software and finally analysing the final results.

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Research Software

For conducting bibliometric analysis on the above topic, Biblioshiny software is being used. It is considered to be a shiny app for bibliometrix; it is generally called "bibliometrix for non-coders". Bibliometrix is an R language based graphic interface used for data importing and filtering. R is a programming language that is primarily used for statistical computing. Using a language-based graphic interface is not easy for a scholar, solely for this purpose Biblioshiny was developed to assist them in utilising the main and best features of bibliometrix. It is used to gather and import data from known databases like PubMed, Scopus, Web of designs etc. The data is then filtered and can be analysed based on sources, authors and documents. It constructs and visualizes bibliometric networks for citations, co-authorship, and co-citation links analysis. The best and most unique feature of Biblioshiny is that it allows performing factor analysis, which is not possible in most of the bibliometric tools.

It is run through R-studio, which is software that provides an integrated development environment for the R programming language. It is an open-source ready to use professional software for R programming language, which is used by professionals and data scientists to analyse and share their findings. It is available in 2 variants; one can only be installed and run on a desktop and the other runs on a remote server which can be accessed via a web browser. The best and most unique feature of Biblioshiny is that it allows performing factor analysis, which is not possible in most of the bibliometric software tools.

RESEARCH METHODOLOGY

This topic provides a detailed outline of the method used for the extraction and analysis of the papers published in the discipline of brand equity.

Data search strategy

To conduct bibliometric analysis, a properly arranged data set is required which would then be analysed using Biblioshiny. Among the various available databases such as Web of Sciences, PubMed, Semantic Scholar, Scopus etc. **Scopus** database was used for extracting the data on Brand Equity, as it is considered to be one of the largest databases with a less complex data extraction process. It provides ready to use efficiently managed data for bibliometric analysis making the task even smoother. It is the largest citation and abstract database of Elsevier, harbouring approximately 36377 titles from around 11678 publishers.

Extraction & Identification

To identify the papers, the keyword or title "Brand Equity" was used. Further the raw data on the Scopus database was filtered based on the below mentioned filters:

1,140 document results extracted through-
TITLE-ABS-KEY ("Brand
Equity") AND (LIMIT-
TO (DOCTYPE , "ar")) AND (LIMIT-
TO (SUBJAREA , "BUSI") OR LIMIT-
TO (SUBJAREA , "SOCI") OR LIMIT-
TO (SUBJAREA , "ARTS") OR LIMIT-

TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (EXACTKEYWORD , "Brand Equity"))

A total of 1140 articles and conference papers were identified as having the word "Brand Equity" in their titles or keywords from the year 1992-2020 in the Scopus database. The data was organised with headings such as authors, author's id, citations, number of pages, sources and the total number of publications. The data was extracted in a .csv file which can easily be arranged and scrutinized using any bibliometric software.

Screening

For efficient, comparative and diversified analysis of the papers, the papers published after 2000 and before 2020 were considered for analysis and the rest were eliminated. The period of 20 years was then divided into 2 decades i.e. 2000-2010 and 2010-2020. This decadal division would facilitate comparison in the trends of publications, the research focus based on keyword analysis etc. For universal acceptability, papers published only in English were considered and the rest were removed.

Relevancy

After initial screening around 30 articles were eliminated from the data set for the comparative analysis of 2 decades. A total of 1110 articles were considered relevant to fulfil the objectives of the paper and perform an effective bibliometric analysis.

OBJECTIVES

Brand equity is a very dynamic subject, and several studies have been conducted to truly identify the effect of different variables on the growth of brand equity, along with new trends that form a brand's image in the market. This paper focuses on the following objectives to have a holistic bibliometric analysis:

1. To scrutinize the extracted data and provide an overview of it.
2. To trace recent trends and the changes in the researches on the topic related to brand equity.
3. To determine the top 10 most influential countries based on their total publications.
4. To analyse the top-cited authors and analyse their co-citation network.
5. To determine the most influential publications based on the highest citation.
6. To recognise the most relevant sources of publication in the discipline of brand equity.
7. To perform a factor analysis of authors keywords using the MCA method and create a term factor map.

RESULTS AND ANALYSIS

The first step towards bibliometric analysis is to scrutinise the data extracted, and according to the analysis there are in total 1110 articles identified having "Brand Equity" as their title or mentioned as one off their keywords. Tables and graphs are being used with the explanation to enhance the understanding and provide a clear picture of the outcome.

Table 1- Highlights of the data

Description	Results
Article	1110
Sources (Journals, Books, etc)	360
Average citations per documents	27.11
Single-authored documents	182
Authors	2277
Authors of single-authored documents	161
Authors of multi-authored documents	2116
Author's Keywords (DE)	2415

Highlights of the data extracted

The table-1 provides comprehensive information about the data which was extracted from Scopus to conduct bibliometric analysis. There are recognised 1110 articles, which are the only document type present in the whole data. There are a total of 2277 authors that contributed in the research on brand equity, among which only 161 authors have solely authored a document and the remaining have co-authored multiple-authored documents. Author's keywords are highly crucial in understanding the crux of the paper or article, they provide an idea of what is being considered and discussed in the article. There are 360 sources such as journals, books and others in which the above mentioned 1110 articles were published.

The trends in publications speak loud about the development of the concept and the importance of it. A growing trend in the publication of a particular field indicates its increasing relevance in the present scenario. Let us begin with the analysis of the trends in the publication of papers on digital equity over the past two decades.

Table 2- Year wise publication and citations of the publications

Year	Total Publication	Total Citation	Citation per Publication
2020	141	222	1.57
2019	125	622	4.9
2018	92	739	8.03
2017	80	809	10.1
2016	76	1399	18.4
2015	77	1746	22.6
2014	65	948	14.5
2013	61	1864	30.5
2012	73	3305	45.2
2011	48	1950	40.6
2010	64	2069	32.3
2009	53	1831	34.5
2008	44	2180	49.5
2007	22	1130	51.3
2006	16	2574	160.8
2005	20	2085	104.25
2004	7	398	56.8
2003	13	1000	77
2002	8	398	49.75
2001	16	1956	122.25
2000	9	863	95.9

Analysis of the trends in publication

The table-2 provides a clear picture of the total publication and the citations in a particular year. There is observed a constant increase in the publication of the papers in the decade 2011-2020. In the initial years the publication was quite less as in 2000 there were only 9 publications followed by 16 in 2001. It is determinable from the table that there has not been much publication in the first decade as compared to the second decade.

The overall publications in the first decade are 272 and in the decade 2011-2020 are 838. However, the amount of citations is much more in the first decade of 2000-2010 as compared to the decade of 2011-2020. The highest number of citations i.e. 3305 is observed in 2012 followed by 2574 in 2006. After 2014, a constant increase in the publications was observed with the maximum number of publications in 2020 followed by 2019.

Table-2 also provides us information about the citation per publication which depicts an average of citation that a publication received over the year. The maximum citation per publication is observed in the year 2006, which indicates that the research carried out in this year has been the basis of further research. As compared to the decade 2011-2020, the decade of 2000-2010 recorded more citations per publication indicating the importance of the research performed over the decade. After the analysis of publishing trends, let's discuss the contribution of countries all over the world in research development in the discipline of brand equity. The table provides a list of the top 10 countries ranked based on total papers published there

Table 3- Top 10 influential countries

Country	Total Production	Total citation
USA	596	7956
CHINA	286	1814
SPAIN	203	1766
INDIA	148	408
UK	133	1500
AUSTRALIA	129	1343
MALAYSIA	104	460
IRAN	95	43
SOUTH KOREA	84	63
FRANCE	69	792

Most contributing countries in the discipline of "Brand Equity"

Based on the total publication, Table-3 shows the top ten most influential countries in the domain of brand equity. It is realised that the maximum research on the concept was done in the United States and later in the paper you would also notice that the maximum number of most cited authors belonged to the United States.

The figure-1 provides a thematic map of production distribution among the countries, the transition from blue to gray is in context to the publications. It is evident from the map that maximum publications were from North America, South America, Australia, South

Asia and some parts of Africa. Country with the highest publication is the United States, followed by China, Spain and India. India has contributed a significant amount of publications in the field but lacked behind in the citations. Although number of publications in the United Kingdom is much lower than India, but it received more than thrice the number of citations. This Implicates that the research performed in the United Kingdom was considered much more relevant and beneficial for further research works. Similar is the scenario with France, it has the lowest publications among the 10 but has the third highest citations.

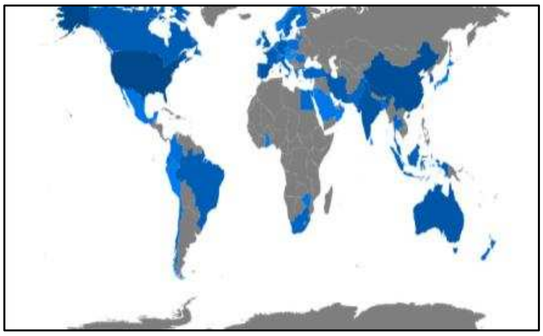

Figure1- Thematic map of most influential countries

The Table-4 provides a detailed analysis of the top 20 most cited authors. The authors are ranked per the total number of citations, and they will be compared on the same criteria.

Table 4- Top 20 most cited authors

Rank	Author	Affiliation	Total Publications	Total Citations	h index
1	Yoo B.	Hofstra University Hempstead, United States	1326	4	24
2	Donthu N.	Georgia State University, United States	1279	2	41
3	Lehmann D.R.	Columbia Business School, United States	1081	3	41
4	Keller K.L.	Tuck School of Business at Dartmouth College	1027	4	109
5	Ko E.	Yonsei University, Seoul, South Korea	782	4	25
6	Pappu R.	The University of Queensland Business School, Australia	746	5	4
7	Quester P.G.	The Adelaide Business School Adelaide, Australia	745	4	36
8	Kim A.J.	Cal Poly Pomona, Pomona, United States	676	1	7
9	Cooksey R.W.	University of New England Australia, Australia	629	2	18
10	De Chernatony L.	Aston Business School, Birmingham, United Kingdom	455	8	38
11	Kim W.G.	International Centre for Hospitality Research in the Dedman School of Hospitality	434	3	1
12	Esch F.R.	EBS Universität fürWirtschaft und Recht, Germany	422	2	5
13	Erdem T.	Leonard N. Stern School of Business, United States	403	3	26
14	Czellar S.	Université de Lausanne (UNIL), Switzerland	370	1	10
15	Spangenberg E.	University of California, Irvine, United States	370	1	25
16	Sprott D.	University of Wyoming, United States	370	1	30
17	Martinez E.	Universidad de Zaragoza, Spain	352	8	23
18	Rodriguez Z. P.	Lusíada University of North, Portugal	351	1	5
19	Langner T.L.	Bergische Universität Wuppertal	351	1	7
20	Schmitt B.H.	Columbia Business School, United States	351	1	34

Along with total citations, the affiliation, total publication and the h-index of the authors are presented in the table.

Most cited Authors

Table-4 and Figure-2 displays the top 20 most cited authors who have made the greatest contribution in the research and development of the concept of brand equity and communication. The top 20 most cited authors are mainly from the United States, Australia, and South Korea, and they contributed the most to the research. The authors are ranked according to their total number of citations (TC), and the table also contains information on their affiliation and h-index, as stated by Scopus. B. Yoo is ranked first among the top 20 most cited authors with the maximum citations of 1326. His co-authored publication: *"Developing and validating a multidimensional consumer-based brand equity scale"* is considered to be the most influential publication in this field. The above mentioned paper was co-authored by B. Yoo along with N. Donthu, who is the second most cited author with 1279 citations. The third most cited author is Lehmann D.R., who co-authored the second most influential publication *"Brands and branding: Research findings and future priorities"*. The table not only highlights the top 20 most cited authors, it highlights the crucial contribution and role of these authors in development of the concept and their research in numerous fields have been the base of further research and evaluations.

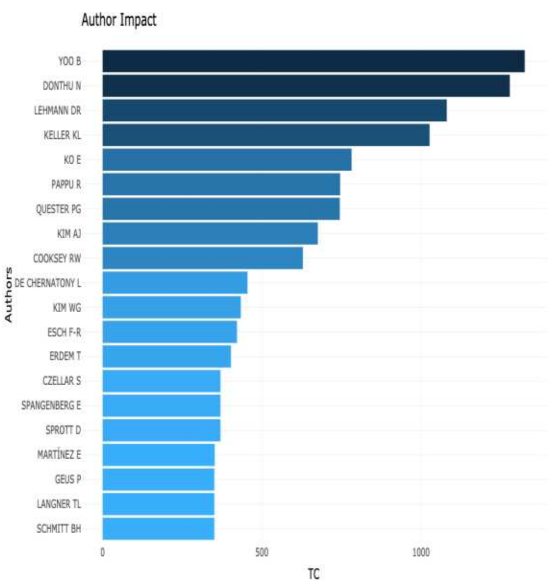

Figure 2- Most cited authors

Author Co-citation Analysis (ACA)

Co-citation analysis enables researchers to identify similar relationships between papers, authors and sources. The main purpose of ACA is to map scientific domains by pointing out the relationship of co-cited author (McCain, 1990). Figure-3 provides an author co-citation network, which is relevant in understanding the relationship between the authors and the integration of research and analysis. The circular nodes mention the names of the author and the lines denote the co-citation links between them. The different coloured nodes define the clusters they belong to, the nodes are clustered through the Louvain algorithm. The size of nodes determine the links of the authors, larger the nodes higher the co-citations of the author and vice-versa. It is evident from the figure that Keller, Aaker, Anderson, Yoo etc. have been co-cited the maximum times having links with mostly all the present 50 authors in the network.

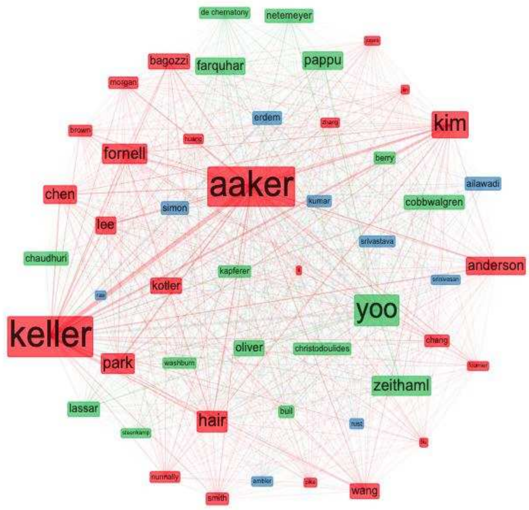

Figure 3- Co-citation network of the authors

The Table-5 below provides an insight into the top 20 most cited publications ranked on the basis of their citations. Along with the citations, the author and the year of publication is also presented in the table. This ranking would enable us to determine the most influential publication, which had the strongest impact on the research in the discipline of brand equity and communication.

Table 5- Top 20 Most Influential Publications

Rank	Title	Author	Year	Citation
1	“Developing and validating multidimensional consumer-based brand equity scale.”	“Yoo B.”, “Donthu N.”	2001	1178
2	“Brands and branding: Research findings and future priorities.”	“Keller K.L.”, “Lehmann D.R.”	2006	929
3	“Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand.”	“Kim A.J.”, “Ko E.”	2012	676
4	“Consumer-based brand equity: improving the measurement – empirical evidence.”	“Pappu R.”, “Cooksey R.W., “Quester P.G.”	2005	412
5	“The importance of a general measure of brand engagement on market behavior: Development and validation of a scale.”	“Sprott D.” “ Czellar S.”, “Spangenberg E.”	2009	370
6	“Are brands forever? How brand knowledge and relationships affect current and future purchases.”	“Esch F.R.”, “Langner T.L.”, “Schmitt B.H.”, “Geus P.”	2006	351
7	“Brand equity, brand loyalty and consumer satisfaction.”	“Nam J.”, “Ekinci Y.”, “Whyatt G.”	2011	321
8	“Managing brands and customer engagement in online brand communities.”	“Aksoy L.”, “Van Riel A.”, “Kandampully J.”, “Wirtz J.”, “Den Ambtman A.”, “ Bloemer J.”, “Horváth C.”, “Ramaseshan B.”, “Van de Klundert J.”, “GurhanCanli Z.”	2013	301
9	“Do counterfeits devalue the ownership of luxury brands?”	“Nia A.”, “Lynne Zaichkowsky J.”	2000	263
10	“Does brand trust matter to brand equity?”	“Delgado-Ballester E.”, “Munuera-Alemán J.L.”	2005	254
11	“Brands matter: An empirical demonstration of the creation of shareholder value through branding.”	“Madden T.J.”, “Fehle F.”, “Fournier S”	2006	253
12	“Does image of country-of-origin matter to brand equity?”	“Mohd N.Y.”, “Nasser M.N.”, “Mohamad O.”	2007	251
13	“The effects of brand associations on consumer response.”	“Del Río A.B.”, “Vázquez R.”, “Iglesias V.”	2001	244
14	“Are social media replacing traditional media in terms of brand equity creation?”	“Bruhn M.”, “Schoenmueller V.”,” Schäfer D.B.”	2012	237
15	“Brands and brand equity: definition and management.”	“Wood L.”	2000	231
16	“The impact of brand credibility on consumer price sensitivity.”	“Erdem T.”, “Swait J.”, “Louviere J.”	2002	223
17	“Consumer-based brand equity and country-of-origin relationships: Some empirical evidence.”	“Pappu R.”, “Quester P.G.”, “Cooksey R.W.”	2006	217
18	“The effect of consumer-based brand equity on firms' financial performance.”	“Kim H.-B.”, “Kim W.G.”, “Ann J.A.”	2003	215
19	“Social media marketing efforts of luxury brands: Influence on brand equity and consumer behaviour.”	“Godey B.”, “Manthiou A.”, “Pederzoli D.”, “Rokka J.”, “Aiello G.”, “ Donvito R.”, “Singh R.”	2016	208
20	“Customer based brand equity: Evidence from the hotel industry.”	“Kayaman R.”, “Arasli H."	2007	201

Most Influential Publications

Table-5 and Figure-4 provides the list of top 20 most influential publications based on their total citations, which had the greatest impact on the research and development of the concept brand equity. Mostly the motivation behind any research is a question, a question of impact, a question of output and a question of development. Various factors are studied in context to the research topics, wherein new theories are developed and some are modified. These influential publications bring about a change in the thinking and writing of the scholar community. It is observed that out of the top 20 most influential publications, 15 of them were published in the decade of 2000-2010. This signifies the importance of the research in that particular decade.

Based on the analysis, the most influential publication with the highest citations is "*Developing and validating multidimensional consumer-based brand equity scale*", which was authored by Yoo B. and Naveen Donthu. The research was carried out for the purpose of developing a multi-dimensional scale to measure the customer based brand equity. It concluded with the fact that the developed scale was reliable and was tested both theoretically and practically.

With the focus on holistic analysis of the branding as a whole and highlighting the importance of the components of brand equity such as brand positioning, brand awareness, brand integration etc. It also aims at highlighting the gaps in the study and research on branding. The second most influential publication studying the above aspects is*: "Brands and branding: Research findings and future priorities"*, authored by Keller K.L., Lehmann D.R.

Technology and the Internet themselves have been a revolution in the business sector, a business equipped with relevant technology and connected with the internet would always be one step ahead of its competitors. Putting in spotlight the importance of social media marketing in enhancing the customer equity, the third most influential publication is: *"Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brands"*. The study is aimed at analysing the role of SMM activities in influencing the customer purchase behaviour and other attributes for the luxury fashion brands.

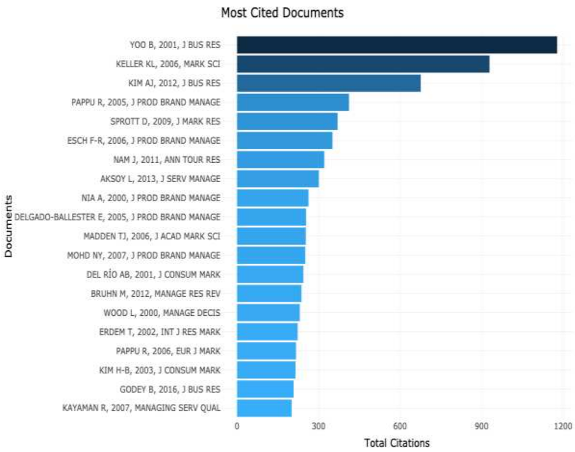

Figure 4- 20 most influential publications

After identifying the most influential publications, it is relevant to analyse the sources in which these publications were published from time to time. The table below provides an insight into the most relevant sources of publications based on the total publications it published on brand equity.

Table 6- Most important sources of publication

Sources	Articles
Journal of product and brand management	54
Journal of business research	51
Journal of brand management	41
European journal of marketing	34
Journal of consumer marketing	20
Journal of product & brand management	18
Industrial marketing management	15
Marketing intelligence and planning	15
International journal of bank marketing	13
International journal of sport management and marketing	13
Journal of marketing management	13
Journal of promotion management	13
Asia pacific journal of marketing and logistics	12
International journal of hospitality management	12
Journal of retailing and consumer services	12
Sustainability (Switzerland)	12
Journal of marketing research	11
International journal of research in marketing	10
International marketing review	9
Journal of marketing communications	9

Most relevant sources of publication

Table-6 and figure-5 provides a comprehensive overview of the top 20 sources of publication ranked based on their total publications. Figure provides a graphic representation of the top 20 most relevant sources of publication, with the name of the sources on the Y-axis and the number of documents ranging from 0-54 on the X-axis.

"Journal of Product and brand management" is ranked as the most relevant source of publication with a total of 54 articles published in it. This journal aims to focus on all the aspects of branding and product management from its origin to its dilution.

The second most relevant source is the "Journal of Business Research", which is well known for its application of business theory to real-time business situations. It focuses not only on branding and product management it has a wider scope of research focusing on every business decisions and activities.

The third most relevant source of publication is the "Journal of Brand Management", which is one of the top journals on brand management and strategy. It is recognised for expert analysis on brand reputation and management with on field research and case studies.

The next and the last objective of this paper are to perform a factorial analysis of the author's keywords using the MCA method and create a term factor map. This particular analysis would enable the institutions and managers to recognise different qualitative variables grouped into limiting factors, which would be beneficial in further research.

Factor Analysis

This analysis is primarily used to reduce down numerous correlated variables into a lesser number of factors. It is a statistical method used by numerous authors and researchers to reduce their variable dimensions into lesser factors and provide them with a similar score for easy and smooth analysis. Multiple correspondence analysis method is used for this particular analysis, it is one step ahead of correspondence analysis and it enables the researchers to compare the distance between the two qualitative variables by representing them in the Euclidean space.

A term factor map based on the author's keywords is shown in Figure-6, a minimum of 500 documents were analysed to identify the most prominent keywords and among them, only 50 of them are depicted on the map for effective analysis. Three different coloured structures on the map show three different clusters; in each cluster the variables or the keywords are grouped based on the similarity of their application or correlation between them.

Dim1 and Dim2 on the X and Y axis are the reduced variables projecting the shadow of the actual data also denoting the variation from the original data set and two dimensionality of the structure. Clusters are made based on the similarity between the words or the variable. They have been based on their output variables such as the green cluster at the top left is similarity cluster, the red cluster is the factor cluster and the blue cluster is the components cluster.

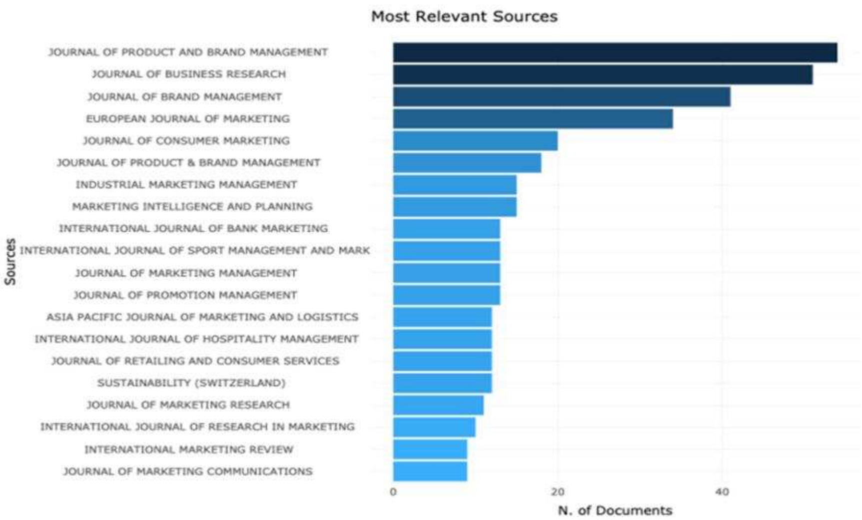

Figure 5- Graph representation of most relevant sources of publication.

The similarity cluster comprises the terms related to equity such as customer equity, relationship equity and value equity. Brand equity is closely related to all these terms and these are indirectly interrelated as if we consider customer equity, it focuses on the value of customers and brand equity also emphasizes on customer loyalty. Therefore the relationship among these terms is highlighted in this analysis.

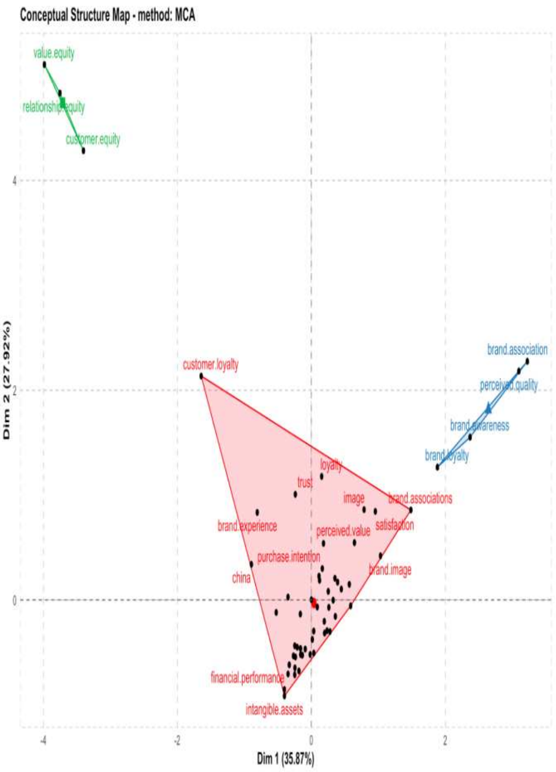

Figure 6- Term factor map of author keywords

The factors cluster is the largest among the three, comprising the factors that are most prominently used to measure brand equity such as customer satisfaction, customer loyalty, brand image etc. Among the other variables, image, perceived value, brand experience, trust and loyalty are present in the centre of the structure signifying their importance in determining brand equity.

Brand equity components such as brand loyalty, brand recognition, and brand affiliation are included in the components cluster. These components are the building block for the development of brand equity and they must be kept in mind while framing a positive brand equity strategy.

FINDINGS AND IMPLICATIONS

This paper would act as a ray of light for the scholar community to recognise the focus areas of research in brand equity over the past two decades. So as the areas which have been left out or the recent trends in the market can be approached as a topic for further research. The business itself survives in a dynamic market and has to face numerous challenges and opportunities. Similarly, brand equity is a developing concept; the research in its context started only in the early 1980s and has become the centre of focus for the companies since the 20th century. The factorial analysis would enable managers to understand the major components of brand equity and the factors that play a crucial role in its development. This would enable them to frame an effective brand equity development strategy, which would enhance the profitability in future. By analysing the top 20 most influential publications, the importance of the topics and keywords of these papers have been highlighted. These can be used by business educational institutions to frame a curriculum for brand equity harnessing students with the knowledge of this developing yet crucial aspect of the business.

CONCLUSION

Customers waiting in queue to lay their hands on the new phone are the greatest example of positive brand equity. It is not solely the quality and perceived quality that Apple offers; it is about the brand and the reputation which heightens the sales of the products. It is essential for the managers and the companies to perform a brand audit once in six months to analyse their brand reputation in the market amongst the customers. This audit would enable the companies to be adaptive towards the changes in the market and technological developments. The increasing digitisation and mobile use have created a different space of interactions among the customers and the brands. This increases the importance of brand communication, which would help in communicating better and effectively with the customers. There have been various researches focused on highlighting the importance of brand communication in brand positioning and creating positive brand equity. Social media brand communication is a new fresh concept; it offers a platform for the brands to target consumers of all ages globally. The increasing trust of individuals on social media is creating a great opportunity for the brands to position themselves in the customer's minds and create a positive digital presence. Brand loyalty comes from effective interactions between the customer and the brand, which is only possible through an effective brand communication strategy. It is not possible for the big luxurious brands to somehow tap into the niche community of customers, brand communication provides them with an opportunity to affiliate with other brands and larger their consumer base. This brand association can be very beneficial for brands looking forward to expansion in different niche markets. Hence it would not be incorrect to include that brand communication not being theoretically considered a part of brand equity, is the most crucial aspect in the development of brand equity. Every step towards developing positive brand equity involves customer interaction directly or indirectly. If the founding vision and values of the brand cannot be communicated to the customer, it would never be able to grow and survive in the market.

Bibliometric analysis was essential to recognise the past researches in the discipline of brand equity, their focus of study and the conclusions. It was found that maximum research was performed in the year 2020, but the relevance of the research is determined through the maximum number of citations that were observed in 2012. Although there was a constant increase in production over the second decade, the maximum citation was received in the first decade. The research was carried out all over the world, but the focused regions were North America, South America, Australia, South Asia and parts of Africa. The United States contributed most to the research in the field having not only the maximum publications but also the highest number of citations. It is also of no surprise that most of the top 20 cited authors were from the United States itself. Among the top 20 most cited authors, Yoo B. received the maximum citation followed by Donthu N. and Lehmann D.R. The analysis of most influential publications highlighted some important topics in context to brand equity such as the increasing relevance of social media in the creation of a brand image, development of a multidimensional brand equity scale, effect of counterfeits on luxury brands, the relevance of brand trust in building brand equity, etc. the factorial analysis highlights the important factors which could be used in further researches by different scholars and institutions. Hence, from the above analysis, it would be right to conclude that there is a requirement for more detailed and diversified research in the discipline of brand equity. The research must be more focused on the different models proposed by great scholars and how these can be amended based on the 21st-century requirement.

REFERENCES

Aaker, D. A. (1996). *Building Strong Brands.* New York: The Free Press.

Aaker, D. A. (1991). *Managing Brand Equity: Capitalizing on the Value of a Brand Name.* New York: The Free Press.

Ballester, E. D., & Alemán, J. L. (2005). Does brand trust matter to brand equity? *Journal of Product & Brand Management* , 187-196.

Berthon, P., Pitt, L., & Campbell, C. (2008). Ad lib: when customers create the ad. *California Management Review* , 6-30.

Bruhn, M., Schoenmueller, V., & Schäfer, D. B. (2012). Are social media replacing traditional media in terms of brand equity creation? *Management Research Review* , 770-790.

Del Río, A. B., Vázquez, R., & Iglesias, V. (2001). The effects of brand associations on consumer response. *Journal of Consumer Marketing* , 410-425.

Dewi, A. C., Syah, T. Y., & Kusumapradja, R. (2020). The Impact of Social Media Brand Communication and Word-of-Mouth. *Journal of Multidisciplinary Academic, 276-282*.

Ebrahim, R. (2019). The Role of Trust in Understanding the Impact of Social Media Marketing on Brand Equity and Brand Loyalty. *Journal of Relationship Marketing* , 1-22.

Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics* , 523-538.

Erdem, T., Swait, J., & Louviere, J. (2002). The impact of brand credibility on consumer price sensitivity. *International Journal of Research in Marketing* , 1-19.

Esch, F. R., Langner, T., & Geus, P. (2006). Are brands forever? How brand knowledge and relationships affect current and future purchases. *Journal of Product & Brand Management* .

Farquhar, P. H. (1989). Managing Brand Equity. *Marketing Research* , 24-33.

Godey, B., Manthiou, A., Pederzoli, D., & Rokka, J. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research* .

Hossain, M. S., Anthony, J. F., Beg, M. N., Hasan, K. R., & Zayed, N. M. (2020). Affirmative Strategic Association of Brand Image, Brand Loyalty and Brand Equity: A Conclusive Perceptual Confirmation of the Top Management. *Academy of Strategic Management Journal* .

Kayaman, R., & Arasli, H. (2017). Customer based brand equity: Evidence from the hotel industry. *Journal of Service Theory and Practice* .

Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing* , 1-22.

Keller, K. L. (2003). *Strategic Brand Management: Building, Measuring, and Managing Brand Equity.* New Jersey: Pearson .

Keller, K. L., & Lehmann, D. R. (2006). Brands and branding: Research findings and future priorities. *Marketing Science* .

Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research* , 1480-1486.

Kim, H. b., Kim, W. G., & An, J. A. (2003). The effect of consumer-based brand equity on firms' financial performance. *Journal of Consumer Marketing* , 335-351.

Lehmann, D & Keller K L. "Brands and Branding: Research Findings and Future Priorities." *Marketing Science* 25, no. 6 (November 2006): 740-59

Madden, T. J. (2006). Brands Matter: An Empirical Demonstration of the Creation of Shareholder Value Through Branding. *Journal of the Academy of Marketing Science* , 224-235.

Madhavaram, S., Badrinarayanan, V., & Mcdonald, R. E. (2013). Integrated Marketing Communication (IMC) and Brand Identity as Critical Components of Brand Equity Strategy. *Journal of Advertising* , 69-80.

McCain, K. W. (1990). Mapping authors in intellectual space: A technical overview. Journal of the American Society for Information Science. *Journal of the American Society for Information Science* .

Nam, J., Ekinci, Y., & Whyatt, G. (2011). Brand equity, brand loyalty and consumer satisfaction. *Annals of Tourism Research* , 1009-1030.

Nia, A., & Zaichkowsky, J. L. (2000). Do counterfeits devalue the ownership of luxury brands? Nia A., Lynne Zaichkowsky J. *Journal of Product & Brand Management* , 485-497.

Pappu, R., Quester, P. G., & Cooksey, R. W. (2006). Consumer-based brand equity and country-of-origin relationships: Some empirical evidence. *European Journal of Marketing* , 696-717.

Pappu, R., Quester, P. G., & Cooksey, R. W. (2005). Consumer-based brand equity: improving the measurement – empirical evidence. *Journal of Product & Brand Management* .

Pritchard, A. (1969). Statistical Bibliography or Bibliometrics? *Journal of Documentation* , 348-349.

Saidarka, G. A., & Rusfian, E. Z. (2019). Comparative Study on Brand Equity of Fast Food Restaurants in Indonesia. *International Journal of Innovation, Creativity and Change* .

Sasmita, J., & Suki, N. M. (2015). Young consumers’ insights on brand equity: Effects of brand association, brand loyalty, brand awareness, and brand image. *International Journal of Retail & Distribution Management* .

Schultz, E. D. (2004). A clean brand slate. *Integrated Marketing Communications* .

Sprott, D., Czellar, S., & Spangenberg, E. (2009). The importance of a general measure of brand engagement on market behavior: Development and validation of a scale. *Journal of Marketing Research* .

Wirtz, J., Ambtman, A. d., Bloemer, J., Horváth, C., Ramaseshan, B., Klundert, J. v., et al. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management* , 224-244.

Wood, L. (2000). Brands and brand equity: definition and management. *Management Decision* .

Yasin, N. M., Noor, N., & Mohamad, O. (2007). Does image of country-of-origin matter to brand equity? *Journal of Product & Brand Management* , 38-48.

Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research* , 1-14.

Yoo, B., Donthu, N., & Lee, S. (2000). An Examination of Selected Marketing Mix Elements and Brand Equity. *Journal of the Academy of Marketing Science* , 195-211.

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IMPACT AND OUTCOME COMMUNICATION OF ACADEMIC CONFERENCES IN HIGHER EDUCATION SECTOR – NEED, METHODS, AND TOOLS

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ABSTRACT

Extra and co-curricular activities are an integral part of the academic institutions and one of the most important amongst them are conferences. They ignite the intellectual thinking and discussion on contemporary and prospective issues. However, very little is done to analyse the impact of a conference or similar activity on the participants or the outcome of the same. The main objective of this paper is to study and investigate the need and impact of conferences/workshops/seminars on a variety of participants/stakeholders which may include research scholars/students, faculty members and funding agencies, etc. This paper investigates the need for outcome assessment and analyses relationship between conferences and their outcome/impact by researching on the existing methodologies available for such assessment, an empirical study by questionnaires surveys and focused interviews. Many of the organizing institutions prepare post conference reports, these colossal reports which are meant to project the outcome of the conferences take a tedious time to develop, summarised, and examined by the stakeholders, reducing their productivity in their respective areas. Hence, this study tries to prove that there is a situational urge for a method/system/framework that can immediately give us the effectiveness of the conference (or similar academic events) with respect to its predefined objectives in measurable terms. The results of the data collected through empirical study revealed that there is a significant requirement for developing a method/system/framework that can bring out the immediate usefulness of the conference for all stakeholders. The study provides a new dimension to the theoretical frameworks in mapping the outcomes of the conference by reducing them into easily decodable figures and graphs.

Keywords: Co-curricular activities, Outcome mapping, conference assessment, qualitative research, assessment tools

INTRODUCTION

In the Union Budget 2020, the Government of India allotted Rs. 99,312 crores for the education sector which was an increase by approx. 5% for Financial Year 2021 as compared to the previous allocation of Rs. 94,800 crores for FY 20. Out of this Rs. 39,466 crores were allotted to Higher Education Sector and the remaining Rs. 59,845 to the school education and literacy (Union Budget, 2020). The higher education institutions are encouraged to maintain the quality of education which, apart from classroom education, also includes extra and co-curricular activities. The institutions have been given the prerogative to organize such extra and co-curricular activities which are also part of assessment and evaluation by accreditation agencies in India such as NAAC, NIRF etc. A substantial budget is spent by the education institutions, whether government or private, for organizing any state/national/ international level conferences/seminars/ workshops and other academic-related activities. The conferences are an important mechanism to initiate discussion on contemporary and contentious issues amongst scientists, research scholars and other participants. Some studies have found that involvement in curricular and co-curricular events at the university/institution level is exceptionally important for students/ research scholars (Stuart, M., Lido, C., et al, 2011), faculty members, and the industry as directly or indirectly it will have a strong impact on them in terms of inculcating qualities such as research orientation, leadership, teamwork, etc. Deliberations during such events aspire the participants to get involved in more research-oriented studies and ultimately apply them in their practice in a variety of areas of study and profession. To adopt a variety of perspectives and multidisciplinary approaches, it is pertinent for every university/ institution to conduct academic conferences in different disciplines, which aims at culminating the contemporaries in that area.

However, one significant aspect of conferences which is not given much and desired importance is post conference outcome analyses. Many institutions/organizers prepare conference proceedings, however, the impact of these proceedings and discussions during the conference are rarely analysed. The assessment of outcome and impact is equally time taking and required set of skills including follow-up with the participants and stakeholders. As mentioned above, the benefits of the conference, it is equally important to see and analyze the realization of these benefits, otherwise the purpose of such events is not fulfilled and they merely become non-effective academic activities.

The conference outcome assessment has theoretical as well as practical importance. From theoretical perspective, the learning from deliberations and interaction during the conference may directly affect the academic learning of students and faculties and research of scholars. It gives them another perspective of their area of studies which is different from classroom education that is generally restricted to the given syllabus. From the practical viewpoint, the outcome assessment can ensure the credibility of the event and its organizers. The concrete evidence of the impact of conference can also support the expenditure of the event which has the objective of right use of such finances by the funding agencies or sponsors. Therefore, not just the conference is important, but also its impact, outcome and assessment thereof.

In this paper, the authors have analysed the need for outcome assessment based on the sample survey. Once, it is discovered that there is substantial need for outcome assessment, the authors have focused on the correct possible methods for such assessment and there is also need for right tools which are objective in nature and can be implemented universally without any constraints.

OBJECTIVES OF RESEARCH

It is imperative to identify the objectives of research of the paper. Objectives are important to give direction to the research and define its scope which ultimately helps to reach its conclusion with the help of various resources and data of research.

1. To find various factors influencing the outcome of conferences.
2. To find, the need for qualitative and quantitative assessment for maximum useful outcomes.
3. To find and assess, the impact of conferences on personal or professional development and to promote networking and idea-sharing amongst all stakeholders.
4. To find whether universities/institutions have a defined system/method/framework for assessing the outcomes of conferences both short term and long term impact.
5. To assess, if such a system/method/framework can bring out measurable outcomes.

RESEARCH QUESTIONS

The paper revolves around the following research questions. Based on the doctrinal and non-doctrinal research, these questions are responded in the conclusion in the end.

RQ1: Whether there is need of conference outcome assessment?
RQ2: What is the impact of conference outcome on stakeholders?
RQ3: What are the tools used for Conference outcome assessment?
RQ4: Whether there is a need for any tool for qualitative and quantitative assessment?

LITERATURE REVIEW

The authors have based their research on variety of sources which include literature-based research and empirical study through survey and interview. Basis on the research, it has been found that the subject matter of this research paper is less studied and covered in the existing literature. It is observed that most of the literature cover the importance of conferences and like activities. Researchers have used a mixed method analysis of the needs and motivations of the delegates of academic, scientific and professional conferences where it shows that while the need and expectations of the delegates seem to be met on a superficial level, delegates are divided as to the long-term worth and benefits of conferences, particularly when they consider how their activities and contributions are viewed and appreciated by others (Nicholas Rowe, 2018). In certain areas of study such as science and health, the researchers have evaluated the usefulness and impact of conference objectives. They developed a conference evaluation framework based on theoretical models and empirical findings. Such framework provides conference evaluators and organizers a simple resource to improve their own existing assessments tools, though with certain limitations (Justin Neves et. al., 2012). However, this paper focuses on the need for the method of outcome assessment which is universal and comprehensive and can be used cross all areas of studies, as the existing methods are adequate and universal in their application. The paper also further focuses on setting practical goals to achieve, based on the outcome in a foreseeable timeframe.

An analysis of the literature shows that several organizing institutes do not prepare a proper, formal, and comprehensive outcome report. This is prepared just to do a formality to submit to the funding agency and the funding agencies are not bothered to deep dive into it. Some of the institutions who prepare reports are following traditional method for writing and submitting the reports to the funding agencies. These colossal reports which are meant to project the outcome of the conferences take a tremendous time to develop, summarise and examine the conference agenda, the paper presented, the achievement of objective and final impact, and takeaway points by the stakeholders.

On the other hand, the author also conducted focused survey through questionnaires for academic faculty, students and funding agencies (both public and private) to find and locate the proper system for examining the outcomes of the conference. Hence, the majority of respondents mentioned that there is no such system in existence in the funding agencies which can measure the outcomes/results of the conferences. They also highlighted the fact that few agencies have predefined formats for the organisers to summarize and submit the reports. Officials of the funding agencies also highlighted the fact that a measurable system/method/ framework should be available in the funding agencies which can help the qualitative/quantitative assessments of the conferences to justify the allocations of the grants to the organizers.

The author also assessed the parameters and criteria of accreditation and ranking agencies wherein it was found that importance on conducting the conferences is given such as a number of conferences, etc., however, there are no criteria to assess the outcome of the conferences and their impact on participants or organizing institutions. The analysis of the assessment system of NAAC for the purpose of accreditation of higher education institutions in India has been done previously (Aithal, P. S., et. al, 2016). It highlights the key indicators or criteria for assessment and the authors have analyzed NAAC Accreditation Criteria using the analyzing framework for business models, operational concepts and functional systems called ABCD technique. The paper is useful to understand the process of assess for accreditation by NAAC and using ABCD technique, however, it does not specifically cover impact of any co-curricular activity in HEIs. It also clears that NAAC Accreditation System does not specifically covers extra and co-curricular activities in its assessment.

As in the NAAC manual, 'criteria no. 6.3 - Faculty Empowerment Strategies' has a question as below which requires the institution to states about the financial support to the teachers:

"Average percentage of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies during the last five years."

Further 'Criteria 6.5 i.e. Internal Quality Assurance System' asks Institutions to adopt the Quality assurance measures for conferences, seminars, workshops conducted.

From the above criteria given in the NAAC manual, it appears that assessment primarily considers the number of conferences and financial assistance provided, rather than the quality of the event and the outcome **(Dubey Archana, Ratnaparkhi, 2015).**

Further, it was also studied through an online survey whether physical conference is more beneficial to participants as compared to virtual event. The survey was distributed to delegates of the 3rd and 4th International Marine Conservation Congresses (IMCCs), with respondents' (n = 100) feedback including that the congresses provided useful new information that will aid: (1) their research (58%); (2) in-the-field conservation (29%); (3) conservation communication (46%); and (4) conservation and management policy-making (45%). They also reported gaining new techniques (56%), skills (64%), and novel ideas (70%) to further their research/careers. Nearly all (91%) gained new contacts that improved their research, in-the-field conservation, science communication, and/or conservation policymaking. Two thirds (64%) gained ideas, contacts, and/or lessons that could lead to publications. Over a third (39%) gained new ideas, contacts, and/or lessons that led to grant proposals, and 36% gained contacts that led to funding. A conference is not just an avenue for a scientist to present their research to the wider community, but it can be an important venue for brainstorming, networking, and making vital connections that can lead to new initiatives, papers and funding, in a way that virtual, online meetings cannot. (Oester S, et al, 2017).

It appears form the available literature that the effects of extracurricular activity on students' experiences, outcomes, and future job prospects have been studies in available literature (Stuart, M., et al, 2011). It has used a survey conducted for diverse undergraduate students, along with alumni and potential employer interviews. The paper also focusses on diverse group of students based on socio-economic status and analyses their level of engagement in extra-curricular activities. The research reflects those extracurricular activities are key to developing self-identity, social networks, and career prospects/pathways. It finds that employers stressed the value of such activities for 'distinguishing' candidates, providing evidence of cultural fit, leadership, commitment, and 'selling' original activities. However, the paper fails to specifically focus or give special emphasis on importance of conferences, their outcome, and its assessment.

WHAT IS A CONFERENCE?

In order to under the need for outcome assessment of a co-curricular academic activity like conference, the first step is to understand is what is a conference and how it differs from other variants like workshops, seminar or symposium.

An Academic Conference, in some areas of study it can be called as 'congress', is a one-day or multi-day congregation where professionals/ participants share their ideas and present their research work to attendees and panel. Conference is a large gathering of interested stakeholders/participants, wherein they meet for consultation, exchange of ideas, discussions with a formal agenda. (Oxford Advanced Learner's Dictionary, 9th Edition)

On the other hand, a 'seminar' is a relatively small gathering wherein one or two speakers deliver a formal presentation on pre-decided topic. The Merriam-Webster Dictionary defines a seminar as 'a group of advanced students studying under a professor with each doing original research and all exchanging results through reports and discussions. The 'Symposium' is a meeting, a kind of smaller version of a conference, where subject experts have discussions about a particular subject. A symposium is usually used to describe a small conference on a single subject. For example, a series of lectures in a single day might be called a symposium. The last kind of similar activity is 'workshop'. A workshop is a meeting at which a group of people engage in intensive discussion and practical activity on a particular subject or project. A workshop generally requires learning of participants by active involvement, rather than just listening.

Conferences are an important way through which researchers/scientists remain connected to others in their areas of research and learn about additional opportunities in their fields. The format of the conference may vary as per the agenda and requirement. There is no strict set of rules which are followed globally or nationally to organize a conference. However, the objective of a conference is to invigorate the discussion and exchange of ideas amongst the participants.

Modes and Medium of conducting Conference

Conferences can be conducted in two forms i.e. Physical and Virtual modes. Traditional conferences are conducted in physical form, wherein the participants gather at the venue, and the event is organized as per plan and agenda. On the other hand, the virtual events are organized to avoid the travel requirement of participants. They are conducted via various audio-video mediums. During the COVID-19 pandemic situation and lockdown around the world, the focus has shifted to virtual events through various video conferencing modes rather than traditional mode of conferences. There has been a sudden increase in virtual conferences. Initially, participants had a tough time adjusting to the new model and the technology. But eventually, since it has become new normal, people have started realizing the advantages and benefits of virtual conferences. There can also be the mixed-mode of the conference specially in international conferences wherein the presenters, who are not able to travel, are allowed to deliver their presentation via online medium while the actual event is organized in physical mode. Studies show that the physical model of the conference is more beneficial as compared to the virtual mode (Janisch T, Hilty L, 2017). The former allows the participants to interact with each other and share their ideas more fruitfully.

The importance of predefined objectives in the conference

The academic conferences aligned with the long-term objectives and immediate execution plans play a pivotal role in building a strong sustainable approach towards the outcome and value addition in the respective field of study and research. Moreover, the objectives, scope, coverage, and possible takeaways are predefined for every conference understating the stakeholder's viewpoint, therefore, it is imperative to monitor the pre – during – post-event activities of the conference.

ROLE OF INDIAN ACCREDITATION AND RANKING BODIES

To understand the need and usefulness of assessment of academic conferences, it is imperative to look into the parameters and key indicators of various accreditations and ranking agencies in India. This will help us to understand the existing system of such assessments.

Agencies like UGC, NBA, NIRF, NAAC etc. have a robust policy for evaluating and monitoring the Quality Assurance of HEIs in the country (Aithal, P. S. & Shailashree, V. & Kumar, P. M, 2016). The regulatory and statutory bodies like NAAC give emphasis "to *make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion, and sustenance initiative*" (Mizikaci, F., 2006). Hence it is prudent to have a quality assessment of all academic activities of the institutions/universities.

Quality assurance is an unceasing process to facilitate quality promotion in the different endeavours of academic activities. Accreditation and Ranking institutions support seminars/workshops/conferences focusing on quality sustenance and quality enhancement by providing financial assistance to the institutions. By which they can provide facilities to all stakeholders to share their knowledge, experiences, and research in quality-related aspects or provide intervention for improving the quality of education. Accreditation Bodies have laid down special emphasis on conducting various extra and co-curricular activities to encourage and boost the academicians, scientists, research scholars, students, and industry to share their innovative ideas on the one platform.

Thus, with the above background, it is clear that with a large gamut of 993 universities and 40,000 colleges 10011 standalone institutions (AISHE 2018-19**)** which are offering education in multi-disciplinary areas, there is a strong need to assess the impact and outcomes of these conferences from their initiation phase to the execution and the post-event, so that it can reap benefits to all stakeholders.

ROLE OF FUNDING AGENCY

In India, there are various public/private agencies and institutions that support education institutions by providing financial assistance to organize conferences/ seminars/ workshops. However, before granting funds, the funding agency takes into consideration the objectives and possible outcomes of the conference, if it matches with the objectives of the Agency and relation to the field of study, then the agency/institution can provide financial assistance or resources. Most of these agencies/institutions have allocated budget for every financial year for funding such activities. Post-event, the conference report is submitted to the funding agency by the organizers which include the detailing of the conferences. These huge reports which are meant to project the results of the conferences take a tiresome time to summarise, examine and develop by the stakeholders, reducing their productivity in their respective areas.

For example, the Promotion of University Research and Scientific Excellence (PURSE)is a proactive measure of the Department of Science and Technology, Government of India to build the research capacity of performing Indian Universities. The support under PURSE varies from acquiring research equipment, research man-power cost, augmentation of computational facilities, establishing research infrastructure, acquiring research consumables, a fund for travel, organizing workshops and conferences, contingencies and maintenance of the facilities. The total investment of Rs 1220 crore was planned for performing Universities identified under PURSE, so far, an amount of Rs 900 Cr has been made available to the performing Universities in this scheme (as on 2020). Regular reviews of the PURSE Projects at various Universities have been performed by Programme Management Board on PURSE.

Some of the state and national funding agencies are ICSSR, INSA, AICTE, CSIR, DST, DBT, AYUSH, TIFAC, ICMR, GUJCOST, etc. The authors have studied and assessed two years' annual data of ICSSR – Indian Council of Social Science Research and three years' annual data of INSA – Indian National Science Academy. According to Annual reports available at the official website of ICSSR, one of the objectives of the Council is '*to sponsor Social Science research programs and projects and administer grants to institutions and individuals for research in social sciences'* (icssr.org/annual-report, 2020). It is reflected from the Report that maximum grant has been released for organizing the Conferences for the varied thematic areas. Below table 1.1. shows the funds allocated for two years to different institutions at Uttar Pradesh and Delhi:

Table (1.1): Funds Allocation for the Year 2016-17 and 2017-18

Year	Number of Grants	Amount in Rupees
2017-18	303	5,34,55,000 (Five crores thirty-four lakhs fifty-five thousand only)
2016-17	356	6,66,17,000 (Six crores sixty-six lakhs seventeen thousand only)
	Grand Total	**12,00,72,000 (Twelve Crores Seventy-Two Thousands only)**

**Withdrawal funds are not excluded.*
**Data is approximate*

Similarly, Indian National Science Academy (INSA) also provides grants to organize the International/National Conferences, Symposia, Seminars, Winter/Summer Schools in India (Insaindia.res.in, 2020). Below table 1.2 shows the funds allocated by INSA at the national level to organize the academic activities, for the consecutive three years (2016-19), at different scientific institutions at the Pan India level.

Hence the total financial assistance provided by the two funding agencies i.e. ICSSR for YEARs 2016-17 and 2017-18 and INSA for years 2016-17, 2017-18 and 2018-19 to the Social Science and Scientific Institutions is Rs 12,73,82,000/-(Twelve Crores Seventy Three

Table (1.2): Funds Allocation from YEAR 2016-19

Row Labels	2016- 2017	2017-2018	2018-2019	Grand Total
Conference	12,90,000	8,80,000	28,50,000	50,20,000 (Fifty lakhs twenty thousand)
Congress	30,000	30,000	1,00,000	1,60,000 (One lakh sixty thousand)
Meeting	30,000	-	1,00,000	1,30,000 (one lakh thirty thousand)
Others	2,10,000	80,000	2,00,000	4,90,000 (Four lakhs ninety thousand)
Seminar	2,10,000	50,000	50,000	3,10,000 (Three lakhs ten thousand)
Symposium	1,20,000	1,50,000	4,00,000	6,70,000 (Six lakhs seventy thousand)
Training			50,000	50,000 (fifty thousand)
Workshop	1,80,000		3,00,000	4,80,000 (Four lakhs eighty thousand)
Grand Total	**20,70,000**	**11,90,000**	**40,50,000**	**73,10,000 (Seventy Lakhs Ten Thousand)**

Lakhs Eighty Two Thousands only). With these examples, it appears that there is no dearth of funding for organizing conferences and like events. However, maintaining quality is only limited to the event, not the post event outcome assessment and execution.

RESEARCH METHOD

Research Design

The study for this research paper has been conducted using primary data. Three different questionnaires were constructed on a close format basis to know the opinions of various stakeholders. The questionnaires were administered among the faculty members and Research Scholars of 11 Universities. Focused Interviews of 10 officials from different funding agencies were recorded and analysed. Stratified Random Sampling was used for the collection of data.

Measurement Instrument

To derive an analysis of the data collected, the survey questionnaire comprised of two sections– descriptive and inferential. The descriptive section includes the general information of the sample i.e. Name of the Respondent and the Name of the Organisation. This section also includes open-ended questions on Few inputs/factors on which the Outcomes of such crucial events can be assessed. The data collected was qualitative, therefore the NVIVO software was used to analyse the open-ended statements (Kaurav, R. P. S., Suresh, K. G., Narula, S., & Baber, R, 2020). For the analysis of the qualitative/descriptive data, the NVIVO software was used in two sections. Initially, the responses were cleaned manually using the MS Word feature. During this process, the sentences were punctuated appropriately. The cleaned data was then imported to NVIVO software for the analysis.

In the second section, the Nodes were created according to the questionnaires. The responses received were saved in the corresponding nodes. The Stop Words were declared to generate the Word Clouds which helped in extracting the useful content for the analysis. Further, the Thematic analysis was done to generate themes using the Auto code feature.
On the other hand, the inferential section included the different variables prepared based on the need analysis of the system/method/framework for assessing the outcomes of the conferences in a measurable way. This data was collected based on dichotomous questions of Yes/No, with these questions' existence of methods was analysed and if such methods exist then the percentage of the existence of measurable methods were identified corresponding to the objective of the study. on a 5-point Likert scale of agreement– Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree statements are covered with this scale; the statement like the importance of conferences and the Conferences should be assessed in a Qualitative/Quantitative manner for extracting the maximum Outcomes were identified; corresponding to the objective of the study. The data collected were then statistically analysed using the SPSS tool.

Data Analysis

As the data collected was heterogeneous in nature author preferred to use NVIVO and SPSS software for the data analysis and assessments for finding the right conclusions.

RO1: To find various factors influencing the outcome of conferences for Faculty, Research Scholars / Students, and Funding Agency.

Figure 1: Responses received from faculty shown in word cloud

Figure 2: Responses received from research scholars/students shown in word cloud.

Figure 3: Responses received from focused interview from the officials of funding agency shown in word cloud.

Figures 1, 2 and 3 indicates the standard words related to the factors affecting the outcomes of the conferences. These words are in the middle, surrounded by the other preferential words associated with the outcome of the conferences suggested by respondents such as participants, stakeholders, presentation, networking, research papers, feedback system, knowledge, learning, collaboration, recommendation, platform, seminar, ideas, etc.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.959[a]	4	.202

a. 5 cells (50.0%) have an expected count of less than 5.
b. The minimum expected count is .32.

For the given objective we found out with the help of Table 2.1, that out of 76 faculty around 1.3% have responded strongly disagree in the answer, which is 0.4% of the total number of respondents, and in the same way, around 57% of faculties have responded strongly agree in the answer, which is around 17.9% of the total respondents. From the same table, we found out that out of 164 research scholars/students around 2% have responded disagree in the answer, which is 1.2 % of a total number of respondents, and in the same way we get the figure of around 50% of research scholars/students have responded strongly agree in the answer, which is around 34.2 % of the total. When we compared these with respect to the Chi-Square test the value of Chi-Square is .202 with a significance level of 5.959 which accepts the null hypothesis that no significant effect of respondents position on the objective.

RO2: To find, the need for qualitative and quantitative assessment for maximum useful outcomes.

Crosstabulation (Table 2.1)

			Conferences should be assessed in a Qualitative/Quantitative manner for extracting the maximum Outcomes.					Total
			SDA	D A	Neutral	Agree	S A	
Respondent Type	Faculty	Count	1	0	2	30	43	76
		% within Respondent Type	1.3%	0.0%	2.6%	39.5%	56.6%	100.0%
		% of Total	0.4%	0.0%	0.8%	12.5%	17.9%	31.7%
	Scholars	Count	0	3	12	67	82	164
		% within Respondent Type	0.0%	1.8%	7.3%	40.9%	50.0%	100.0%
		% of Total	0.0%	1.2%	5.0%	27.9%	34.2%	68.3%
Total		Count	1	3	14	97	125	240
		% within Respondent Type	0.4%	1.2%	5.8%	40.4%	52.1%	100.0%
		% of Total	0.4%	1.2%	5.8%	40.4%	52.1%	100.0%

RO3: If the conferences have an impact on the personal or professional development and to promote networking and idea-sharing amongst faculty/research scholars/students and other participants.

Crosstab (Table 3.1)

			obj1						Total
			2.00	3.00	3.50	4.00	4.50	5.00	
Respondent Type	Faculty	Count	1	1	0	10	29	42	83
		% within Respondent Type	1.2%	1.2%	0.0%	12.0%	34.9%	50.6%	100.0%
		% of Total	0.4%	0.4%	0.0%	4.0%	11.7%	17.0%	33.6%
	Scholars	Count	1	2	11	45	37	68	164
		% within Respondent Type	0.6%	1.2%	6.7%	27.4%	22.6%	41.5%	100.0%
		% of Total	0.4%	0.8%	4.5%	18.2%	15.0%	27.5%	66.4%
Total		Count	2	3	11	55	66	110	247
		% within Respondent Type	0.8%	1.2%	4.5%	22.3%	26.7%	44.5%	100.0%
		% of Total	0.8%	1.2%	4.5%	22.3%	26.7%	44.5%	100.0%

Chi-Square Tests (Table 3.2)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.865[a]	5	.007

For the given objective we found out with the help of Table 3.1, that out of 83 faculty around 1.2% have responded strongly disagree in the answer, which is 0.4% of the total number of respondents and in the same way more than 50% of faculties have responded strongly agree in the answer, which is around 41.5% of the total respondents. From the same table, we found out that out of 164 research scholars/students around 0.6% have responded strongly disagree in the answer, which is 0.4 % of the total number of respondents, and in the same way we get the figure of around 42% of research scholars/students have responded strongly agree in the answer, which is around 27.5 % of the total.

When we compared these with respect to the Chi-Square test the value of Chi-Square is .007 with a significance level of 15.865 which accepts the null hypothesis that there is a significant effect of respondents position on the objective.

RO4: If uuniversities/institutions have a defined system/method/framework for assessing the outcomes of conferences both short term and long-term impact.

Crosstab (Table 4.1)

			Does your previous / current Organization have a defined Framework / System for assessing the Outcomes of Conferences (long term impact)?		Total
			no	yes	
Respondent Type	Faculty	Count	36	47	83
		% within Respondent Type	43.4%	56.6%	100.0%
		% of Total	15.0%	19.6%	34.6%
	Scholars	Count	82	75	157
		% within Respondent Type	52.2%	47.8%	100.0%
		% of Total	34.2%	31.2%	65.4%
Total		Count	118	122	240
		% within Respondent Type	49.2%	50.8%	100.0%
		% of Total	49.2%	50.8%	100.0%

Chi-Square Tests (Table 4.2)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	**1.704[a]**	**1**	**.192**		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 40.81.
b. Computed only for a 2x2 table.

For the given objective we found out with the help of Table 4.1, that out of 83 faculty around 43% have responded no in the answer, which is 15% of the total number of respondents and in the same way we get the figure of 56% of faculties have responded yes in the answer, which is around 20% of the total.
From the same table, we found out that out of 157 research scholars/students around 52% have responded no in the answer, which is 34 % of the total number of respondents, and in the same way, we get the figure of around 48 % of research scholars have responded yes in the answer, which is around 31 % of the total.
When we compared these with respect to the Chi-Square test the value of Chi-Square is 1.704 with a significance level of .192 which accept the null hypothesis that no significant effect of respondents position on the objective.

For the given objective we found out with the help of Table 5.1, that out of 83 faculty around 87% have responded no in the answer, which is 30% of the total number of respondents and in the same way we get the figure of 13% of faculties have responded yes in the answer, which is around 5% of the total.

From the same table, we found out that out of 156 research scholars/students around 86% have responded no in the answer, which is 56 % of the total number of respondents, and in the same way, we get the figure of around 14 % of research scholars have responded yes in the answer, which is around 9 % of the total respondents.

When we compared these with respect to the Chi-Square test the value of Chi-Square is 0.856 with a significance level of .033 which accepts the null hypothesis that no significant effect of respondents position on the objective.

RO5: If such a system/method/framework can bring out measurable outcomes.

Crosstab (Table 5.1)

			If such Framework / System is able to bring out MEASURABLE Outcomes?		Total
			no	yes	
Respondent Type	Faculty	Count	72	11	83
		% within Respondent Type	86.7%	13.3%	100.0%
		% of Total	30.1%	4.6%	34.7%
	Scholars	Count	134	22	156
		% within Respondent Type	85.9%	14.1%	100.0%
		% of Total	56.1%	9.2%	65.3%
Total		Count	206	33	239
		% within Respondent Type	86.2%	13.8%	100.0%
		% of Total	86.2%	13.8%	100.0%

Chi-Square Tests (Table 5.2)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.033[a]	1	.856		
a. 0 cells (0.0%) have an expected count less than 5. The minimum expected count is 11.46.					
b. Computed only for a 2x2 table					

CONCLUSION

Having analysed the received data from respondents, it is that majority of the respondents agreed that there should quantitative / qualitative assessment of conference outcome. Though, substantial number of respondents said that the system for assessment is existing in their respective university/ institution, however, majority said that it is not effective and the existing system of outcome is not able to bring out the measurable outcome of the conferences. This provides answers to the following research questions included in the starting of this paper:

RQ1: Whether there is need of conference outcome assessment?
RQ2: What is the impact of conference outcome on stakeholders?
RQ3: What are the tools used for Conference outcome assessment?
RQ4: Whether there is a need for any tool for qualitative and quantitative assessment?

With the traditional approach, the main focus of all the stakeholders is on the number of conferences and to some extent the quality of the event. However, sincere focus on the outcome and its execution by analysing the impact on all stakeholders is lacking. According to the analysis of the data, it has been found that the conferences have an impact on personal and professional development and it also helps in promoting networking and idea-sharing amongst faculty/research scholars/students.

A highly efficient framework for measurable outcomes in academic institutions will contribute to maintaining the overall quality through a combination of self and external quality evaluation, promotion, and sustenance initiatives aligned with the learning outcomes of the students, academic excellence, and collaborations with the academia and industry. Statistical analysis of conference under given parameters will lead to enhancement of quality of activities involved. As there is no tool available at present that can assist in monitoring the effectiveness of conferences with varied nature with quantifying futuristic perspectives. The author proposes that educational authorities need to pay attention to the specific outcomes that are directly reaped from organizing these events.

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REFERENCES

Aithal, P. S. and Shailashree, V. and Kumar, P. M., "Analysis of NAAC Accreditation System Using ABCD Framework", International Journal of Management, IT and Engineering, Volume 6, Issue 1, January 2016, pp. 30-44. Available at *SSRN: https://ssrn.com/abstract=2779110*

All India survey of higher education, 2019, available at *http://aishe.nic.in/aishe/home*

Dubey Archana and Ratnaparkhi, "Criterion of NAAC Research, Consultancy and Extension :A Case Study of School of Education, DAVV, Indore", Learning Community, 6(1) (April 29, 2015) : 29 - 40 III

ICSSR Annual Report, https://icssr.org/annual-report. (2020). ICSSR. [online] Available at: https://icssr.org/annual-report [Accessed 17 Feb. 2020].

Insaindia.res.in. (2020). INSA. [online] Available at: http://insaindia.res.in/seminar.php [Accessed 18 Feb. 2020].

Janisch, Tscherina; Hilty, Lorenz (2017). *Changing university culture towards reduced air travel – Background Report for the 2017 Virtual Conference on University Air Miles Reduction.* Zurich, Switzerland: ETH Sustainability.

Justin Neves, John N Lavis and M Kent Ranson, "A Scoping Review about Conference Objectives and Evaluative Practices: How do we get more out of them?", Health Res Policy Syst. 2012; 10:26.

Kaurav, R. P. S., Suresh, K. G., Narula, S., & Baber, R. "New Education Policy: Qualitative (Contents) Analysis and Twitter Mining (Sentiment Analysis)", Journal of Content, Community & Communication, Dec 2020.

Mizikaci, F. (2006), "A systems approach to program evaluation model for quality in higher education", Quality Assurance in Education, Vol. 14 No. 1, pp. 37-53. https://doi.org/10.1108/09684880610643601

Nicholas Rowe, “When You Get What You Want, But Not What You Need” The Motivations, Affordances and Shortcomings of Attending Academic/Scientific Conferences”, International Journal of Research in Education and Science, Volume 4, Issue 2, Summer 2018

Oester S, Cigliano JA, Hind-Ozan EJ and Parsons ECM (2017), “Why Conferences Matter—An Illustration from the International Marine Conservation Congress”, Front. Mar. Sci. 4:257. doi: 10.3389/fmars.2017.00257

Riaan van de Venter, “Is there a difference between a congress, conference, symposium, seminar, journal club and workshop in terms of continuing professional development activities?”, the South African Radiographer, volume 57, number 1, May 2019.

Stuart, M., Lido, C., Morgan, J., Solomon, L., & May, S. (2011). “The impact of engagement with extracurricular activities on the student experience and graduate outcomes for widening participation populations”, Active Learning in Higher Education”, Volume: 12 issue: 3, page(s): 203-215; available at *https://doi.org/10.1177/1469787411415081*

Union Budget 2020, at *https://www.indiabudget.gov.in/expenditure_budget.php*, last accessed on 15.01.2020

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WOMEN LEADERS AND DIGITAL COMMUNICATION: GENDER STEREOTYPING OF FEMALE POLITICIANS ON TWITTER

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ABSTRACT

Digital media has evolved into the most comprehensive space of political communication. Many politicians utilise social media platforms to extend their political discourse, and the public has exhibited divergent responses. However, female political leaders are often subjected to a unique pattern of reception distinct from that of their male counterparts. This research employs qualitative content analysis and Feminist Critical Discourse Analysis (FCDA) to draw gender-specific inferences from the Twitter discourse of three prominent female leaders in India: Priyanka Gandhi, Mayawati Smriti Irani. It explores the relationship between their digital discourse and the scope of performative gender in modern-day political communication. Through findings incorporating relevant points of intersection between attitudes of misogyny and the popular conception of leadership, it foregrounds the key concept of gender trolling in digital communication. In doing so, the research signifies a predominantly discriminative digital media that delineates the growth of egalitarian politics.

Keywords: **Female leaders, political communication, Twitter, gender, stereotyping**

INTRODUCTION

The unprecedented growth of digital platforms in recent years has paved the way for the growth of political communication also. Politicians utilise the accessibility and popularity of social media to mobilise support for their political discourse. However, the ease of interpersonal communication on such platforms exposes public personas to the risk of becoming an object of ridicule. Female political leaders, in particular, are subjected to a different standard of evaluation compared to their male counterparts (Rheault et al., 2019, p. 2). Users isolate distinct aspects of their gender identity to create a discursive discussion that transgresses the boundaries of their political discourse. Female power-holders face denigration and belittlement for multiple reasons, the most important of which happens to be the social construction of feminine traits seen as an obstruction of political competence (Rheault et al., 2019, p. 2). Hence, although political communication should reserve itself to the precinct of socio-political dialogue, it has mushroomed into a repository of gender trolling and gender discrimination.

Much of the gender trolling evident in female leaders' political discourse results from gendered leadership stereotypes that automatically assigns women to an imaginary set of rules and regulations (Aaldering and Van Der Pas, 2018, p. 2). It presumes that an ideal leader should conform to the socially accepted conventions of leadership, which do not take into account female traits at all (Nee and De Maio, 2019, p. 308). Stereotypes attributed to women continue to lack the traits that citizens desire in their ideal leader, and the reinforcement of the same in political communication deems all female leaders unfit and/or undesirable (Aaldering and Van Der Pas, 2018, p. 2). Moreover, this usually finds its expression in digital communication in the form of internalised misogyny and sexist gender trolling. Female leaders are objectified based on their physical appearance and social conduct. The continuous cycle of reinforcing prejudiced gender identities and suppressing female leaders' attempts to overcome the same is a significant hindrance in developing a substantial political discourse surrounding women politicians.

LITERATURE REVIEW

Gendered Identity of Female Leaders

Feminism and the fight for equal rights have gained considerable momentum in recent years. However, society has not seen equitable success in this sphere in establishing gender-neutral politics (Aaldering and Van Der Pas, 2018, p. 1). The discourse on female leaders and their political identity is based on the understanding that their public footing is not regarded in the same context as their male counterparts. Female leaders are often subjected to a distinguished reception that seems to overstep their authority as political decision-makers and question the particulars of their personal/familial space.

It is important to note that the media is an elaborate form of political communication (Gupta et al, 2020). It plays an essential role in the creation and propagation of an individual's political identity. Mainstream political communication tends to identify female leaders in a limited paradigm – particularly in terms of their role as daughters, sisters, mothers and wives, all of which bear no significance to their official discourse as political spokespersons. Gendered identity, in this sense, becomes an attribute that precedes and determines a female leader's contributions to any discursive situation (Ponton, 2010, p. 196). A leader's gender identity is further pushed to the centre stage when she is called a "woman prime minister" or "woman leader" (Trimble, 2018).

Furthermore, female leaders have to address the buzzing debate regarding their domestic responsibilities being compromised to promote their political objectives (Ponton, 2010, p. 199). The social construction of their identities is based on a communal scale of characteristics like compassion and warmth, whereas the same does not apply to their male counterparts (Nee and De Maio, 2019, p. 308). Moreover, female leaders risk representing an unconventional and pushy 'feminist' figure due to their public discourse as an ambitious female leader (Ponton, 2010, p. 199). Studies in social psychology place this social construction of women in the context of the female stereotype. Stereotypical gender identity becomes even more prominent when the discourse focuses on the female family members of male politicians, such as their wives, sisters or daughters. Transcending the boundaries of a familial role and entering into the public domain violates the established gender role attributed to a wife/sister/daughter (Nee and De Maio, 2019, p. 309). Thus, political dialogue involving female leaders remains influenced by the social construction of their identity, which may or may not resonate with their proclaimed political identity.

Gender Stereotyping and Political Leadership

The aspect of strength and how the same is perceived differently regarding men and women plays a pivotal role in this discourse. Eagly and Karau (2002) contend that there is a prejudice towards female political leaders owing to the incongruency between the common understanding of 'leadership' and the stereotypical image of women as the "weaker sex" (Nee and De Maio, 2019, p. 307). Traits such as 'gentle', 'non-competitive', weak' and 'emotional' are levied against women to justify the assumption that they cannot handle the brute system of politics or take decisive action in matters of the state (Aaldering and Van Der Pas, 2018, p. 5).

There is also a difference between the perception of a man's leadership and a woman's leadership. Female leaders are associated with better skills in handling "feminine" departments like education, environment and healthcare, whereas male leaders are entrusted with "tough" departments like defence military, foreign policy and security (Ritchie, 2013, p. 106). Socially constructed stereotypes like this favour men for leadership roles and restrict women to 'nurturing' ones (Nee and De Maio, 2019, p. 308). However, that does not necessarily mean that associating women with integrity and honesty instilled the belief of the same among citizens. In other words, citizens do not necessarily perceive female politicians as honest and decent (Aaldering and Van Der Pas, 2018, p. 6). When women usurp powerful roles that are generally assigned a masculine nature, they are perceived as violent and disruptive to the social spectrum. Some researchers note that female leaders have to compromise with their gender identity to become successful in politics because they ought to have qualities of 'toughness' and 'decisiveness' while simultaneously maintaining qualities of femininity to appease the public. Since emulating stereotypically male features attracts a negative impression for female politicians, they have to strike a balance between masculinity and femininity in their political discourse (Atkinson, 1984, p.

116). For instance, Margaret Thatcher, in an interview following her maiden speech in the House of Commons, explicitly discusses how she loves cooking and taking care of her kids when asked about how she manages her familial responsibilities along with her political ones (Ponton, 2010, p. 199).

The Female Face – Social Construction of Physical Attributes

Mainstream media heavily relies on female leaders' physical attributes, marital status, and personal qualities to report on their political discourse. The focus of media coverage dwindles from a leader's policy decisions to her attributes when the subject is female (Ritchie, 2013, p. 106). While the social construction of a prominent man's identity is exclusively based on his public discourse, women must be held accountable for their personality traits and physical appearance. The public assigns specific roles to men and women wherein physical stereotypes emphasise masculine identity as strong and feminine identity as weak but sexually superior/attractive (Diekman and Eagly, 2000). Close attention to women leaders' clothing, height, weight, and makeup is reflected in recent news coverage of political campaigns (Nee and De Maio, 2019, p. 313). Thus, physical appearance is an instrumental metric for candidate evaluation, particularly in female political leaders. This may stem from the "physical appearance stereotype", which contends that attractive people are inherently more poised, skilled and successful than non-attractive people (Hart, Ottati and Krumdick, 2011, p. 182).

If a female leader's appearance does not correspond to women's commonly held gender stereotype as compassionate and caring decision-makers, voters hold her accountable for being an ineffective leader. Words like 'ugly', 'senseless female' and 'baby' are often used to depict the discourse of women in politics despite the annotations being irrelevant to their political identity (Rego, 2018, p. 478). Moreover, the emphasis on physical attributes and the presupposed assumption that women only care about issues about 'hair, husband and hemline' undermines their accomplishments in public politics (Duerst-Lahti, 2006, p. 37). An explicit example of this situation was seen in Hilary Clinton's Presidential campaign, wherein she was bid against her husband's successful 1992 presidency and regarded as a "threat" to American society. This was expressed through explicit cartoons and illustrative depictions of her as a shark, a deceiving liar "with a Pinocchio nose", an oversized head with a large mouth and so on. Clinton's female face was clearly used to suppress her political power through the means of physical and sexual aggression (Ritchie, 2013, p. 104).

Women Leaders and Their Presence in Political Communication

Digital media is the most classified source of political communication in the 21st century. Trimble (2018) explains how female leaders are subjected to stereotypical metaphors and robbed their political agency. Social media comments reinforce metaphors of love and marriage to justify the social construction of women's identity. Citizens often isolate aspects of individual identity and undermine the political agency of female leaders on the grounds of their personal life. Issues like their marital status, which have no role in their political campaign, are often isolated and targeted (Ritchie, 2013, p. 106). This reinforces the belief that women belong to the domestic sphere of the family and the home. By reiterating metaphors of love and marriage in a female leader's discourse, she is essentially pushed back into the domestic terrain even in the context of a public (political) one (Trimble, 2018).

Moreover, sexism and misogyny is a notable aspect of female leaders' presence in modern-day political communication. Their gender identity is used as an excuse to assume their lack of capacity to perform in a powerful position (Ritchie, 2013, p. 106). For instance, Donald Trump denied Hilary Clinton's calibre as his opponent in the 2016 General Elections by saying that she did not have the "presidential look" (Nee and De Maio, 2019, p. 305). Tweets, memes, comments and other common fields of political communication in social media were indeed found to foster gender stereotypes proclaiming women like Clinton to be unsuitable for a prominent leadership role such as that of the presidency. Clinton was awarded a sexist representation on traditional and new media during the election campaign (Ritchie, 2013, p. 114). This suggests that society is keen on propagating intransient gender codes through gender stereotypes, metaphors of the weak and assumptions about the inferiority of women in politics.

Interrelation between Online and Offline Misogyny

While this paper primarily focuses on the online trajectory of gender trolling and misogyny, it is difficult to deny that social media platforms are an extension of offline gender-based violence in society. A 2017 poll conducted by Amnesty International contends that 41% of women who were victims of online gender trolling have also felt a potential threat to their physical safety on at least one occasion (Ging and Siapera, 2018, p. 516). Moreover, digital platforms not only facilitate the existing forms of misogyny but also create new ones that seemingly tend to trap women in the "neoliberal discourses of self-responsibility and surveillance" (Ging and Siapera, 2018, p. 517). It compels female leaders to monitor both their online and offline presence, thus making online manifestations of misogyny all too real.

THEORETICAL AND CONCEPTUAL FRAMEWORK

Gender and Feminism

Gender is not a stable identity. It is defined regarding stylised repetition of activities attributed to particular sex constituted in a particular time frame. The social temporality of gender makes it a flexible attribute of human life. Moreover, gender is mainly dependent on the mundane activity of bodily gestures and movements, which creates the illusion of a gendered self (Butler, 1988, p. 519). Thus, gender as a medium of identity formation is neither fixed nor unchanging. The feminist theory recognises the temporality of gender and refutes naturalistic expectations of women's discourse in society. It is important to note that feminism does not deny the natural dimensions of sex but only reinstates that the same is distinct from how the body comes to bear societal and cultural meanings (Butler, 1988, p. 520). Feminism is a movement to end sexist oppression (Hooks, 1987, p. 26).

Moreover, feminism is not a lifestyle or a ready-made identity that one can easily step into. Defining it as a movement that has a specific goal adds to its exploration and analysis, both of which are crucial aspects of feminism in its practical functioning in society (Hooks, 1987, p. 27). Feminism has seen several mutations over time. Cyberfeminism, the early online manifestation of feminist struggle, advocates for the worldwide expansion of traditional feminist approaches through "unlimited online activism" (Willem and Tortajada, 2021, p. 63).

Misogyny

Misogyny is more than just a deep-seated hatred for women because this definition implies that misogynistic attitudes are a personal problem. Kate Manne (2017) explains that misogyny is a formalised set of reservations that women have to face because they are women in what is known to be a man's world (Yoon, 2017, p. 109). It is also important to note that misogyny is not the same as sexism. The latter is the school of thought that capitalises on the natural differences between men and women to inflict cultural/societal meanings. The former acts as an enforcement strategy which maintains the sexist discourse in society (Yoon, 2017, p. 110). Thus, although both are somewhat interdependent, this discourse shall view them as separate social concepts.

Locating Feminism in Politics

Patriarchal structures use the physiological aspect of sex to justify men's superiority and consequently, women's deprivation of opportunities. This is based on the understanding that men and women do not and should not enjoy equality of power and privileges. Simone De Beauvior illustrates the condition of women in places of authority by outlining the opposition between the sovereign self (male) and the objectified other (female). Men are considered as de-facto operators of power, whereas women are subjected to the experience of oppression that they intrinsically internalise in the form of a communal reality (De Beauvoir, 1953, p. 11). Feminism refutes this very internalised idea of men being the ideal bearers of power because women are different from men. It contends that women can be "different" yet can participate in political discussions at the same time (De Beauvoir, 1953, p. 175). Scholars like MacKinnon (1982) have also expressed similarities between Marxism and Feminism because both are theories essentially concerned with power and its distribution (MacKinnon, 1982, p. 516). Hence, it is interesting to see how feminism operates in the institution of politics, primarily associated with the power play. Marxism contends that social arrangements of patterned inequality can be internally rational yet unfair. The same applies to the presence of women in politics because although their participation is meant to bridge disparities between male and female power-holders, the same often induces inequality in its practice. The aforementioned disparity between the treatment of men and women in positions of power can be studied to analyse a concept called 'gender trolling'.

Gender trolling

According to Whitney Phillips, trolling refers to a disruptive practice of adding incendiary comments or derogatory rhetorical questions to an online discussion to create strong emotional responses from the target audience. Gender trolling is a relatively new subset of online trolling whereby groups of people use sexist insults and pejorative terms to comment on an individual's physical or sexual identity (Mantilla, 2013, p. 564). Online gender trolling shares many commonalities with offline harassment because both patrol gender boundaries and isolate women in a male-dominated environment to prevent them from occupying equitable roles (Mantilla, 2013, p. 568).

Gender trolling is a significant part of this discourse that is elaborated upon through a careful analysis of tweets, comments, photographs, memes and online discussions on Twitter at large. Although there are many social media platforms considerable in this approach, Twitter in particular has been widely criticised for the normalised expression of hate speech and hostility in recent years. Its communicative structure is found to promote easy public tagging, which then leads to disproportionate trolling of female figures (Ringrose, 2018, p. 652)

OBJECTIVES

The objectives of this research study are outlined as follows.

1. To examine if the discourse surrounding the three women politicians on Twitter constructs gender-based stereotypes.
2. To analyse the introductory discourse of the three women politicians in their first month of establishing an online presence on Twitter across different time frames.
3. To explore the forms of gender identity construction surrounding the three women politicians on Twitter.
4. To investigate if the women politicians are subject to gender-based abuse, harassment or threats.

METHODOLOGY

This research study employs a qualitative conventional content analysis method operating within the feminist critical discourse analysis (FCDA). Qualitative conventional content analysis is ideal for research that aims to uncover a particular phenomenon, which in this case, is the public reception of three Indian female political leaders in digital communication. Unlike quantitative discourse analysis, qualitative research employs an inductive approach to uncover research themes and the inferences drawn in addition to that in a calculated method of data analysis. Its data sampling does not depend upon "probabilistic approaches" but on a purposively selected area of research that can effectively aid the resolution of research questions under investigation (Zhang and Wildemuth, 2009, p. 319). At the same time, critical discourse analysis acknowledges the importance of linguistics and discourse in social scientific research (Lazar, 2005, p. 4).

Moreover, the FCDA also promotes a complex understanding of a political perspective on gender, which operates within the framework of power and ideology. It critiques discourses that allow the sustenance of a patriarchal social order, thus uncovering the gendered functioning of social groups (Lazar, 2005, p. 5). The research carries out qualitative content analysis through the lens of feminism and other critical discourse theories. It employs thematic analysis to draw meaningful inferences about the public's immediate response to the political persona of three female leaders, namely Mayawati, Smriti Irani, and Priyanka Gandhi, as witnessed on a popular social media platform (Twitter). Tweets from the official account of three national-level female leaders and the replies in the form of words, memes, photographs, gifs, hashtags were used for the data collection of this research to analyse the implications of the discourse surrounding women as power-holders in political communication from May 6, 2010 to Feb 22, 2019.

The collection was carried out over a period of their introductory month on the Twitter platform. Misogyny detection of tweets was based on the classification of comments into active offensives to a specific person and/or generic offenses to a category of persons. Certain large-scale themes applicable to the researched included stereotyping and objectification of women, derailing discourse from political to other agendas, discrediting women due to gender characteristics, downplaying positive qualities only due to gender stereotyping and so on (Shushkevich and Cardiff, 2019, p. 1161).

All relevant tweets and their replies that served the purpose of the study were extracted, classified, categorised and coded into three categories. First, the research focuses on the social construction of gendered physical attributes specifically in the case of female leaders. Second, it focuses on the discourse of the public response to female leadership in politics. Third, it focuses on the development of a gendered identity of female politicians and its reception in the mainstream online user base.

Physical attributes serve as a socially accepted criterion of judgement to form an opinion on public figures. In this case, the digital argument surrounding female leaders' physical appearance is taken as a reference to study the role played by the same in the reception of their political discourse. Belittlement based on selective physical traits is also a common trope of internalised misogyny, which is why the social construction of gendered physical attributes is a necessary code in this research. Assessment of a political leader is always concerned with his/her leadership attributes. Hence, the second code aims to establish a link between gendered leadership stereotypes and the public reception of female leaders' leadership qualities.

Lastly, the third code is essentially targeted towards analysing the role played by gender in female leaders' digital discourse. Thus, it is important to note how digital communication is/is not generating distinct gender identities that propagate sexism and misogyny.

CODE CATEGORIES	**THEMES**
Social Construction of gender-based physical attributes	Fair, attractive, masculine, ugly, dark, fat
Social Construction of gender-based leadership attributes	Tough, decisive, strong, Weak, feeble, inefficient
Social Construction of gender-based identity	Wife, Daughter, Sister, Mother

A total of 70 original tweets made up the corpus of the primary data based on which the researcher classified distinct themes for analysis. The extracted data was filtered to collect valuable data about the public discourse on female leaders in political communication and serve the specific purpose of the study. User attitudes towards the online presence of female leaders distinct from their male correspondents were analysed to contribute to the research findings. A comprehensive discourse was built based on said findings, and a conclusion regarding the focus area of the research topic was reached.

6. Analysis

The research explores three female political leaders' initial social media discourse and its reception in mainstream Indian society. Tweets from the official Twitter handles of Priyanka Gandhi, Mayawati and Smriti Irani have been taken as references for the purpose of this study.

The three politicians mentioned above are essentially regarded as thought leaders and political personalities of importance. Their public discourse is targeted towards social/political events, and any research excluding the filtered consideration of misogyny and sexism should expect public criticism based on their political discourse only. However, studying the same in the context of a gendered social order reveals multiple findings of the position of female leaders in political communication.

Codes

The researcher selected three codes to represent the instances of misogyny, sexism and gender stereotyping in the public reception of female political leaders in their first month of activity on Twitter.

Table 1. Reception of Priyanka Gandhi

Code Categories	Keywords and Phrases
Physical Attributes	“like Indiraji” “Suit boot wali”, “Kabhi Tiger Shroff toh kabhi fardeen khan” (Sometimes Tiger Shroff sometimes Fardeen Khan), “Lady Kejriwal”, “nose resembles her granny’s”,
Leadership	“दूसरी इंदिरा” (second Indira), “Female pappu”, “Indira the dictator”, “Man with vision”, “Pappu pinky”, “chorni”, “Bahen Priyanka”
Gendered Identity	"Rani sahiba" (queen), "madam, "Chor ki biwi", "Pinky", "Didiji", "daughter of moblyncher", "Gaddar ki biwi" (traitor's wife), "प्यारी पोती" (dearest granddaughter)

Table 2. Reception of Mayawati

Code Categories	Keywords and Phrases
Physical Attributes	"Hathi", "hathni", "behenji", "ugly lady", "daravana" (scary), "photoshopped Mayawati", "bhains" (buffalo)
Leadership	"Iron lady", "Future of India", "future PM", "Jai Bhim", "Dalit neta", "boss behen", "anpadh gawar" (uneducated illiterate)
Gendered Identity	“दौलत की बेटी”, “behenji”, “buaji”, “behen maya”, “auntiji”, “sushri”

Gender-based Physical Attributes

Replies to Priyanka Gandhi’s Twitter discourse display a dominant focus on her physical attributes, particularly towards her short hair, “fair” skin (Apr 10 2019) and the shape of her nose. (Mar 12, Mar 17, Mar 21, Mar 25, Mar 26, Apr 6 2019) Her political existence is reduced to her physical resemblance with her grandmother (former PM Indira Gandhi). Moreover, comments aggressively troll her for having a masculine appearance by comparing her to male politicians and Bollywood actors. (Mar 12, Mar 25, Mar 26 2019).

Mayawati’s physical appearance is a major focal point in the replies to her Twitter discourse. Users accuse her of using a photoshopped image in her display picture (Jan 22, Feb 9, Feb 11, Feb 13, Feb 14 2019) and trying to look younger through the same (Jan 22, Feb 7, Feb 13 2019). They often use derogatory animalistic terms to define and demean her appearance.

Gender-based Leadership Attributes

The majority of the comments on Priyanka Gandhi’s tweets address her resemblance with Indira Gandhi to draw parallels between her tough, decisive grandmother and herself. (Mar 12, Mar 14, Mar 18, Mar 25, Apr 10 2019) Her leadership is seldom viewed independently because she is constantly equated with other notable figures of her family, i.e. her brother Rahul Gandhi and husband, Robert Vadra.

Comments on Mayawati’s tweets address her as the saviour of Indian Dalits and hail her discourse as a victory of Ambedkarism (“Jai Bhim”). Users regard as “Buaji” out of respect and express their desire to see Mayawati as the Prime Minister. However, comments also troll her for tweeting in English, supposedly calling her “uneducated” and incapable of the same (Jan 22, Jan 26, Feb 7, Feb 9, Feb 12, Feb 13, Feb 19, Feb 20 2019). Many users accused her of corruption and accused her party of using Dalit vote bank to appease the public.

Gender-based Identity

Replies on Priyanka Gandhi’s tweets reiterate her identity as Rahul Gandhi’s sister, Robert Vadra’s wife and Indira Gandhi’s granddaughter. The keyword “behen Priyanka” (Mar 25, Apr 4) is common in her Twitter reception. The comments also question her for Rahul Gandhi’s political motives and her husband’s corruption charges, thus leaving her identity side lined.

Mayawati’s gender identity is a huge part of her Twitter discourse. The majority of the users regard her as “Behenji” and “Buaji” which seems to have both positive and negative connotations. The terms “behenji” and “buaji” have been used to motivate her political discourse and ridicule her indigenous personality online.

Furthermore, the researcher finds that none of the above codes formulated to study gender trolling and feminism in political communication is applicable in Irani's limited discourse. Poor internet accessibility, the unpopularity of Twitter in political communication and Irani's limited role in politics are some of the key reasons behind her underwhelming Twitter discourse.

Role of Gender in Political Communication

The research study reveals many aspects of gender politics playing within the field of political communication. Studying user behaviour in response to the Twitter discourse of prominent female political leaders establishes distinctive social practises and prejudices that deem women's political discourse undeserving of serious consideration. Users tend to isolate gendered aspects of female leaders' identity to side line their political discourse and shift focus onto relatively irrelevant matters of interest. Hence, stereotypical perceptions about women and female leadership continue to govern political communication today. Gendertrolling appears to be a significant aspect of modern-day political communication, which was not the case a few years ago. Analysing Smriti Irani's Twitter discourse alongside that of Priyanka Gandhi and Mayawati substantiates the same. A UN Special Rapporteur on Violence Against Women recently summarised the implications of sexism and misogyny, wherein it was said that public denigration of women primarily aims to preserve traditional gender roles and maintain structural inequalities between the sexes. The same can either take the shape of sexist verbal attacks seen in present-day digital communication or commonplace acts of sexual harassment of women (Barker and Jurasz, 2019, p. 102).

Thus, while digital communication does provide an accessible space for political leaders to report information of interest and mobilise popular support, gender politics and its social consequences on the public discourse of women do not conform with the idea of political communication as a level-playing field for all.

FINDINGS

Name-calling

1. Female leaders like Priyanka Gandhi and Mayawati are labelled with distinct names to either criticise their political discourse or address it sarcastically.
2. Priyanka Gandhi is termed as "fake" and a "cheater" with regards to her association with the Gandhi family (Dec 3 2019). People also deem her as a thief, a corrupted leader, a scammer, an anti-national.(Mar 12 2019, 71).
3. Users call Priyanka names like "female pappu", "ladies pappu", "pappu pinky", "pinky aunty" and "chor ki biwi" as demeaning slurs concerning her relationship with Rahul Gandhi (brother) and Robert Vadra (husband). Mayawati is also accused of corruption by using words like "chorni" and "bhrashtachari ki devi."
4. Users sarcastically denote Priyanka as "madam", "rani sahiba" and "suit boot wali" to mock her apparent high-class status. Similar terms like "madam", "mohtarma" and "ma'am" are used with a sarcastic tone to mock Mayawati's discourse.
5. Comments call Priyanka a "witch" in response to her tweet expressing solidarity with female Aanganbadi workers (Mar 24 2019). In contrast to this, users depict Mayawati as the "iron lady", "boss behen" and "next PM" of India.
6. Users accuse Priyanka of using the Gandhi family name to mobilise political support despite being married to Robert Vadra. Comments deem that she does not have the right to use her maiden name anymore.
7. Users use gendered references such as "behen", "aunty", "sister Priyanka","didiji", "jijji" and "bitiya" to address Priyanka Gandhi. Similar terms like "buaji", "sushri", auntiji", "BMW" (Behen Mayawati) and "behenji" are used to address Mayawati too. While Priyanka being referred to as "behen" points to her relationship with Rahul Gandhi, Mayawati's reference as "buaji" is used to address her public discourse and mock her physical appearance.

Mockery of Lingual Expression and Education

1. Priyanka Gandhi's initial digital communication was in English. She was ridiculed and attacked for using English as a medium of expression instead of Hindi. Names like "pappu" and "pinky" were

used to chastise her for not inheriting her grandmother's intelligence.

2. Priyanka quickly moved to post tweets in Hindi, which did not resolve users' primary concerns. She was mocked for using Hindi with particular emphasis on her elitism and "English lineage".

3. Interestingly, Mayawati was mocked for her tweets in English. However, she did not shift her language of tweets to Hindi completely. She continued to swap her digital communication between Hindi and English tweets throughout.

4. Mayawati was trolled for using English owing to users' distrust in her lingual capacity. Users deem her as uneducated and unsophisticated, as a result of which they cannot accept that her English Twitter discourse is legitimate. Other negative comments prevalent in her early political communication subsided, but comments targeting her lack of education and literacy were consistent.

5. While users criticised Priyanka Gandhi's expression in English as a symbol of her elitism, they criticised Mayawati's expression in Hindi as a symbol of her "illiteracy." Thus, both the leaders experienced a hostile reception of their lingual expression in political communication on Twitter.

Objectification of Appearance

1. Users explicitly reduce Priyanka Gandhi's social and political worth to her physical resemblance with her grandmother (Mar 12 2019, 45). The similarity of her appearance with that of Indira Gandhi constitutes a significant chunk of users' reception of her Twitter discourse. There is an odd fascination with the leader's nose and its apparent likeliness with her grandmother's.

2. Priyanka is frequently compared to male actors and politicians based on her allegedly "masculine" appearance. Both Priyanka and Mayawati's short hair can be interpreted as an important factor in this observation.

3. Users often relate her physical appearance with that of Indira Gandhi while relating her intellectual capacity with Rahul Gandhi and Sonia Gandhi. Indira's "dictatorial" image and Rahul's "dumb" image consolidated mainly in popular discourse by the opposition are projected on Priyanka.

4. Comments explicitly use her physical resemblance with Indira Gandhi as a justification of her political prowess in the Congress party, thus indicating that she is not deserving of the same.

5. Priyanka's occasional sari attire is used to question her political intentions and depict her as a seasonal campaigner. Users question her "nationalism" arising only during election campaigning and her purpose in the Congress party.

6. While Priyanka Gandhi is chided for her western clothing and regarded as an elite "madam" on account of the same, Mayawati, who predominantly dresses in traditional attire, is portrayed as a native and indigenous figure. The latter is regarded as "buaji", "buaji", "iron lady" and hailed with "jai Bhim" slogans in her Twitter discourse. Mayawati was able to shift focus from her appearance gradually, but Priyanka was not.

7. Mayawati's introductory communication on Twitter is flooded with negative comments focused directly on her appearance. Users use degrading animalistic connotations to describe her as "ugly" and "scary". Users directly accuse her of having an unsound mind because of her unsound appearance (Feb 12 2019, 170).

8. Users also accuse Mayawati of deceiving her audience by trying to look younger than she is. There is a major focus on the potential usage of photoshop and filtered edits on her Twitter profile picture. The aspect of deception in digital communication is quite evident here.

Misplaced Projection of Attributes and Allegations

1. Priyanka Gandhi is frequently trolled and ridiculed for her brother's political decisions. His perceived incompetence is projected on Priyanka's discourse despite her being an independent Congress spokesperson. Users also direct their criticism of Jawaharlal Nehru towards her.

2. Comments project all of the Gandhi family's political decisions on her. Users arbitrarily link her to Indira Gandhi's declaration of Emergency and Rajeev Gandhi's persecution of Sikhs. It can be understood that the comparison between her and her grandmother is used to allocate the latter's attributes onto her. For example, "dictator-like Indira", "intelligent like Indira", "violent like Indira", etc.

3. The projection of Robert Vadra's corrupted activities on her political presence is a major part of her Twitter discourse. She is constantly regarded as "chor ki biwi" and questioned about the alleged economic wrongdoings of her husband, the Gandhi family and the Congress party as a whole.

4. Netizens blame her for the decimation of Congress in UP, where she is originally based. They contend that although she looks like Indira Gandhi, she could not maintain the same political influence of Congress in her home ground. She is also blamed for the lack of development in the Gandhi family's home constituencies- Raebareli and Amethi.

5. A major chunk of Mayawati's Twitter discourse regards her as a symbol of honesty and the hope for Indian Dalits on account of the Bahujan Samaj Party agenda. She is also called the "future PM of India" and the "lion of Indian politics". At the same time, critics also accuse Mayawati of corruption and theft. They blame her for allegedly pursuing money and power rather than uplifting the Dalit community.

Cultural Condemnation

1. Priyanka Gandhi is condemned for her promotion and propagation of Western ideals. Her introductory discourse in digital communication shows ample instances of users mocking her for sharing Western anecdotes and supporting role models like the Joan Of Arc while not doing the same for Indian freedom fighters.

2. Her clothing is heavily criticised in the context of a Western versus Indian narrative. Her inclination towards Western ideals echoes in users' depiction of her as "madam".

3. Mayawati, on the other hand, is regarded highly for her cultural conformation to Indian norms. Her support to the Dalit community is greatly rewarded in political communication.

Moral Character Assassination

1. Trolls ridiculing Priyanka Gandhi's moral character based on her husband's corrupted demeanour and the Congress party's failures constitute a large portion of this observation. Her conformance and non-conformance to socially accepted norms of clothing and beauty are used to insult her moral character.

2. Some users use digital communication to deem Mayawati as a corrupt and self-absorbed leader. However, a large proportion of the tweets support her discourse and her representation of the Dalit community.

3. Both Priyanka and Mayawati are initially accused of using public sympathy for their seasonal campaigns. They are denigrated for the same.

Smriti Irani's Twitter Discourse

This study analyses Smriti Irani's Twitter discourse in the introductory month of her joining from Apr 6 2010 to May 6 2010. The researcher finds that none of the three codes formulated to study gender trolling and feminism in political communication is applicable in Irani's limited discourse. There are numerous contributing factors to the same.

The researcher finds that the most crucial reason behind the low engagement on Irani's posts is the lack of adequate internet penetration in India during her introductory discourse. An India Online Landscape report of 2010 states that India only had about 50 million "active" internet users, out of which 40 million were urban, and the rest were rural (Singh, 2020). Poor speed and affordability of web services was a major constraint in net availability. Thus, citizens' lack of access to stable web connectivity contributed to their absence in digital communication on Twitter.

Twitter was not a sought-after platform to engage in political communication for the average Indian user. Twitter had a total of only 54 million users across the globe in 2010 (Dean, 2021). The development of Twitter as a popular microblogging website has gained traction in recent years, resulting in the platform's user base growing beyond 353 million as of 2020 (Dean, 2021). A cursory observation of Twitter's growth over the last decade shows how Irani's initial tweets do not correspond to a present-day political leader's Twitter discourse. Perhaps one can observe the rising popularity of political communication on Twitter during and after the 2014 Lok Sabha elections only.

Twitter's unpopularity is coupled with its changed function among internet users. During Irani's initial month on Twitter, only websites like Facebook and Orkut were, to an extent, widespread among the masses. A 2010 study conducted on leading social media platforms in India confirms that Facebook was the most popular networking website with the highest time spent by users, followed by Orkut (Centre, 2010, p. 5). However, the utility of all such platforms was limited to the self-reportage of user activities, and it primarily served as a medium of entertainment rather than information.

Despite Irani's entrance into politics in 2003 and her appointment as the National Secretary of the Bhartiya Janata Party (BJP) in 2010, she was not publicly recognised as a political leader during her introductory discourse (Subromonian, 2014). Her identity in mainstream society was primarily based on her experience in the television industry (Subromonian, 2014). Nevertheless, this does not indicate her lack of social acclaim and her relevance in political communication, which may have contributed to low engagement on her tweets.

The prevalence of mobile applications and the resultant ease in online user interaction is a recent development that was not the case in Smriti Irani's initial discourse. Studies show that out of the limited population with access to the internet, only 1 out of 4 users accessed it on their mobiles (Singh, 2020). This is in sharp contrast to present-day figures, stating that there are approximately 630 million active mobile internet users in India (Keelery, 2020). Social media platforms have seen a revolution in recent times, and mobile apps have certainly played a significant role in expanding access to social media.

Irani's tweets were unplanned and devoid of any external agenda targeted to influence her following. However, present-day social media communication involving political leaders and people of interest utilises targeted social media strategies to advance specific goals. Since social media platforms allow political leaders to communicate with their audiences directly, they have become useful in running targeted political campaigns online (Malnar, 2020). The majority of tweets are now curated and published by dedicated social media managing agencies rather than individual actors.

There are approximately 17.5 million Twitter users in India as of data recorded in 2021 (Tankovska, 2021). While Smriti Irani's introductory discourse in 2010 did not win massive support on account of the reasons stated above, social media researchers can contend with the unprecedented growth of Twitter as the most popular platform of political communication in modern-day India.

Mayawati's Twitter Discourse

Mayawati's political communication on Twitter seemed to be unaffected by its discourse. Her Twitter communication seemed to shift the discourse from slurs, mock and insults to dialogue and engagement. Thus, she seems to have successfully managed to shift the discursive movement of text to the themes of leadership from physical attributes. The tweets continued to be mainly in English, even after repeated mockery and insults. The Twitter discourse here also indicates that the electorate has strong political opinions about her- both supportive and critical. She is majorly seen as a harbinger of Dalit rights and welfare. Jai Bhim remained the most recurring discourse throughout her timeline. Her leadership skills and work gradually became the subject of discussion wherein her work as CM of UP and her prospects of being a future PM were heavily stressed.

It is important to note that her support base seems to be strong. Although users often criticise her appearance or political discourse, a fair share of them supports her political communication. Jai Bheem, Jai Bahujan, Jai BSP discourse also seems to indicate that people support her cause, the issues she stands for. However, it cannot substantiate that they stand for her leadership. Gender trolling was gradually reduced, and the legitimacy of her digital discourse flourished. Supporters counter-attack trollers with information about her. For example, when she is repeatedly addressed as uneducated, her support base counters by telling that Mayawati was a school teacher before she joined politics, or that she was an excellent orator before her surgery, but she speaks little during the parliamentary sessions because of the same.

Priyanka Gandhi's Twitter Discourse

Priyanka Gandhi is not as favourably viewed in political communication as her counterparts. Her social, political and cultural identity is reduced to being a sister, daughter and wife. The discourse on her timeline indicates that she is not taken seriously as a leader and rather chastised as a seasonal campaigner. She is repeatedly mocked for her appearance. Her masculinity and resemblance to Indira Gandhi remained a major part of her Twitter reception.

Her twitter communication moved from English to Hindi as she was ridiculed for the former and made fun of for the latter. Her shift in the medium of communication indicates her digital discourse to be intimidated by the trollers. Her tweets were tailored as per the discourse on the former tweets. She moved from quoting 'Joan of Arc' to Chakravartin Ashoka Samrat in an attempt to pacify her followers.

Even after a month and nearly 30 tweets, the discourse on her timeline seems to be impetuous. However, one can notice frequent photos of her with young girls and women being posted, indicating that she is seen as a potential leader who may work for women rights. While some users do appreciate her political discourse, the majority of comments troll and criticise her for the reasons outlined above.

DISCUSSION

By engaging with specific findings extracted from the introductory Twitter discourse of three prominent Indian female leaders, the researcher establishes that:

Social Enforcement of Gender Identity

Gender plays a crucial role in defining the outcome of digital communication if/when female leaders use it to extend their political discourse. Digital platforms harbour relative ease in creating a discursive political communication as they enforce socially accepted gender norms to fortify distinctive gender identities. The embeddedness of patriarchal structures in society facilitates the propagation of a "one size fits all" analogy in political communication.

Breakdown of Political Leadership

The social construction of leadership is heavily gender-specific owing to its stereotypical perception in society. Strength is a misunderstood entity in political communication associated with gender attributes despite having no relation with the same. Chamorro-Premuzic, in an article discussing the link between competence and leadership, contends that male hubris (Greek tragedian notion of over-confidence) is responsible for the inequity of leadership opportunities between men and women (Chamorro-Premuzic, 2013). The FCDA framework of the study consolidates this inequity through its findings.

Objectification and Emphasis on Physical Attributes

Indian political communication objectifies female figures based on their physical attributes. Digital platforms reinforce conventional standards of beauty through the machinery of gender trolling and misogynistic gaslighting. Sexist remarks on particular aspects of women's physical appearance coupled with public denigration of their moral, social and political discourse is a common observation throughout the study.

Sexism and Misogyny

Negative persuasive strategies that influence public opinion about female political leaders constitute functioning principles of sexism and misogyny. A similar media campaign discriminating against the representation of the female candidate (Hilary Clinton) as a way of uplifting her male counterpart (Donald Trump) was also seen during the 2016 US Presidential elections (Nee and De Maio, 2019, p. 305). Bell Hooks' definition of feminism as "a movement to end sexist oppression" becomes instrumental in discussing free and fair political communication of female leaders and their experience of sexism online.

Gender trolling

It is evident that female leaders are subject to scrutiny and discrimination, only surviving to gradually expect a shift in popular discourse from trolls to more pertinent socio-political and economic issues. Gender trolling makes political communication an unfair fight for female leaders owing to the constant evaluation of their gender identity. Thus, gender trolling is a real hindrance in the development of female representatives in digital communication.

CONCLUSION

A qualitative analysis of engagement on a digital communication platform, namely Twitter, revealed many key findings of the relationship between performative gender and political communication in India. Social media platforms have made it easier for political figures to create a "public yet personal" discourse to engage the electorate (Bali and Jagan, 2017, p. 244). Digital platforms allow politicians to reach a wide but niche audience corresponding to their expansion agendas. The two-way communication also facilitates the reconstruction of popular agendas, thus, making it easier for them to control the direction of their political discourse (Bali and Jagan, 2017, p. 244).

While analysing the Twitter discourse of three national female political leaders, the researcher found that Smriti Irani's Twitter discourse was insufficient for drawing valuable inferences. However, a careful analysis of Priyanka Gandhi and Mayawati's Twitter discourse generated three repetitive patterns of user behaviour in the context of gender politics. First, netizens attribute a considerable level of importance to female leaders' physical appearance, which is evident in the form of insults, jibes, and trolls. Second, netizens often relate a female politician's leadership qualities with aspects of her gender identity that do not pertain to the same. As a result, her political communication weakens when faced with stereotypical images associated with female power-holders. Third, netizens promote and propagate a discursive discussion on varying aspects of gendered identity. Female leaders must cater to their independent political discourse and their social identity as a woman, a mother, a sister, a daughter, etc.

The Twitter discourse of the aforementioned female leaders also reveals a common experience of internalised misogyny and sexism. Women are treated with humiliating gendered remarks, often for aspects of their identity that they cannot control. For example, the researcher finds that Mayawati's lingual sophistication and Priyanka Gandhi's association with the Gandhi family remained a crucial focal point of user behaviour throughout their digital discourse. Such targeted focus on specific aspects of their identity was not only used as a ploy of gender trolling but also as a justification for their incompetence as political leaders. By employing Feminist Critical Discourse Analysis (FCDA), the researcher was able to isolate instances of gender stereotyping and the consequent occurrence of gender discrimination.

While supervision of digital communication is necessary to prevent gender-specific humiliation of public personas, it is not nearly sufficient for the same. Increasing awareness about egalitarian gender politics and adapting the public discourse to a more accommodating space is essential for establishing fruitful political communication.

REFERENCES

Aaldering, L., & Van Der Pas, D. J. (2018). Political Leadership in the Media: Gender Bias in Leader Stereotypes during Campaign and Routine Times. British Journal of Political Science, pp. 1–21.

Atkinson, M. (1984). Our masters' voices. London and New York: Methuen

Barthes, R. 1972. Mythologies. Cape, London.

Bali, A., & Jagan, S. (2017). Use of social media in India and Political Communication. International Journal of Humanities and Social Science Studies IJHSSS. Pp. 243-253.

Barker, K., & Jurasz, O. (2019). Online misogyny. Journal of International Affairs, 72(2), pp. 95-114.

Butler, J. (1988). Performative acts and gender constitution: An essay in phenomenology and feminist theory. Theatre journal, 40(4). pp. 519-531.

Centre, O. S. (2010). OSC Media Aid: overview of leading Indian social media. Retrieved on February, 23, 2015.

Chamorro-Premuzic, T. (2013, August 22). Why Do So Many Incompetent Men Become Leaders? Harvard Business Review.

Dean, B. (2021, February 10). How Many People Use Twitter in 2021? [New Twitter Stats]. Backlinko. https://backlinko.com/twitter-users

Diekman, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. Personality and social psychology bulletin, 26(10), pp. 1171-1188.

Duerst-Lahti, G. (2006). Presidential elections: Gendered space and the case of 2008.

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. Psychological review.

Gupta, S., Sharma, J., Najm, M., & Sharma, S. (2020).Media Exaggeration And Information Credibility: Qualitative Analysis Of Fear Generation For Covid-19 Using Nvivo. Journal of Content Community and Communication, 12(6). 14-20

Ging, D., & Siapera, E. (2018). Special issue on online misogyny.

Hart, W., Ottati, V. C., & Krumdick, N. D. (2011). Physical attractiveness and candidate evaluation: A model of correction. Political Psychology, 32(2), pp. 181-203.

Hooks, B. (1987). Feminism: A movement to end sexist oppression.

Keelery, S. (2020, July 7). Internet usage in India - statistics & facts. Satistica. https://www.statista.com/topics/2157/internet-usage-in-india/#:~:text=It%20was%20estimated%20that%20by,access%20to%20internet%20that%20year.

Lazar, M. (Ed.). (2005). Feminist critical discourse analysis: Gender, power and ideology in discourse. Springer.

MacKinnon, C. A. (1982). Feminism, Marxism, method, and the state: An agenda for theory. Signs: Journal of women in culture and society, 7(3), pp. 515-544.

Malnar, K. (2020, December 3). The importance of political social media strategy. Mediatoolkit. mediatoolkit.com/blog/the-importance-of-political-social-media-strategy/

Mantilla, K. (2013). Gender trolling: Misogyny adapts to new media. Feminist Studies, 39(2), pp. 563-570.

Nee, R. C., & De Maio, M. (2019). A 'presidential look'? An analysis of gender framing in 2016 persuasive memes of Hillary Clinton. Journal of Broadcasting & Electronic Media, 63(2), pp. 304-321.

Ponton, D. M. (2010). The female political leader: A study of gender-identity in the case of Margaret Thatcher. Journal of Language and Politics, 9(2), pp. 195-218.

Rego, R. (2008). Changing Forms and Platforms of Misogyny: Sexual Harassment of Women Journalists on Twitter. St Joseph's College (Autonomous), India. Journal of Communication: Media Watch 9(3)

Rheault, L., Rayment, E., & Musulan, A. (2019). Politicians in the line of fire: Incivility and the treatment of women on social media. Research & Politics.

Ringrose, J. (2018). Digital feminist pedagogy and post-truth misogyny. Teaching in Higher Education, 23(5), pp. 647-656.

Ritchie, J. (2013). Creating a Monster. Feminist Media Studies, 13(1), pp. 102–119.

Shushkevich, E., & Cardiff, J. (2019). Automatic Misogyny Detection in Social Media: A Survey. Computación y Sistemas.

Simone De Beauvoir, H. M. (1953). The second sex.

Singh, P. (2020, August 8). India Online Landscape 2010 – Internet Usage Statistics for India. MoneyMint. https://moneymint.com/india-online-landscape-2010-internet-usage-statistics-india/

Subramonian, S. (2014, May 28). Here's what you need to know about Smriti Irani's journey from Tulsi to HRD Minister. DNA. https://www.dnaindia.com/india/report-here-s-what-you-need-to-know-about-smriti-irani-s-journey-from-tulsi-to-hrd-minister-1973917

Tankovska, H. (2021, February 9). Leading countries based on number of Twitter users as of January 2021 (in millions). https://www.statista.com/statistics/242606/number-of-active-twitter-users-in-selected-countries/ July, 2020.

Trimble, L. (2018). 7. Speech and Shame. In Ms. Prime Minister. University of Toronto Press. pp. 184-210.

Willem, C., & Tortajada, I. (2021). Gender, voice and online space: Expressions of feminism on social media in Spain. Media and Communication, 9(2), pp. 62-71.

Yoon, J. (2017). Down Girl: The Logic of Misogyny: Kate Manne. New York: Oxford University Press, 2017, 368 pages. Asian Women. pp. 109-112.

Zhang, Y., & Wildemuth, B. M. (2009). Qualitative analysis of content. Applications of social research methods to questions in information and library science.

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COMMUNICATIONS OF CORPORATE SOCIAL RESPONSIBILITY AND ITS INFLUENCE ON PURCHASE INTENTION OF CONSUMERS

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ABSTRACT

Corporate social responsibility (CSR), a polarizing subject in business studies for decades, has become a common man's point of discussion in recent years. As companies' impact on peoples' everyday lives becomes massive, people have become wary and curious of how these companies behave concerning the environment, their employees, and the society at large. Companies are catering to this expectation by reporting and communicating their CSR practices in various ways. This information about a company's CSR initiatives among the consumers has been found to affect their perceptions of these companies and their attitude towards its brands. CSR communication has been found to ultimately impact consumers' purchase intentions, and this relationship is influenced by various moderators and mediators. This literature review article examines the impact of CSR communication among the consumers and how it translates to consumers' purchase intention for the brands of organizations that communicate their CSR activities. This study aims to review the literature on consumers' purchase intention for companies communicating CSR, build a conceptual framework for further research, and set the future research agenda.

Keywords: Corporate social responsibility; CSR communications, Purchase Intention; Sustainable Consumption; Consumer ethics.

INTRODUCTION

Recent trends suggest that consumers are taking a greater interest in companies' corporate social responsibilities and are using their purchasing power to encourage brands to become good (Schaeffer, 2019). Historically, profit-maximization has been the primary goal for companies; however, customers these days expect companies to contribute towards the cumulative well-being of the society and environment (Mohr & Webb, 2005; Du, Bhattacharya, & Sen, 2011). Consumers expect companies to aim for sustainable growth and value societal contributions in a similar fashion to business profits (Parker, 2009; Groza, Pronschinske, & Walker, 2011; Vahdati, Mousavi, & Tajik, 2015). Consumers are fuelled by the belief that individual commitment to the well-being of the community can also be demonstrated through a preference for responsible products and brands (Vitell, 2014). Consumers have taken the onus to reduce their environmental impact through conscious changes to their lifestyle and sustainable consumption is considered as a way to solve some social and environmental problems plaguing the world (Hansen & Schrader, 1997; Reisch & Thøgersen, 2015). As a growing number of consumers choose to purchase from caring businesses, companies need to resolve broader economic, social, and environmental issues (Mohr, 2001). In order to satisfy these needs, companies must prove to be excellent corporate citizens in the consumer's eyes (Garriga and Melé, 2004) as they look to establish long-term associations with their customers and boost sales through CSR efforts (Hoeffler & Keller, 2002).

This first step in this direction is to communicate Corporate Social Responsibility as CSR cannot influence consumers' behavior if they are unaware of the CSR activities of the company. Consumer perception of CSR are built due to consumers' collective interactions with the company (Schmeltz, 2012). To this end, the communication delivered via companies regarding their CSR helps build consumer perception of CSR that could lead to positive attitudes towards these companies.

These CSR perceptions affect various aspects of the brand like brand preference, purchase intention, perceived quality, brand loyalty, and brand equity (Kim & Hall, 2015; Silva et al., 2017; Cowan & Guzman, 2020).

Various individual-level characteristics of consumers influence their purchase intentions for products from companies involved in CSR activities. Aspects like religiosity, attitude towards helping others, warm glow, nationality, and culture have been found to influence this relationship to varying levels (Webb et al., 2000; Hartmann & Apaolaza-Ibáñez, 2012; Wang et al., 2019). Demographic aspects like gender, age, income, and religion also impact the relationship. Varied aspects like brand associations, perceived quality, brand loyalty, and customer-company identification have been found to be affected by CSR communications (Auger et al., 2009; Hustvedt & Bernard, 2010; Boccia et al., 2019). These aspects then affect the purchase intention for those products and thus mediate the relationship between CSR perceptions and purchase intention.

This article explores all these aspects from selected literature, focusing on communications of corporate social responsibility and how it affects consumers. The aim of this article is to ascertain whether there is an effect of CSR communications on the purchase intentions of products, and the mediators and moderators that influence this relationship. A conceptual model of this relationship is built from this literature to set the future research agenda in this area. In a world where sustainability is a buzzword, the findings of this paper will be beneficial to academicians and marketers to gain insights into CSR communications and how they could be used build an associated with informer consumers of the day.

CORPORATE SOCIAL RESPONSIBILITY (CSR)

CSR has become one of the most important aspects of every organization in today's competitive world. According to Peter Druker – "*What corporations do to society is far more important than what corporations can do for society*," because according to him, businesses have more responsibilities today, where business ethics has become an oxymoron (Praxis, 2017). However, the concept of CSR is rapidly evolving due to the constant development of new theories and models. Stakeholder theory (Freeman, 1984), the shareholder model (Friedman, 1962), and the CSR Pyramid (Carroll, 1991) are examples that incorporate economic, social, environmental, legal, ethical, and philanthropic responsibilities of a company. Stakeholder theory is based on the principle that companies must consider the effects of their actions on all stakeholders (e.g., shareholders, customers, employees, suppliers, the environment, and the community), even if profitability is reduced (Smith, 2003). Shareholder theory contends that a company's sole responsibility is to (legally) make profits for its shareholders (Smith, 2003). Since this study looks at CSR from the perspective of consumer, the stakeholder theory has been take ahead. Recent research has also demonstrated that the stakeholder approach has a positive impact on consumers, and incorporating philanthropic activities as a part of CSR leads to strategic business benefits (Torres et al., 2012; PWC CII Report, 2015).

Despite the fact that Corporate Social Responsibility is one of the most well-known terms in the literature, a clear and widely recognized definition remains elusive. CSR means something to everyone, but it is not often the same thing for everyone (Votaw, 1972). According to Bowen (1953), CSR is the duty of businesses to seek policies, make judgments, and follow the courses of action that are conducive to the improvement of the society's objectives. CSR is frequently viewed as actions of companies that go above what is required by law (Sims, 2003), as it is viewed as a company's commitment to reducing or removing all negative consequences of its operations while optimizing its long-term beneficial impact on society (Mohr et al., 2001). A socially conscious business, according to the concept of CSR, recognizes the consequences of its decisions on others, whether or not they are personally connected to the company. Thus, in a broad view, CSR refers to a concern for society's needs and objectives that extends beyond the purely economic (Davis, 1960; Eells & Walton, 1974). Therefore, CSR is a business activity that attempts to positively affect all stakeholders and goes beyond the company's economic interests (Turker, 2009).

COMMUNICATIONS OF CORPORATE SOCIAL RESPONSIBILITY

Communication of corporate social responsibility is a challenging task as expectations of different stakeholders from a company with regards to its responsibilities are different (Kim, 2015). While there are different communication and reporting methods, the timing and form of communication must be properly planned to build effective relationships with stakeholders (Isaksson et al., 2014). CSR reporting and communication are essential for companies to maintain a dialogue with internal and external stakeholders and build proactively intangible assets that can benefit the firm (Isaksson, Kiessling & Harvey, 2014).

In this regard, three factors are proposed as particularly important in predicting the level of leverage that a CSR initiative might have on brands: (i) the degree of awareness and knowledge of the social cause; (ii) the degree of relevance and meaningfulness of the knowledge of the cause; and (iii) the degree of transferability of the cause's knowledge to the brand (Hoeffler & Keller, 2002). Hence, a well-planned and well-executed communication strategy that builds perception and awareness of a company's CSR program in the minds of consumers is critical to achieving the desired outcomes (Maignan and Ferrell, 2003; Sen, Bhattacharya & Korschun, 2006; Du et al., 2007; Hsu, 2012). Consumer desires and perceptions are determined through a mixture of the customer's prior experience and understanding, as well as their evaluation of the company's communication (Engel et al., 1968). So a firm must ensure that consumers can easily find the information needed to evaluate social, environmental, and ethical stance because when consumers are informed of socially conscious practices, they are more likely to make a buying decision (Chu & Lin, 2013).

Various communication channels can be employed to create this awareness about CSR activities. For instance, regularly publishing of CSR reports with data on their financial commitments for social activities can add to a company's credibility in the eyes of its stakeholders (Dutta & Singh, 2013; Habel, Schons, Alavi, & Wieseke, 2016). CSR advertisement is another vital communication channel that facilitates the CSR communication process (Perks, Farache, Shukla, & Berry, 2013), which can be used to communicate a favourable acceptable corporate image (Pomering & Johnson, 2009). Social media platforms like Facebook can be used for CSR communication as brand communication as these kinds of media platforms have been found to enable consumer participation and engagement with the brands (Handa, Mahapatra & Yadav, 2018). Another way of communicating can be corporate image advertising to get expected corporate identity on the corporate brand as a whole rather than for any particular product (Rossiter et al., 2007).

Nonetheless, companies need to be careful with their CSR communication because there is a fine line between bragging about CSR activities and keeping stakeholders informed. Companies that tout their CSR initiatives and portray themselves as models for engaging with the pressing social problems may be perceived as engaging in self-serving image-building exercises and face criticism (Schlegelmilch & Pollach, 2005; Nyilasy et al., 2014), harming consumer trust and reputation (Mohr, 2001). However, in the case of consumers having a very high identification level with the company, the adverse effects are not that apparent (Garriga & Melé, 2011). The emphasis, thus, needs to be on a balanced showcase of CSR initiatives through advertisements to lessen the effect of skepticism (Calfee and Ringold, 1994).

CSR initiatives must have internal and external consistency along with coherence. Internal consistency should represent existing practices of the firm, and external consistency represents the expectations of societal stakeholders (Yuan, Bao, & Verbeke, 2011). For coherence, the new or proposed CSR practices should be coherent with the existing ones and the company values (Yuan, Bao, & Verbeke, 2011). CSR messages need to align with changes in its business conduct until its public image matches its desired image (Schlegelmilch & Pollach, 2005). Du, Bhattacharya, & Sen (2010) suggest that ideal CSR communication will consist of the organization's monetary commitment towards CSR along with potential social impact of the CSR activity on society. Furthermore, consistency and transparency are essential elements in the CSR communication process as this helps build stakeholders' trust and increases the credibility of the message (Coombs & Holladay, 2011).

The inclusion of social or environmental issues will increase the consumer's faith in the company's CSR activity, as well as reduce the element of skepticism from consumers' perception (Mahrinasari, 2019). This consideration will be paramount in the global context if cultural values exist that will cause customer response differences (Chomvilailuk & Butcher, 2013). Instead of going for short-term CSR activity, which may be an opportunistic promotion in most cases, the firms should instead concentrate on going for a longer-run CSR commitment (Webb and Mohr, 1998). Webb and Mohr (1998) found that the durability of support for a cause was used as a cue for judging a firm's motives: longer-term commitments were more likely to be seen as driven by a genuine concern for increasing community welfare, while shorter-term campaigns were more likely to be viewed as a way of exploiting a cause for the sake of profit.

On the communication message, brands must convey the necessary information without coming across as either curt or wordy; however, research suggests that the length of the communication does not significantly impact consumers' purchase intentions (Hustvedt & Bernard, 2010).

Companies are more likely to reap the benefits of such communication campaigns if they focus on creating awareness among consumers rather than hype among their various stakeholders (Dutta & Singh, 2013). Tailoring the information to a customer's interests would also contribute to the communication's success. For example, research shows that environmentally conscious consumers react better to green advertisements (Vitell, 2014). Defensive tactics in CSR communications could be apologies, justifying, or giving an excuse and reactive behavior towards society (Mohamed, Gardner & Paolillo, 1999). Additionally, business firms can invest in 'expert third parties' who specialize in CSR management to promote the company's image and reputation (Morsing, Schiltz, & Nielsen, 2008). The CSR communication should also have clear motives, i.e., the public serving motives and not firm serving motives (Bianchi et al., 2019).

When companies fail to communicate their CSR triumphs to their stakeholders in the right manner, they miss the opportunity to build, enhance, and nurture relationships with the stakeholders (Moreno and Capriotti, 2009). Consumers tend to make a purchase decision based on socially responsible activities when they are aware of it. Therefore, firms need to communicate CSR well so that consumers evaluate the firm positively and have higher purchase intentions for their products (Pradhan, 2018).

PURCHASE INTENTION

Purchase intentions are a measure of the degree to which consumers are likely to perform a shopping behavior of purchasing a product or service (Silva et al., 2017; Hartmann & Apaolaza-Ibáñez, 2012). Purchase intentions are viewed as the primary indicator of real actions on behalf of the customers. The consumer's purchase intention can be predicted based on consumer attitude towards a future purchase decision (Espejel, Fandos & Flavian, 2008).

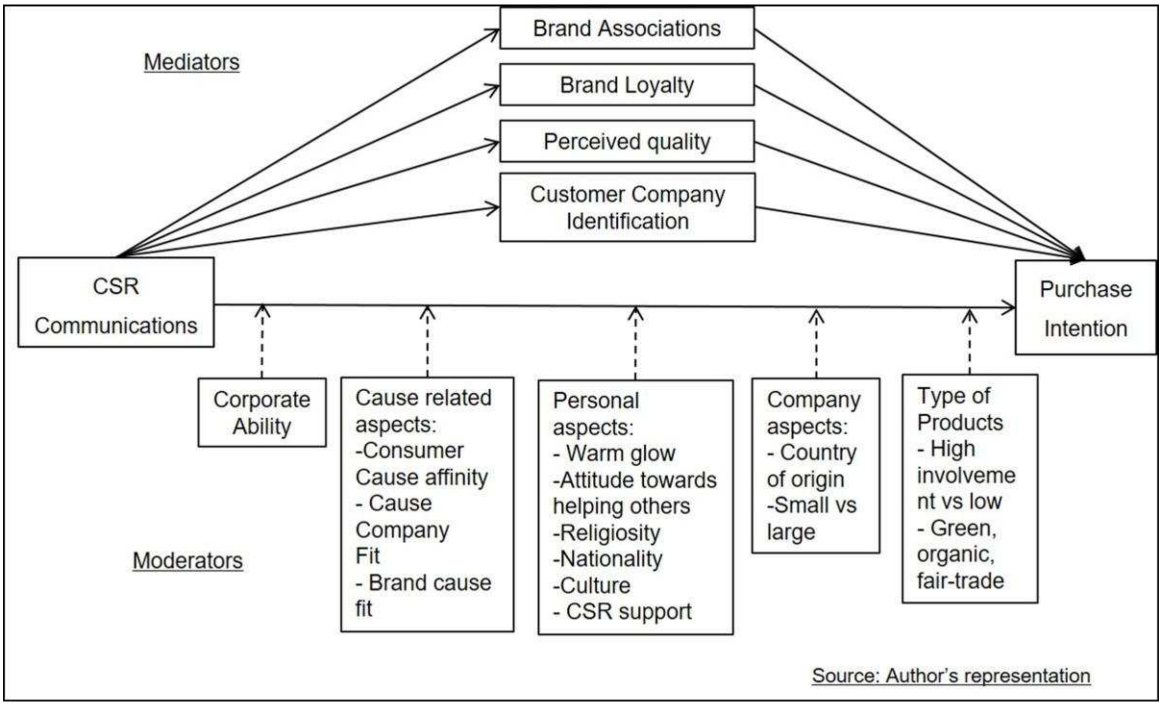
CSR has been found to lead to higher purchase intention for products from those companies (Dutta & Singh, 2013; Kim, 2015). Customers are now keen to buy the products that are produced by companies that take care of the environment (Schmeltz, 2012; Berger, 2019).

New-age consumers seek additional information when purchasing a product and consider factors such as the environmental aspects and public health in their purchase decision (de Magistris, del Giudice, & Verneau, 2015; Ramesh et al., 2019). Consumers also display a propensity to trust and buy products linked with CSR when they have CSR-linked perceptions about them (Vahdati et al., 2015). Sustainability policies of businesses have a substantial beneficial impact on the customer assessment of a company and their purchase intentions for their goods (Mohr & Webb, 2005). This relationship between CSR and Purchase intention is not direct and is influenced by various constructs (Gatti, Caruana, & Snehota, 2012) as described in the next section.

FACTORS AFFECTING THE INFLUENCE OF CSR COMMUNICATIONS ON PURCHASE INTENTION

The relationship of CSR communications on the purchase intention of consumers is influenced by various moderators and mediators. Variables that are affected by the independent variables and then go on to affect the dependent variable are known as Mediators (Baron & Kenny, 1986). Moderator variables affect the relationship between the input variable and output variable, but moderators themselves are not affected by the independent variable (Baron & Kenny, 1986). Moderators affect the strength and direction of the relationship (Frazier, Tix, & Barron, 2004). The following figure shows the various mediators and moderators that influence the relationship between CSR communications and Purchase intention.

Figure 1: Conceptual model showing all mediators and moderators in the CSR communications - purchase intention relationship



describe how or why certain effects occur (Baron & Kenny, 1986).

Consumer's purchase intention of a product is affected by various aspects of the brand like brand associations, perceived quality, brand awareness and brand loyalty. These aspects have been found to be affected by CSR communications (Auger et al., 2009; Hustvedt & Bernard, 2010; Boccia, Malgeri Manzo, & Covino, 2019). When the customer has a positive CSR opinion of the company, the company's goods are viewed as technologically sound and worth the money that is invested (Dutta & Singh, 2013). Customer perception built by CSR, in turn, leads to customer predisposition that is based on their loyalty to the brand, their satisfaction from the product, and the belief in the cause supported by the CSR (Koschate-Fischer, Stefan, & Hoyer, 2012). Consumer-Company

Mediators

In general, a variable is said to act as a mediator when it accounts for the relationship between the predictor and the criterion (Baron & Kenny, 1986; Frazier et al., 2004). Mediators describe how external physical phenomena take on the psychological meaning on the inside (Baron & Kenny, 1986). Unlike moderator variables, mediator variables

(C-C) Identification is the way in which consumers connect and identify with companies (Lii, 2011; Lii & Lee, 2012; Schrempf-Stirling, 2018; Baskentli, Sen, Du, & Bhattacharya, 2019). Often a part of an individual's identity comes from his associations with a variety of organizations, and CSR has been found to affect the C-C identification of consumers (Bhattacharya &

Sen, 2003). CSR communications is thus also an important marketing tool because it can help bring about purchase intention (Ho, 2017) via C-C identification.

Moderators

The relationship between CSR communications and consumers' purchase intention for those products is influenced by various moderators, which are classified and discussed below.

Cause-Related factors

Cause-related factors can be looked at in 3 ways. Firstly, how well the cause addressed by the CSR activity being communicated fits with the brand; secondly, how well the cause fits with the company owning the brand; and thirdly, how much the consumer aligns with and is interested in the cause focused on by the company. How well the social cause suits the brand suggests the cause-brand fit, and how well it aligns with the company is accounted for in the company-cause fit. These play a crucial role in consumers' attitudes towards the brand as cause-brand fit and CSR association linearly impact brand attitude, which positively impacts purchase intention (Rahman, 2013). Consumers’ affinity (Berseder et al., 2011; Koschate-Fischer et al., 2012), personal ethics (Vitell, 2014), and regionality (Berseder et al., 2011) influence consumer-cause fit that affect consumers' purchase decisions in a similar way.

Personal level factors

Consumers’ individual level characteristics like warm glow and attitude towards helping others have been found to influence this relationship to varying levels (Webb et al., 2000; Hartmann & Apaolaza-Ibáñez, 2012; Wang et al., 2019; Palihawadana, Oghazi & Liu, 2016).

While attitude towards helping others is self-explanatory, warm-glow effect is the product of selfish gratification resulting from good deeds and is a result of pro-social actions in which people experience pleasure and happiness as a result of playing their part to help others. However, as self-interested people, there is a value of feeling positive in letting others experience these ostensibly selfless actions (Andreoni, 1990). Why do people donate money to charitable organizations, pay extra for environmentally friendly goods, or even donate organs? The desire to feel a "warm glow" (Andreoni, 1990) is one of the reasons, which goes against conventional economists' views of people as greedy utility maximisers. However, the question is whether customers also get a "warm glow" from businesses who do good deeds and reward them with improved corporate credibility, brand value, and customer loyalty.

Other aspects that have been found to moderate the relationship are personal concern or CSR support (Koschate-Fischer, Stefan, & Hoyer, 2012), ethnicity (Hustvedt & Bernard, 2010), culture (Chu & Lin, 2013), economic acumen (Boccia et al., 2019), nationality (Staudt et al., 2014), and religiosity (Vitell, 2014). If customers are generally optimistic about CSR, the purchase intention is positively affected (Vahdati et al., 2015).

Type of products

Whilst the business performs virtuous things as a part of CSR, this social attribute is the core of certain types of products like fair trade products, renewable and sustainable goods, and organic goods (Teyssier et al., 2012). Fair-trade offerings grant better livelihood for producers, and green products reduce the overall environmental footprint (Teyssier et al., 2012). Organic goods are considered green since they are less toxic than inorganic products to their nature. Studies have found that the purchase intention for them is higher than normal products given all else is the same (Arnot, Boxall, & Cash, 2006; Didier & Lucie, 2008). Nassivera, Troiano, Marangon, and Nencheva (2017) found that there was a favourable association between positive consumer attitudes towards fair trade and CSR-linked products and the purchase intention of consumers. Consumers with previous information about a product's social attributes like green or fair trade or organic strongly influence the next purchase decision for these consumers as well (Chu & Lin, 2013).

Company level factors

Various company-level factors influence the relationship between CSR communications and purchase intention of associated products. For example, the country of origin of the company and the country of origin of the products, if the company is a large well-known company or a small company (Pappu et al., 2006). Although the brand will have a more significant effect on consumer buying intentions for higher-involvement goods, for developing markets, the country of origin has also been found to affect consumer purchasing intentions (Ferreira & Ribeiro, 2016). The fostering of local entrepreneurs and local economic development resulting in their growth improves customer satisfaction; this is positive for local small businesses who usually target their local CSR programs towards the local community (Berseder et al., 2011). Global firms, too, can take their lead to deliver their CSR initiatives targeting more local communities (Habel et al., 2016).

While the company's size and its global spread matters, the consumers tend to support local CSR activities benefiting them in one way or another. The same could be the typical human tendency to be closer to personal connections and see change on a smaller scale better than on a global scale (Ferreira & Ribeiro, 2016). A variety of studies (Brown & Dacin, 1997; Park & Kim, 2015) looked at the effects of corporate ability on CSR-related customer behavior. Customer satisfaction (Wu & Chen, 2015), the ability to pay for the brands of corporations doing CSR (Narayanan et al., 2020), and the several other facets of the brand are affected by CSR communications were influenced by corporate ability association. Corporate ability has a moderating influence on CSR attitudes and their effects on the brand.

CONCLUSION AND FUTURE RESEARCH AGENDA

The present paper presents a detailed review of the communications of corporate social responsibility and its effects on consumers. This paper outlines the themes of the study observed in the CSR studies, their interpretations of customer expectations of CSR communications, and their resulting actions in the market towards the company and its brands. Although there is much research on the customer perception of CSR and its effect on the brand, there is not much research exploring how CSR communications affect the purchase intention of consumers. The paper brings forth the research that has been done in this area and provides future researchers with a comprehensive list of factors that affect their relationship as mediators and moderators. Although a few of the above studies were conducted to understand CSR's effects on consumer behavior in terms of purchase intention, there are some limitations in them, including its inconclusiveness. Overall, CSR has been found to play a small role in consumers' purchasing decisions; that too if CSR is communicated in the right manner. CSR linked perceptions have even been found to have a negative effect when consumers are sceptical of the companies’ true intent of communicating the CSR activities. Also, it has been found that reckless social conduct of companies is punished even if good CSR conduct goes unrewarded (Berseder et al., 2011).

The scarcity of CSR knowledge has been identified to be a significant barrier to buyers having purchase intentions for goods from CSR firms. The CSR done by every organization only influences consumers' buying choices if its consumers know about the company's CSR activities. The desire to pay stems from the consumer's awareness of the purpose they are committed to and can be researched in the future (Berseder et al., 2011).
It has been observed that there is a gap between the purchase intention and the actual consumer behavior. When looking at psychological parameters, it can be seen that consumer attitude depends upon the consumer's income level and level of knowledge of the benefits of CSR activity (Kuokkanen & Sun, 2014). Therefore, there is a need for fresh studies that help us better measure and reduce the inaccuracy of the direct and indirect method, which is another key reason for this gap between attitudes in research studies and reality. By widening the gap between attitude and behavior by quantifying social desirability and cynicism, future studies can maximize the measurement of attitude and behavior (Kuokkanen & Sun, 2014).

According to the state of the economy, consumers could react differently to corporate social responsibility (CSR) communications. Like in the COVID19 pandemic, the needs of consumers in terms of the corporate's functioning might change, and research can look into it. As new scenarios are developing, the governments in countries like India are urging their citizens to support locally made products. In other countries, too, there is a government role in the implementation of the Corporate Social Responsibility (CSR) concept into the business like End-of-Life Vehicle policies in Siberia (Krstic & Mihajlov, 2020). Such attributes about companies might influence consumers now. So, in studying the purchase intentions of potential CSR customers, there are many things to consider. This paper suggests that researchers take up this field of study in order to provide academic and corporate professionals with a better understanding of the impact of CSR on purchasing intentions.

BIBLIOGRAPHY

Andreoni, J. (1990). Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving. The Economic Journal, 100(401), 464. https://doi.org/10.2307/2234133

Arnot, C., Boxall, P. C., & Cash, S. B. (2006). Do ethical consumers care about price? A revealed preference analysis of fair trade coffee purchases. *Canadian Journal of Agricultural Economics*, *54*(4), 555–565. https://doi.org/10.1111/j.1744-7976.2006.00066.x

Auger, P., Devinney, T. M., Louviere, J. J. J., & Burke, P. F. (2009). *The Importance of Social Product Attributes in Consumer Purchasing Decisions: A Multi-Country Comparative Study*. https://doi.org/10.2139/ssrn.1270474

Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research. Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Baskentli, Sara, Sankar Sen, Shuili Du, and C. B. Bhattacharya. (2019). "Consumer Reactions to Corporate Social Responsibility: The Role of CSR Domains." *Journal of Business Research*. doi: 10.1016/j.jbusres.2018.07.046.

Berger, J. (2019). Signaling can increase consumers' willingness to pay for green products. Theoretical model and experimental evidence. *Journal of Consumer Behaviour*, *18*(3), 233–246. https://doi.org/10.1002/cb.1760

Berseder, M. O., Schlegelmilch, B. B., & Gruber, V. (2011). '"Why Don't Consumers Care About CSR?"': A Qualitative Study Exploring the Role of CSR in Consumption Decisions. *Journal of Business Ethics*, *104*, 449–460. https://doi.org/10.1007/s10551-011-0925-7

Bhattacharya, C. B., and Sankar Sen. (2003). "Consumer-Company Identification: A Framework for Understanding Consumers' Relationships with Companies." *Journal of Marketing* 67(2):76–88.

Bianchi, E., Bruno, J. M., & Sarabia-Sanchez, F. J. (2019). The impact of perceived CSR on corporate reputation and purchase intention. *European Journal of Management and Business Economics*, *28*(3), 206–221. https://doi.org/10.1108/EJMBE-12-2017-0068

Boccia, F., Malgeri Manzo, R., & Covino, D. (2019). Consumer behavior and corporate social responsibility: An evaluation by a choice experiment. *Corporate Social Responsibility and Environmental Management*, *26*(1), 97–105. https://doi.org/10.1002/csr.1661

Bowen, H. (1953). Social Responsibility of the Businessman. In *New York: Harper and Row* (Issue 4).

Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. *Journal of Marketing*, *61*(1), 68–84. https://doi.org/10.2307/1252190

Calfee, J.E. and Ringold, D.J. (1994), "The seventy percent majority: enduring consumer beliefs about advertising", Journal of Public Policy & Marketing, Vol. 13 No. 2, pp. 228-38.

Carroll, Archie. (1991). The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders. *Business Horizons*. 34. 39-48. 10.1016/0007-6813(91)90005-G.

Cornelissen, J. (2007). Corporate Communications: Theory and Practice. *Strategic Direction*, *23*(8). https://doi.org/10.1108/sd.2007.05623hae.001

Chomvilailuk, Rojanasak, and Ken Butcher.

(2013). “The Effect of CSR Knowledge on Customer Liking, across Cultures.” *International Journal of Bank Marketing* 31(2):98–114. doi: 10.1108/02652321311298672.

Chu, S.-C., & Lin, J.-S. (2013). Consumers’ Perception of Corporate Social Responsibility in the United States and China: A Study of Female Cosmetics Consumers. *International Journal of Strategic Communication*, *7*(1), 43–64. https://doi.org/10.1080/1553118X.2012.711401

Coombs, W. Timothy, and Sherry J. Holladay. (2011). *Managing Corporate Social Responsibility: A Communication Approach*.

Cowan, K., & Guzman, F. (2020). How CSR reputation, sustainability signals, and country-of-origin sustainability reputation contribute to corporate brand performance: An exploratory study. *Journal of Business Research*, *117*, 683–693. https://doi.org/10.1016/j.jbusres.2018.11.017

Davis, K. (1960) Can Business Afford to Ignore Social Responsibilities? *California Management Review*, 2, 70-76. https://doi.org/10.2307/41166246

De Magistris, T., Del Giudice, T., & Verneau, F. (2015). The Effect of Information on Willingness to Pay for Canned Tuna Fish with Different Corporate Social Responsibility (CSR) Certification: A Pilot Study. *Journal of Consumer Affairs*, *49*(2), 457–471. https://doi.org/10.1111/joca.12046

Didier, T., & Lucie, S. (2008). Measuring consumer’s willingness to pay for organic and Fair Trade products. *International Journal of Consumer Studies*, *32*(5), 479–490. https://doi.org/10.1111/j.1470-6431.2008.00714.x

Du, S., C. B. Bhattacharya, & Sen, S. (2011). Corporate Social Responsibility and Competitive Advantage: Overcoming the Trust Barrier. *Management Science*, *57*, 1528–1545. Retrieved from https://www.jstor.org/stable/41261914

Du, S., Bhattacharya, C. B., & Sen, S. (2010). Maximizing business returns to corporate social responsibility (CSR): The role of CSR communication. *International Journal of Management Reviews*, *12*(1), 8–19. https://doi.org/10.1111/j.1468-2370.2009.00276.x

Dutta, K., & Singh, S. (2013). Customer Perception of CSR and Its Impact on Retailer Evaluation and Purchase Intention in India. *Journal of Services Research*, *13*(1), 111–134.

Eells, R., & Walton, C. (1974). *Conceptual foundations of business* (3rd ed.). Irwin, Burr Ridge, IL.

Engel, J. F., Kollat, D. T., & Blackwell, R. D. (1968). *Consumer Behavior*. Holt, Rinehart, and Winston.

Espejel, J., Fandos, C. and Flavián, C. (2008), “Consumer satisfaction: a key factor of consumer loyalty and buying intention of a PDO food product”, British Food Journal, Vol. 110 No. 9, pp. 865-881.

Ferreira, A. I., & Ribeiro, I. (2016). Are you willing to pay the price? The impact of corporate social responsibility on consumer behavior towards national and foreign brands. *Journal of Consumer Behaviour,* 29. https://doi.org/10.1002/cb.1603

Frazier, Patricia A., Andrew P. Tix, and Kenneth E. Barron. (2004). “Testing Moderator and Mediator Effects in Counseling Psychology Research.” *Journal of Counseling Psychology* 51(1):115–34.

Friedman, M. (1962). *Capitalism and Freedom.*

Freeman, R. Edward. (1984). *Strategic Management: A Stakeholder Approach*.

Garriga, Elisabet, and Domènec Melé. (2011). “OECD-Leitsätze Für Multinationale Unternehmen.” *Journal of Business Ethics* 53(1/2):51–71. doi: 10.1787/9789264122352-de.

Garriga, E., & Melé, D. (2004). Corporate Social Responsibility Theories: Mapping the Territory. *Journal of Business Ethics*, *53*, 51–71. https://doi.org/10.1787/9789264122352-de

Gatti, Lucia, Albert Caruana, and Ivan Snehota. (2012). “The Role of Corporate Social Responsibility, Perceived Quality and Corporate Reputation on Purchase Intention: Implications for Brand Management." *Journal of Brand Management* 20(1):65–76. doi: 10.1057/bm.2012.2.

Groza, M. D., Pronschinske, M. R., & Walker, M. (2011). Perceived Organizational Motives and Consumer Responses to Proactive and Reactive CSR. *Journal of Business Ethics*, *102*(4), 639–652. https://doi.org/10.1007/s10551-011-0834-9

Habel, J., Schons, L. M., Alavi, S., & Wieseke, J. (2016). Warm glow or extra charge? The ambivalent effect of corporate social responsibility activities on customers' perceived price fairness. *Journal of Marketing*, *80*(1), 84–105. https://doi.org/10.1509/jm.14.0389

Handa, Ms Priya, Mamata Mahapatra, and Anubhuti Yadav. (2018). *Brand Communication through Facebook Altering Consumer Psychology*. Vol. 7.

Hansen, U., & Schrader, U. (1997). A modern model of consumption for a sustainable society. *Journal of Consumer Policy*, *20*(4). https://doi.org/10.1023/A:1006842517219

Hartmann, P., & Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research*, *65*(9), 1254–1263. https://doi.org/10.1016/j.jbusres.2011.11.001

Hatch, M. J., & Schultz, M. (2008). *Taking Brand Initiative: How Companies Can Align Strategy, Culture, and Identity Through Corporate Branding*. Wiley.

Ho, C. (2017). Does Practicing CSR Makes Consumers Like Your Shop More ? Consumer-Retailer Love Mediates CSR and Behavioral Intentions. https://doi.org/10.3390/ijerph14121558

Hoeffler, S., & Keller, K. L. (2002). Building Brand Equity Through Corporate Societal Marketing. *Journal of Public Policy & Marketing*, *21*(1), 78–89. https://doi.org/10.1509/jppm.21.1.78.17600

Hsu, K.-T. (2012). The Advertising Effects of Corporate Social Responsibility on Corporate Reputation and Brand Equity: Evidence from the Life Insurance Industry in Taiwan. *Journal of Business Ethics*, *109*(2), 189–201. https://doi.org/10.1007/s10551-011-1118-0

Hustvedt, G., & Bernard, J. C. (2010). Effects of social responsibility labelling and brand on willingness to pay for apparel. *International Journal of Consumer Studies*, *34*(6), 619–626. https://doi.org/10.1111/j.1470-6431.2010.00870.x

Isaksson, L., Kiessling, T., & Harvey, M. (2014). Corporate social responsibility: Why bother?. Organizational Dynamics, 4364-72. doi:10.1016/j.orgdyn.2013.10.008

Kim, G. (2015). Consumer inferences of corporate social responsibility (CSR) claims on packaged foods. *Open Access Theses.*, *83*, 186–201. https://doi.org/10.1016/j.jbusres.2017.10.046

Kim, H. S., & Hall, M. L. (2015). Green brand strategies in the fashion industry: Leveraging connections of the consumer, brand, and environmental sustainability. In *Sustainable Fashion Supply Chain Management: From Sourcing to Retailing* (pp. 31–45). Springer International Publishing. https://doi.org/10.1007/978-3-319-12703-3_2

Koschate-Fischer, N., Stefan, I. V, & Hoyer, W. D. (2012). Willingness to Pay for Cause-Related Marketing: The Impact of Donation Amount and Moderating Effects. *Journal of Marketing Research*, *49*(6), 910–927. https://doi.org/10.1509/jmr.10.0511

Krstic, M., & Mihajlov, K. D. (2020). The role of the government in the promotion of corporate social responsibility. *Economic Horizons*, *22*(2), 161–173. https://doi.org/10.5937/ekonhor2002173k

Kuokkanen, H., & Sun, W. (2014). Social Desirability and Cynicism : Bridging the Attitude-Behavior Gap in CSR Surveys, (2012), 1–24.

Lii, Yuan-Shuh. (2011). "The Effect of Corporate Social Responsibility (CSR) Initiatives on Consumers' Identification with Companies." *African Journal of Business Management* 5(5):1642–49. doi: 10.5897/AJBM10.508.

Lii, Yuan Shuh, and Monle Lee. (2012). "Doing Right Leads to Doing Well: When the Type of CSR and Reputation Interact to Affect Consumer Evaluations of the Firm." *Journal of Business Ethics* 105(1):69–81. doi: 10.1007/s10551-011-0948-0.

Mahrinasari, M. S. (2019). Determinants of brand equity: Communication of corporate social responsibility (CSR) versus csr itself and company credibility. *Contemporary Economics*, *13*(3), 317–334. https://doi.org/10.5709/ce.1897-9254.316

Maignan, Isabelle, and O. C. Ferrell. (2003). "Nature of Corporate Responsibilities Perspectives from American , French , and German Consumers." 56:55–67.

Mohamed, A. A., Gardner, W. L., & Paolillo, J. G. P. (1999). A taxonomy of organizational impression management tactics. Advances in Competitiveness Research, 7(1), 108–130

Mohr, Lois a. (2001). "Do Consumers Expect Companies to Be Socially Responsible.Pdf." *The Journal of Consumer Affairs* 35(1):45–72. doi: 10.1111/j.1745-6606.2001.tb00102.x.

Mohr, L. A., & Webb, D. J. (2005). The effects of corporate social responsibility and price on consumer responses. *Journal of Consumer Affairs*, *39*(1), 121–147. https://doi.org/10.1111/j.1745-6606.2005.00006.x

Mohr, L. A., Webb, D. J., & Harris, K. E. (2001). Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior. *Journal of Consumer Affairs*, *35*(1). https://doi.org/10.1111/j.1745-6606.2001.tb00102.x

Moreno, Angeles, and Paul Capriotti. (2009). "Communicating CSR, Citizenship and Sustainability on the Web." *Journal of Communication Management* 13(2):157–75. doi: 10.1108/13632540910951768.

Morsing, Mette, Majken Schultz, and Kasper Ulf Nielsen. (2008). "The 'Catch 22' of Communicating CSR: Findings from a Danish Study." *Journal of Marketing Communications*. doi: 10.1080/13527260701856608.

Narayanan, S., Das, J. R., & Panigrahi, R. R. (2020). Effect of Corporate Social Responsibility on Consumers' Willingness to Pay-A Conceptual Review. *International Journal of Advanced Science and Technology*, *29*(11s), 2327–2337. http://sersc.org/journals/index.php/IJAST/article/view/22650

Nassivera, F., Troiano, S., Marangon, F., Sillani, S., & Nencheva, I. M. (2017). Willingness to pay for organic cotton: consumer responsiveness to a corporate social responsibility initiative. *British Food Journal*. https://doi.org/https://doi.org/10.1108/BFJ-12-2016-0583

Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived Greenwashing: The Interactive Effects of Green Advertising and Corporate Environmental Performance on Consumer Reactions. *Journal of Business Ethics*, *125*(4), 693–707. https://doi.org/10.1007/s10551-013-1944-3

Palihawadana, D., Oghazi, P., & Liu, Y. (2016). - Effects of ethical ideologies and perceptions of CSR on consumer behavior. *Journal of Business Research*, *69*(11), 4964–4969. https://doi.org/10.1016/j.jbusres.2016.04.060

Pappu, R., Quester, P. G., & Cooksey, R. W. (2006). Consumer-based brand equity and country-of-origin relationships: Some empirical evidence. *European Journal of Marketing*, *40*(5–6), 696–717. https://doi.org/10.1108/03090560610657903

Park, Hyojung, and Soo Yeon Kim. (2015). "A Moderated Mediation Model of Corporate Social Responsibility." *Journal of Communication Management*. doi: 10.1108/JCOM-09-2013-0067.

Parker, B. T. (2009). A comparison of brand personality and brand user-imagery congruence. *Journal of Consumer Marketing*, *26*(3), 175–184. https://doi.org/10.1108/07363760910954118

Perks, Keith J., Francisca Farache, Paurav Shukla, and Aidan Berry. (2013). "Communicating Responsibility-Practicing Irresponsibility in CSR Advertisements." *Journal of Business Research* 66(10):1881–88. doi: 10.1016/j.jbusres.2013.02.009.

Pomering, Alan, and Lester W. Johnson. (2009). "Advertising Corporate Social Responsibility Initiatives to Communicate Corporate Image: Inhibiting Scepticism to Enhance Persuasion." *Corporate Communications* 14(4):420–39. doi: 10.1108/13563280910998763.

Pradhan, S. (2018), "Role of CSR in the consumer decision making process – The case of India", Social Responsibility Journal, Vol. 14 No. 1, pp. 138-158. https://doi.org/10.1108/SRJ-06-2016-0109

Praxis. (2017). "Status of Corporate Responsibility in India , 2017." 43.

PWC CII Report. (2015). "Handbook on Corporate Social Responsibility in India." 2(2):455–64. doi: 10.1017/CBO9781107415324.004.

Rahman, F. (2013). Effect of Firm Scale and CSR Scope on Consumer Attitudes and Intentions by Fathony Rahman A dissertation submitted to the faculty of Wilmington University in partial fulfillment of the requirements for the degree of Doctor of Business Administration Wilmi. *Doctoral Thesis*, (December).

Ramesh, K., Saha, R., Goswami, S., Sekar, & Dahiya, R. (2019). Consumer's response to CSR activities: Mediating role of brand image and brand attitude. *Corporate Social Responsibility and Environmental Management*, *26*(2), 377–387. https://doi.org/10.1002/csr.1689

Reisch, L. A., & Thøgersen, J. (2015). Handbook of research on sustainable consumption. In *Handbook of Research on Sustainable Consumption*. https://doi.org/10.4337/9781783471270

Rossiter, John, Steven Bellman, Robert East, Suzanne C. Beckmann, Session Major, Marketing Traditions, Ian F. Wilkinson, David M. Gray, Stephen L. Vargo, Kristian Möller, Brendan J. Gray, Sheelagh Matear, Kenneth R. Deans, Heidi Winklhofer, Roger a Palmer, Roderick J. Brodie, and Richard W. Brookes. (2007). "Normative to Normatively Positive." *Australasian Marketing Journal* 15(1):109–11.

Schaeffer, L. (2019). *Consumers Expect the Brands they Support to be Socially Responsible*. Business Wire. https://www.businesswire.com/news/home/20191002005697/en/Consumers-Expect-the-Brands-they-Support-to-be-Socially-Responsible

Schlegelmilch, B. B., & Pollach, I. (2005). The perils and opportunities of communicating corporate ethics. Journal of Marketing Management, 21(3–4), 267–290.

Schmeltz, L. (2012). Consumer-oriented CSR communication: Focusing on ability or morality? *Corporate Communications*, *17*(1), 29–49. https://doi.org/10.1108/13563281211196344

Schrempf-Stirling, Judith. (2018). "State Power: Rethinking the Role of the State in Political Corporate Social Responsibility." *Journal of Business Ethics* 150(1). doi: 10.1007/s10551-016-3198-3.

Schultz, M., Yun, M. A., & Csaba, F. F. (2005). *Corporate Branding: Purpose/people/process : Towards the Second Wave of Corporate Branding*. Copenhagen Business School Press DK.

Sen, S., Bhattacharya, C.B. & Korschun (2006). The role of corporate social responsibility in strengthening multiple stakeholder relationships: A field experiment. Journal of the Academy of Marketing Science, 34(2), 158-66. doi: 10.1177/0092070305284978

Silva, A. R. de A., Bioto, A. S., Efraim, P., & Queiroz, G. de C. (2017). Impact of sustainability labelling in the perception of sensory quality and purchase intention of chocolate consumers. *Journal of Cleaner Production*, *141*, 11–21.

https://doi.org/10.1016/j.jclepro.2016.09.024

Sims, R. R. (2003). *Ethics and Corporate Social Responsibility: Why Giants Fall*. Greenwood Publishing Group.

Smith, H. J. (2003). The shareholders vs. stakeholders debate. *MIT Sloan Management Review*, *44*(4), 85–90.

Staudt, S., Shao, C. Y., Dubinsky, A. J., & Wilson, P. H. (2014). Corporate Social Responsibility, Perceived Customer Value , and Customer- Based Brand Equity : A Cross-National Comparison. *Journal of Strategic Innovation and Sustainability*, *10*(1), 65–87.

Teyssier, S., Fabrice, E., & Combris, P. (2012). Social- and Self-Image Concerns in Fair-Trade Consumption : Evidence from Experimental Auctions for Chocolate. *Paris-Jourdan Sciences Economiques*, *33*(0), 0–39.

Torres, A., Bijmolt, T. H. A., Tribo, J. A., & Verhoef, P. (2012). Generating global brand equity through corporate social responsibility to key stakeholders. *International Journal of Research in Marketing*, *29*(1), 13–24. https://doi.org/10.1016/j.ijresmar.2011.10.002

Turker, D. (2009). Measuring corporate social responsibility: A scale development study. *Journal of Business Ethics*, *85*(4), 411–427. https://doi.org/10.1007/s10551-008-9780-6

Vahdati, H., Mousavi, N., & Tajik, Z. M. (2015). The Study of Consumer Perception on Corporate Social Responsibility towards Consumers Attitude and Purchase Behavior. *Asian Economic and Financial Review*, *5*(5), 831–845. https://doi.org/10.18488/journal.aefr/2015.5.5/102.5.831.845

Vitell, S. J. (2014). A Case for Consumer Social Responsibility (CnSR): Including a Selected Review of Consumer Ethics / Social Responsibility, (2012). https://doi.org/10.1007/s10551-014-2110-2

Votaw, D. (1972). Genius Becomes Rare: A Comment on the Doctrine of Social Responsibility Pt. I. *California Management Review*, *15*(2), 25–31. https://doi.org/10.2307/41164415

Wang, L., Weng Wong, P. P., & Elangkovan, N. A. (2019). The Influence of Religiosity on Consumer's Green Purchase Intention Towards Green Hotel Selection in China. *Journal of China Tourism Research*, *16*(3), 319–345. https://doi.org/10.1080/19388160.2019.1637318

Webb, D.J. and Mohr, L.A. (1998). A typology of consumer responses to cause-related marketing: from skeptics to socially concerned. Journal of Public Policy and Marketing, 17, pp. 226–238.

Webb, D. J., Green, C. L., & Brashear, T. G. (2000). Development and Validation of Scales to Measure Attitudes Influencing Monetary Donations to Charitable Organizations. *Journal of the Academy of Marketing Science*, *28*(2), 299–309. https://doi.org/10.1177/0092070300282010

Wu, Shwu-Ing, and Jui-Ho Chen. (2015). "The Influence of CSR on Brand Relevant Aspects." *Journal of Management and Sustainability* 5(3):17–30. doi: 10.5539/jms.v5n3p17.

Yuan, Wenlong, Yongjian Bao, and Alain Verbeke. (2011). "Integrating CSR *Initiatives* in Business: An Organizing Framework." *Journal of Business Ethics* 101(1):75–92. doi: 10.1007/s10551-010-0710-z.

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CREATION AND CONSUMPTION OF CULTURAL ARTEFACTS IN THE AGE OF "INSTA-CULTURE"

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ABSTRACT

Cultural production is the process of creating artefact, and in this context, we mean media that represent our society. In the current scenario, under the profound influence of 'convergence culture' and 'user-generated content', the creation and consumption of various media products such as photographs, music, films are undergoing rapid changes. The 'media consumption practices' are getting redefined with the profound influence of corporate cultural products. These cultural products remain dependent on new media practices that are driven under the deep-rooted practices of sociality, cultural performances and identity constructions. With the expansion of digital spaces, the socio-cultural structures are not remaining insulated from the heartfelt influence of technical network structure. These spaces are enabling a new mode of convergence which has a characteristic of 'integrated sociality'. This paper is an attempt to theorize the changing landscape of Northeast India via Instagram's medium and to display the world what North-East is. For this study, the researcher had randomly selected Instagram accounts and segmented it into different categories related to scenic locations, traditional practices, food habits, music, textiles and apparels and the fashion statements from the region.

Keywords: Instagram, Convergence Culture, Digi-Driven Society, Integrated Sociality, North-East

INTRODUCTION

"Cultural production" is an evolving and dynamic process that creates multiple artefacts. Under this evolutionary process media holds a significant position. To understand media with socio-cultural ventricle it's not only a system of technologies rather it's a techno-social systems. This system allows information and communication technologies to create culture that are more democratized and convergent in nature. This form of 'Digi-Driven' society is highly influenced by computerization. As Manovich (2001: 19) states: "Today we are in the middle of a new media revolution - the shift of all culture to computer-mediated forms of production, distribution, and communication." This culture has been enumerated by different scholars in multiple manners. Levy (2001) labelled it as 'cyber-culture', 'interface culture' by Johnson (1997), Castells (2001) referred it as 'Internet Culture' and 'information culture' by Manovich (2001). According to Ross (1991), the advancement of technology has given birth to a new culture which is refereed as digital culture and this culture involves circuit of cultural practices associated with advanced technology.

Under this new media revolution the cultural production which took place is participatory in nature and often involves '*users, audiences, consumers, and followers'* in the creation of culture and content. The contents which are being created have core association of preservation, propagation and retention elements. Under this landscape of new media revolution the social media has extended its footprint across the multiple corridors of socio-cultural ecosystem. According to Mathew Allen (2012) and Trebor Scholz (2008) the roots of social media applications can be traced back to years earlier than 2005. From the period of1990s the blogs were already around. In 1994 the first wiki technology was suggested by Ward Cunningham and it was released in 1995. Early social networking sites such as

Classmates and Six degrees mark their advent in year 1995 and 1997. The newer versions of social networking sites claim to be new but on other hand it had maintained the easy transition and the continuity.

Allen and Scholz, argue that the technologies that are associated with social media and web 2.0 are not new. During the period of 1990s these technologies were not popular in mass manner however with passing time things become popular. Subsequently in twenty-first century there has been a shift from HTML-based linking practices of open web source to the platform of liking and recommendations of close systems. This Web 2.0 platform propelled various social networking websites such as Facebook, Instagram, and Twitter etc. in publishing and producing content in multiple forms be it text, videos and images. For this study the researcher has taken select sample from the popular social networking site Instagram. It has become a major dais to decipher artifacts such as images and the videos. Instagram has marked it advent on 2010; during that period it had about 30 million user bases. However with the passage of time it has grown up and currently it holds active users strength of more than a billion. On 2012 popular social networking site Facebook bought Instagram for $1 billion. The popularity of Instagram can be enumerated from its log in ratio. Over 60% of the users log in daily making it one the second most engaged social media spaces after Facebook. On an average day about 80 million photos are shared.

Communication and Cultural spaces in *DIGI-Driven* Corridors

Edward Burnett Tylor (1871) defines culture as a complex process which includes *knowledge, belief, art, morals and other capabilities* acquired by man as a member of society. Culture and communication is an intermingling aspect that defines culture as a communication process and communication as a cultural process. Orientations towards culture have impacts on the users' choices on social networking platforms. The influence of new media on the society can be illustrated in terms of cognition, social effect and a form of aesthetics. This new media engineered in such a way that controls the principle of human society on the line of culture, politics, economy etc. According to Chen and Zhang (2010) new media has key characteristics *of digitality, interactivity, convergence, hyper textuality and virtuality*. Each and every characteristic have their unique feature in formulating users' production and consumption choices in digital spaces. The convergence characteristic of new media defines as the way new media converges with various forms and functions of media and electronic communication. Interactivity as a characteristic defines the relationship between users and web system in terms of sharing of information. The hyper textuality helps in free flowing of large quantity of information freely and in an interconnected manner. This medium allows people to stay in touch and connected despite the cultural differences, boundaries and the distance. As stated by Chen (2008) social media such as Facebook, YouTube, Twitter and Instagram have allowed people from every single place of the world to represent themselves in their significant ways and stay touched in technological world.

From various studies it has been found that social media has a deep impact on the cultural adoption process. According to Elola & Oskoz (2009), the use of social media especially Blogging and Vlogging can have positive impacts on the intercultural relationship and also improve the degree of participant's intercultural communication competence. The social media also helps in building multicultural relationships. According to Seyfi & Guven (2016), social media plays a significant sector in building new forms of multicultural interactions apart from being regarded as an important tool in the sharing of messages. The DIGI-Driven corridors are enabling Digital Culture which is associated with the people's interaction on the corridors of beliefs, knowledge and people's participation on digital networks. This digital network creates new strain of cultural thoughts that has the key characteristics of opinion driver, key influencer and propagator. The internet has deeper association with cultural artefacts as 'cultural-products' can be reshaped into digital binaries and bit layouts which could be resembled at end user's computer, tablet and other mobile devices. This primarily happened with text and photographs and with the advancement of networked technology and bandwidth speeds it got expanded to the frontiers of music, animation, and film.

Emerging model of Social Media Communication

Social media in current scenario has some constitutive features in modern society. This feature works in an integrated manner such as integrated sociality, integrated roles and converging communication platform on social media (Fuchs, 2017).

According to '*integrated sociality*', social media has three modes of '*sociality cognition, communication and cooperation*'. An individual by applying his/her own cognition creates multimedia content on various social networking websites. The publishing helps them in communicating with larger audiences and creating content involving multiple authors. Advancement in the digital technology helped in intertwining the edges of 'cognition, communication and cooperation' in one space.

While outlining the characteristic of social media the "integrated roles" is an important feature. In contemporary society there are different social roles which tend to converge in various social spaces. The edges between public life and private life are becoming blurred. Habermas (1984, 1987) identified systems (the economy, the state) and the life-world as central realms of modern society. This life-world can be further distinguished into culture and civil society. We act in different social roles such as employees and consumers in the economic systems, as citizens and clients in state system and activists in the socio-economic sphere. This form of "liquid sociality" allows users to partly act in different social roles in same social space. It means that social media are social spaces under which the social roles tend to converge and become integrated in single profile base.

The communication process on social media spaces in modern society works on structural level and these structural levels are 'state, economy, civil sphere and cultural spaces'. This structure is interrelated and acts as the multitude of processes. These processes allow myriad possible social purposes which are transcending in nature. An individual citizen can use it for communication with other citizens in the context of any number of social roles.

The academic engagement offers an understanding of the changing and evolving spaces associated with 'Digital Culture' specifically within the corridors of Instagram that promotes the "culture of visuality". The digital culture with the intertwinement of visuality focuses on the production and reception of cultural artefacts in divergent forms. These forms are associated with the platform, which is not restrictive to any physical boundary.

This study has attempted to gaze into cultural practices specifically revolving around food, music, apparels, costume, scenic locations associated with the North-Eastern region. These cultural products in the age of 'convergence culture' offer media practices deeply associated with cultural performances and identity construction activities in the region that constitutes a plethora of community divergence. The study has also marked an entry-point towards web-space influence on the cultural production activities, conditioned by emerging trends that community and individual choose according to the technological affordances. According to Castell (1996), changes in human societies' organization rendered cultural effects that promote broader room for fluidity and features associated with an individual's identity enhancement towards cultural appetite. This cultural appetite in this age of 'convergence culture is closely interlinked with artistic democratization and challenges familiar aesthetic conventions.

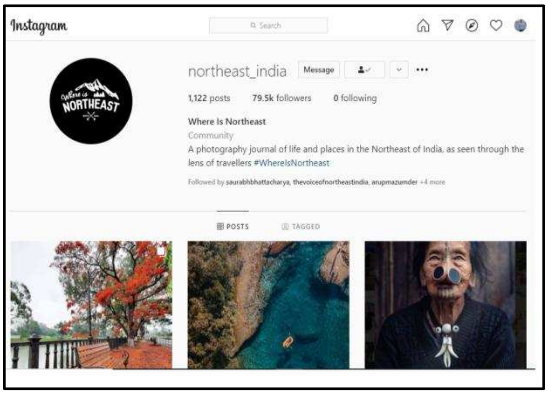
The engagement also offers anecdote towards the role of 'Insta-Culture' in popularizing distinctive forms of cultural artefacts specifically from this region for a broader audience. The newer frontiers of convergent technology compress time and space and offer interactive room for citizens across the physical boundaries and associate with multi-cultural spaces. The communication and interaction in such platform also influence the process of 'intercultural adoption'.

Instagram and its rationality for this Study

Instagram, has become one of the most resorted channels that embrace the "culture of visuality" and gained enough momentum due to the filters that create a nostalgic experience. This medium has key characteristics of opinion generation and act as the key influencer in '*psycho spaces*'. While synthesizing the process of cultural production within *DIGI-Driven* corridor, the *Instagram* is a unique site for observation and has key characteristic of Convergence. Convergence has three important elements *(preservation, propagation and retention*) which act significantly in Digital and Cultural Spaces. The process of Instagramisation is changing the way we ponder into the cultural spaces**.**

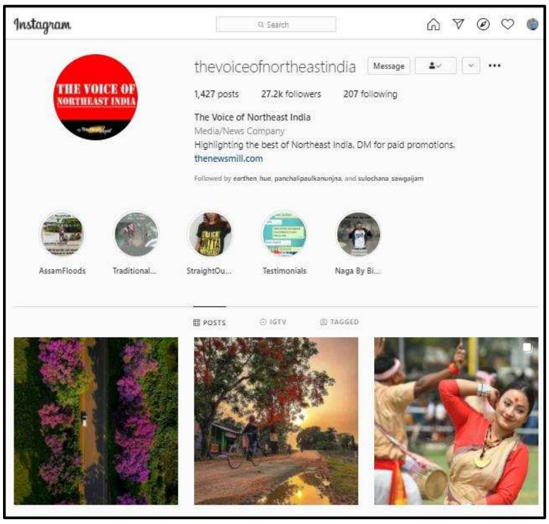
One of the major arguments associated with the selection of Instagram for this study is to assess the role it plays in formulating the newer space for multicultural interactions among divergent communities residing in the region. Along with this it has become important to proliferate into the newer territories of "Instagramisation" and role it plays in digital cultural spaces.
From historical period the concept of North-East India has emerged in global sphere with vibrant cultural identities. The cultural heterogeneity has made its significant footprint on digital spaces also. Various social networking sites which work on *DIGI-Driven corridors* are allied with multiple artefacts in the form of texts, images and videos which represent scenic locations, traditional practices, food habits, music, textiles and apparels and the fashion statements.
For this study, the researcher had randomly selected Instagram handles and segmented it into different categories related to scenic locations, traditional practices, food habits, music, textiles and apparels and the fashion statements from North-East India. With the emergence of digital spaces the cultural production practices are gaining newer platform which are not restrictive to physical boundaries and not remained specific towards community.

Instagram handles:
a. northeast India
This handle is mainly associated with the photographs reflecting life and places in NE India. Till 23/05/2021 there were about 1,122 posts and it is followed by 79.5k followers. This handle covers the picturesque location from the region. Most of the feeds are regular in nature and covers green lakes, dense forests and the beautiful hills. This handle offers platform to visualize vibrant locations, traditional foods, indigenous costumes, architecture, and rural settlement from different parts of the region which offers the *Culture of Visuality* with a new height of vibrancy.



Source: https://www.instagram.com/northeast India/

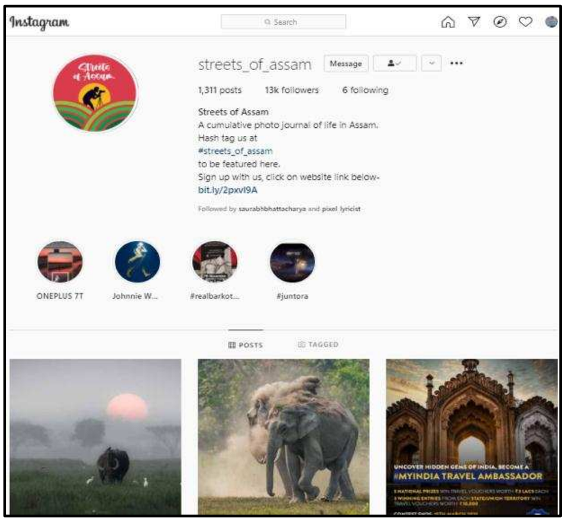
b. the voice of north east India
This platform has 27.2k followers and mainly promotes indigenous and traditional apparels and customs. The posts are regular in nature and till 23/05/2021 it has about 1,427 posts. The posts highlight achievements and offer updates on current affair events mainly from the region. This handle has multitudinal approach in offering information pertaining to different locations, traditions, costume, food and embroidery.



Source: https://www.instagram.com/thevoiceofnortheastindia/

c. streets_of_assam
This platform provides a glimpse of some of the undiscovered parts of Assam. There are about 13k followers and till 23/05/21 it has 1,311 posts. This Instagram handle is enabling young photographers to

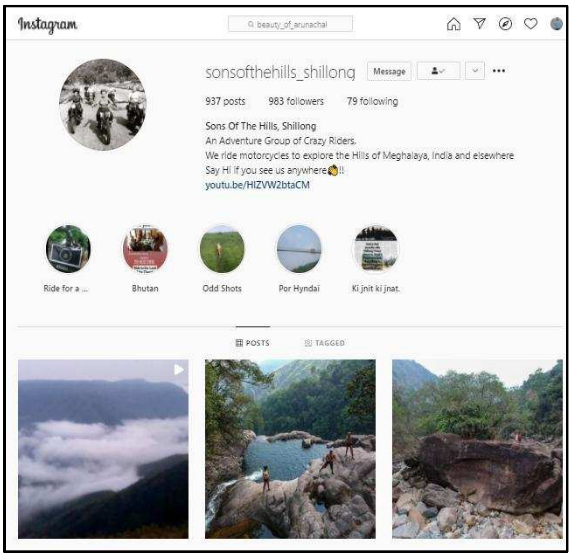
showcase their photographs and artistic creations for global audiences.



Source: https://www.instagram.com/streets_of_assam

d. sonsofthehills_shillong

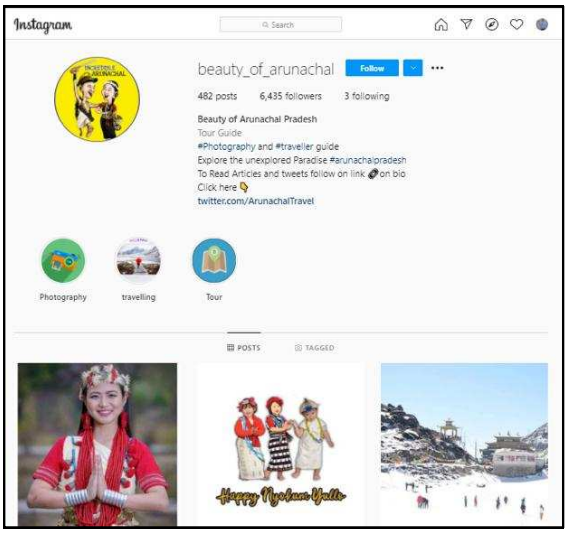
This Instagram handle is run by bikers group from Shillong, Meghalaya. They ride motor bicycles across the region. Most of their story of adventure and roam expressed through their Instagram feeds. This handle has 983 followers and about 937 posts till 23/05/2021



Source: https://www.instagram.com/sonsofthehills_shillong/

e. beauty_of_arunachal

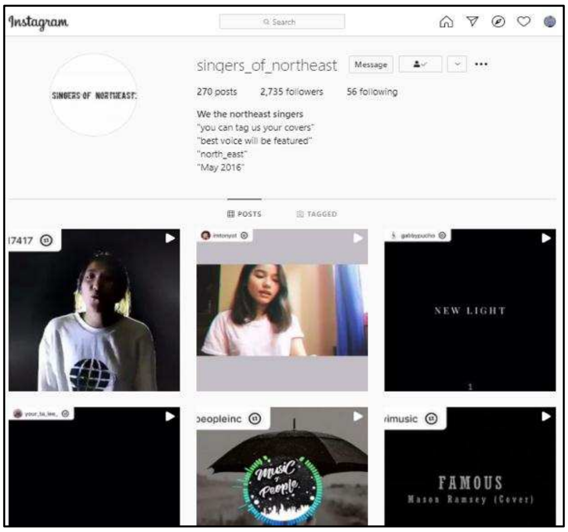
The beauty of Arunachal manifests the people, the hills and the monasteries from Arunachal Pradesh. This Instagram page has about 6,435 followers and the feeds are regular in nature. There were 482 posts till 23/05/21. Places such as Ziro, Mechuka and other scenic laden places are garlanded from this platform.



Source: https://www.instagram.com/beauty_of_arunachal/

f. singers_of_northeast

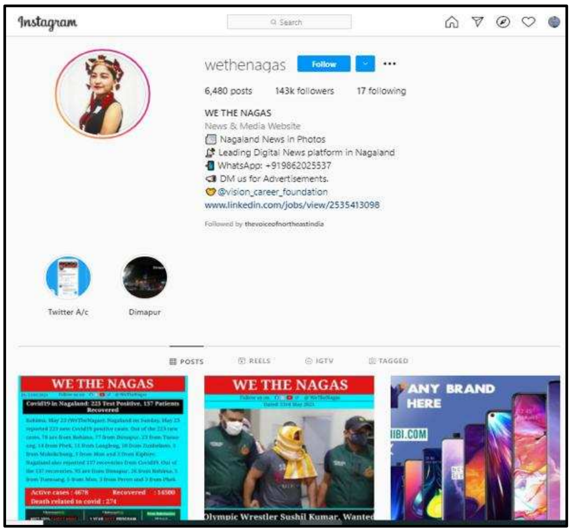
Music is one of the artefacts associated with cultural production process. North-East for its cultural vibrancy is also known for inexplicable love for the music. This handle has about 2,735 followers and they claim that best voice will get featured. However, the handle highlights them as the singers_of_northeast Most of the feeds are audio or video clips and has deep influence of western music and the instruments.



Source: https://www.instagram.com/singers_of_northeast/

g. wethenagas

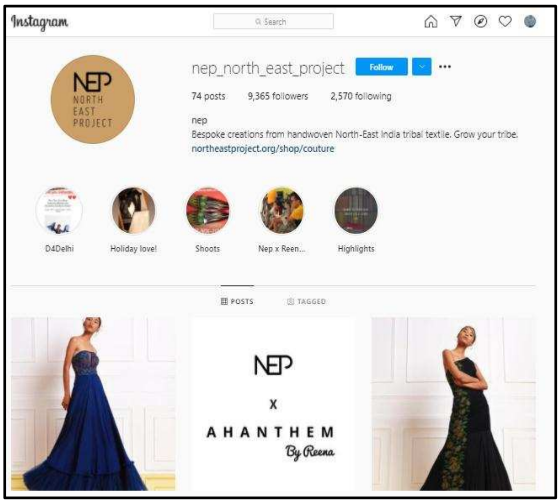
This handle is one of the most popular Instagram handle from the region. It has large follower base of about 143k followers. The feeds are very regular in nature and it has about 6480 posts. It provides a perfect platform to Naga Community to platter their issues ranging from political, art and culture and civic engagement for national and global audiences.



Source: https://www.instagram.com/wethenagas/

h. nep_north_east_project

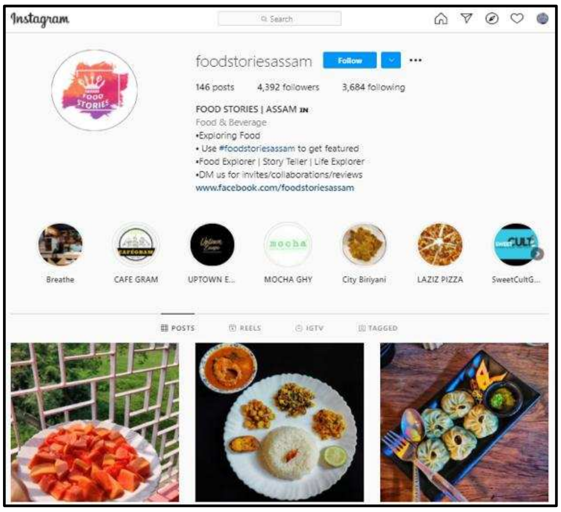
North East Project (nep) is an initiative for weavers from the region to showcase their artistic craftsmanship specifically related to the indigenous ethnic apparels. The apparels are associated with multiple tribal groups with a modern twist. This handle is followed by more than 9365 followers till 23/05/21. This platform has attained an important ground to address larger audiences across the nation and the globe.



Source: https://www.instagram.com/nep_north_east_project/

i. foodstoriesassam Instagram handle provides flavour full journey of North-East India's delicacy across social media users. It operates as an expression of cultural identity of people hailing from the region specifically revolving around their culinary choices. Apart from traditional food items from this region; this handle also showcases modern culinary choices popular across mass culture. To channelize its popularity among commercial pathways; this twitter handle has associated with popular food brands by endorsing their products in the platform. There are about 4,392 followers till 23/05/2021 and the number is mounting high.

The endorsement and publicity of commercial brands within its platform offers a significant observation that this hyper-local twitter handle is also acting as a popular platform for brand endorsement.



Source: https://www.instagram.com/foodstoriesassam/

CONCLUSION AND SCOPE FOR FUTURE ENGAGEMENT

The academic engagement offers an understanding of the changing and evolving spaces associated with 'Digital Culture' specifically within the corridors of Instagram that promotes the "culture of visuality". The digital culture with the intertwinement of visuality focuses on the production and reception of cultural artefacts in divergent forms. These forms are associated with the platform, which is not restrictive to any physical boundary.

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REFERENCES

Bourdieu, P. (1984). Distinction: A Social Critique of the Judgment of Taste. Cambridge, MA: Harvard University Press.

Castells, M. (1996). The Rise of the Network Society. London: Blackwell.

Castells, M (2001). *The Internet Galaxy.* London: Oxford University Press, Print.

Chen, G. M. and Zhang, K. (2010) "New Media and Cultural Identity in the Global Society." In R. Taiwo (Ed.), *Handbook of Research on Discourse Behavior and Digital Communication: Language Structures and Social Interaction*: 801-815.

Chen, G. M (2008). "The Impact of New Media on Intercultural Communication in Global Context." *China Media Research* 8: 1-10.

Debord, G. (1994) The Society of the Spectacle. Translated by Donald Nicholson-Smith. New York: Zone Books.

Elola, I., and Oskoz, A (2009). "Blogging: Fostering Intercultural Competence Development in Foreign Language and Study Abroad Contexts." *Foreign Language Annals 41*:

Fuchs, C (2017). *Social media: A critical introduction.* New Delhi: Sage Publications. Print. 454-477.

Habermas, J (1984). *Theory of communicative action (Vol.1).* Boston: Beacon Press, Print.

Habermas, J. (1987). *Theory of communicative action (Vol.2).* Boston: Beacon Press, Print.

Hochman, N., & Schwartz, R. (2012). Visualizing Instagram: Tracing Cultural Visual Rhythms. Proceedings of the International AAAI Conference on Web and Social Media, 6(1). Retrieved from https://ojs.aaai.org/index.php/ ICWSM/ article/view/14361

Johnson, S. (1997). *Interface culture.* New York: Perseus Books. 1997. Print.

Lévy, P. (2001). *Cyberculture.* Minneapolis: University of Minnesota Press, Print.

Mathew, A (2012). "What was web 2.0? Versions and the politics of Internet history." *New Media & Society* 15 (2):260-275.

Manovich, L. (2001). *The language of new media.* Cambridge: MIT Press, Print.

Manovich, L. (2019). The aesthetic society: Instagram as a life form. Data Publics, Routledge.

Quinn, M. (2006). *Ethics for Information age.* Boston, MA: Pearson.

Seyfi, M., and Guven, D. (2016) *Influence of New Media on Intercultural Communication: An Example of an Erasmus Student.* Print.

Scholz, T. (2008). Market Ideology and the Myths of Web 2.0. First Monday, 13(3). https://doi.org/10.5210/fm.v13i3.2138

Shirky, C. (2011). The political power of social media. *Foreign Affairs* 90 (1): 28-41.

Storey, J. (2014). *Cultural Theory and popular culture* (6th ed.) London: Routledge.

Tylor, E. B. (1871) *Primitive Culture (Vol. 1).* Mineola, NY: Dover Publication. Print.

Ross, A. (1991). Strange Weather: Culture, Science and Technology in the Age of Limit, NY: Verso.

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MEASURING THE WALLS OF COMMUNICATION BARRIERS OF STUDENTS IN HIGHER EDUCATION DURING ONLINE CLASSES

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ABSTRACT

Purpose: The present research aims to evaluate the influence of online classes on higher education students' achievement and the communication barriers they encountered while attending the classes. The study's constructs were online learning vs. offline learning, communication barriers, and effective learning outcomes.

Design/ Methodology/Approach*:* The research study explores the relationship between the constructs through an exploratory descriptive research design. The present research study collected data through structured questionnaires using established scales. The data was collected through google form from UG and PG students. G* power was used to analyse the required sample size for the study. Data analysis was undertaken through SmartPLS software using SEM for analysing the structural model of the study and to test the hypothesis.

Findings: The study high though we live in the modern age and that our students are technologically advanced, but still learning online is daunting. Students have a high preference for offline classes than online classes. They were confronted with a variety of communication barriers (both verbal and nonverbal), including personal, physical, psychological, and emotional barriers. According to students, a teacher's physical presence is needed for a better understanding of the topics. It is unrealistic for them to absorb the entire syllabi of each subject in virtual mode, so they choose offline classes. Personal analytical abilities and speech skills, they believe, have also deteriorated in online classes.

Practical Implications: The findings suggested that more Faculty Learning programs should be initiated to up-skill educators, as well as, more hands-on training should be provided for new software. Students' feedback should be recorded on a daily basis to check the effectiveness of online classes, and an asynchronous and synchronous learning mechanism should be set up for two-way communication between the students and the teachers.

Originality Value: The research would undoubtedly assist in identifying the communication barriers that students face in online classes, as well as paving the way for new approaches to make online classes more effective for learning.

***Keywords*:** Online Classes, Offline Classes, Communication Barriers, Effective Learning, COVID-19.

INTRODUCTION

Communication is a basic requirement of life; we have been communicating ourselves since birth. Every individual communicates uniquely, and the addition of technology has made it much easier and more convenient. There are unique barriers that hinder people's ability to articulate themselves. The primary aim of this research is to identify communication barriers in higher education students' online classes and to evaluate the effectiveness of online lectures on their learning outcomes.

The rise of online learning is not only fuelled by modern forms of communication, but the

Pandemic has also given students a compelling reason to do so. Covid-19 has made a significant shift in the style of teaching and learning.

Before Covid-19, though we had an online class system, but it was more limited to distant online courses or MOOCs like SWAYAM, COURSERA, and others. During the pandemic, when it was mandatory for students to attend online classes, it was found that students were not deeply interested in them. Even those who are more interested in physical classes did not seem to be as involved and active in the online class mode. This research aims to identify the roadblocks that discourage students from attending lectures. This study aims to know about students' perceptions toward online classes and to evaluate their degree of tolerance of both online and offline modes.

Importance of the Problem and Rationale for the Study

The students taking online courses or taking online classes have risen exponentially and will continue to rise. This is attributable not only to the pandemic but also to the fact that students have a variety of online platforms to choose from for different classes. The government provides several E-learning platforms and resources, but as we look at student preferences or learning outcomes, we find that there are very different perspectives.
This research aims to learn about students' attitudes toward online classes, as well as the challenges they encounter, their expectations, and what new can be done in this field.

There is a limited amount of research that offers a comprehensive and scientific examination of the communication barriers that higher education students confront in online courses. This research aims to recognize the challenges that students face and their effectiveness as assessed by learning outcomes, as well as to make recommendations for enhancing the online learning environment.

LITERATURE REVIEW

(Monkhouse, 1992) research showed the perspectives of Chief Academic Officers in order to find answers to fundamental questions regarding Massive Open Online Courses (MOOCs). Academic leaders have voiced their concerns over the need for online students to be disciplined as well as lower retention rates, suggesting that online learning would not be sufficient for all students.

(Abu, Kiramat, & Xu, 2020) in their work "The effect of communication barriers on distance learners' achievements" has postulated that communication barriers such as social barriers, cultural barriers, temporal barriers, technological barriers, psychological barriers, contextual barriers, and collaborative barriers are the significant challenge in distance education, impacting the success and achievements of distance learners. Such problems also overlap and increase the complexity and anxiety of distance learners, impacting the success and achievements of distance learners.

(Aynur, Tülay, & Zülfiye, 2015) in their research on Communication Barriers in Online Teaching and Online Learning with Digital Media, in the Framework of Teaching and Learning Theory Approaches suggested that the conventional in-class teaching environment is favoured by learners because of the social nature of human beings and the traditional educational environment of learners. Teachers and other fellow learners are involved in this environment and face-to-face interaction can take place. It was observed that both learners and teachers seem to be in need of observing the gestures and behavior of the other. Moreover, for both teachers and learners, technological and cultural challenges are likely to remain troubling.

(Muilenburg & Berge, 2005) in their work on Student Barriers to Online Learning: A Factor Analytic Study, highlighted eight factors: (a) administrative problems, (b) social interaction, (c) academic skills, (d) technical skills, (e) motivation of learners, (f) study time and support, (g) internet costs and connectivity, and (h) technical issues. The most significant barrier to students studying online was the lack of social interaction, the findings were that social interaction is closely linked to satisfaction of online learning, online learning effectiveness, and the chances of attending another online class. It seems obvious, therefore, that enhancing social interaction in online learning will lead to a more successful and enjoyable learning experience that students would like to repeat.

(Abramenka, 2015) projected students concern over the barriers of online and hybrid environments. Engagement and cooperation, communication with the instructor and collaboration with peers, as well as confusing layout, were reported by them.

(Kaushal Kumar Bhagat, Leon Yufeng Wu, & Chun-Yen Chang ,2016) focussed that instructors have multiple roles, ranging from the delivery of meaningful learning to the students' active involvement. The social presence will help educational developers to maintain the standard of the online learning experience, student-centred course design is included in the educational design element, which would inspire students to engage in online learning environments

(Dabaj, 2011) highlighted that the communication barriers of distance learning are the physical distance between members, the challenges in coping with new media, time constraints and restrictions, prior experience of distance learning, incompetence of technical abilities, and the extent of interactivity level. Put all together, the method of successful distance education becomes almost difficult. In different organizations and with different delivery systems used, the levels of these barriers are different.

(Aytekin & Fahriye, 2005) suggested that communication barriers are exposed through the perspectives of both students and teachers at Eastern Mediterranean University (EMU) online programs and courses, based on the data obtained from qualitative and quantitative study methods technological, physical, semantic, psychological barriers are concerned with those barriers.

(Kebritchi, Lipschuetz, & Santiague, 2017) in their research identified three key categories of outcomes: problems relating to online learners, teachers, and the creation of content. The challenges faced by learners included the expectations, readiness, identity, and participation of learners in online courses. The challenges of teachers included changing faculty roles moving from face-to-face to online, time management, and methods of teaching. Content concerns included the role of teachers in the production of content, the incorporation of multimedia into content, the role of instructional strategies in the creation of content, and content development considerations. Higher education institutions need to provide professional development for instructors, training for learners, and technical assistance for curriculum development in order to overcome these issues in the area of online education.

(Khanna & Prasad, 2020) the study findings showed that most of the people faced internet challenges and did not have the knowledge to use and solve technology-related issues. "There is a propensity to exhibit overtrading by retail investors in the state of fear of no investment knowledge and lack of convenience due to news in smartphones," (Shiva, Narula, & Shahi, 2020) stated in their research. (Gilitwala & Nag, 2020) highlighted that users' confidence, perceived usefulness, confirmation, perceived risk, and satisfaction with the product or service all influenced their intention to use near field communication in the future.

(Marks, Sibley, & Arbaugh, 2005) in their study on "A Structural Equation Model of Predictors for Effective Online Learning" highlighted that the interaction between teacher and student is most important, doubling to that, the interaction between student and student; and also, some interaction between student and content is significantly linked to perceived learning.

CONCEPTUAL FRAMEWORK

Covid-19 and modern forms of communication have significantly changed the teaching and learning system, especially because of physical distancing, communication failure has been experienced by many of us. In many ways online teaching-learning is also covered under this. Expectations and understanding from teachers and students have increased in such pandemic and uncertainty. Threats related to the virus and the impact that the Covid-19 had on the human psychology increased the inconvenience on student and teacher. Keeping all these parameters, the proposed research framework has been conceptualized (figure 1). From the Students' point of view, constructs such as online learning over offline learning, barriers of communication and Effective learning outcome were considered.

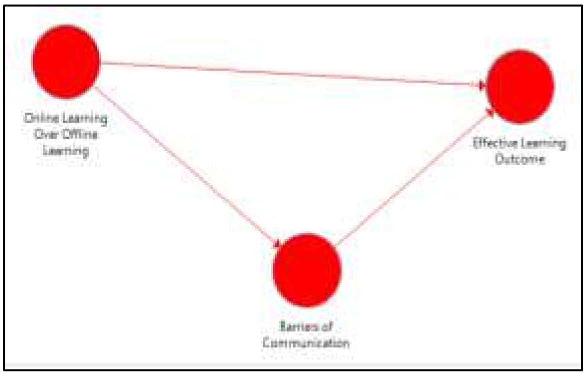

Figure 1: Conceptual Framework

RESEARCH HYPOTHESES

The following hypotheses were developed for this research work:

H1: There is no significant difference in online and offline learning for the students.

H2: There are no barriers of communication faced by instructors and students.

H3: The effective learning outcome is the same in both cases.

techniques of convenient sampling and snowball technique. The adequacy of the sample size was determined by G Power software 3.1.9.2. the G- power software estimates the required sample size for the study based on the number of predictors and the desired effect size and probability error. With two predictors the estimated sample size by the software was 262, as such sample size for the study is considered as adequate based on which further analysis can be undertaken. The data collected was analysed through Smart PLS SEM. The latest software is gaining a lot of popularity amongst researchers to the ease in analysis and the presentability of results.

DISCUSSION AND CONCLUSION

The demographic profile based on gender showed that 50.33% were male respondents (228 participants) followed by 49.67% female (225 participants). The demographic profile

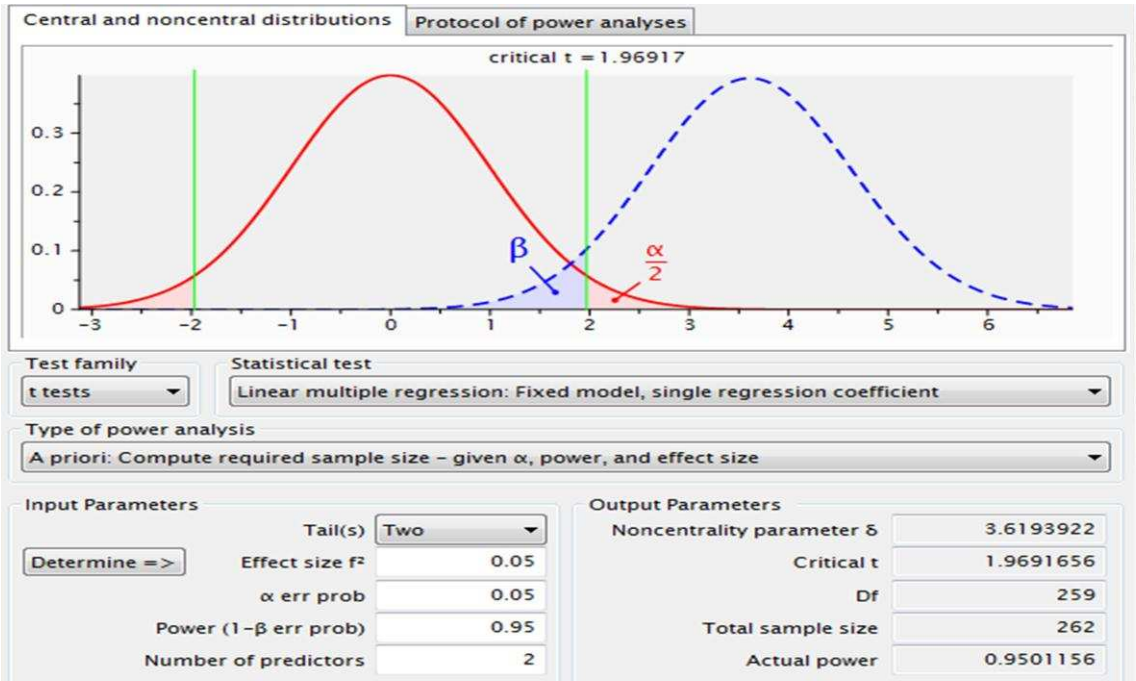

Figure2: G* Power Analysis

Source: Author's own calculations.

RESEARCH METHODOLOGY

The research study follows an exploratory descriptive research design. The universe of the study is Bhopal, Madhya Pradesh. The sampling units of the study are the students of UG and PG in Bhopal, Madhya Pradesh. For data collection, structured questionnaire using established scales were used. The data was collected through non-probability sampling

based on program showed that the highest educational level of respondents is bachelor degree (UG) with 95.81% (434 participants) followed by master's degree (PG) with 4.19% (19 participants). Of the 434 UG respondents 219 participants were male representing 50.46% and 215 respondents were female representing 49.54% of 434 UG participants. Of the 19 PG respondents 9 participants were male representing 47.37% and 10 participants were female representing 52.63% of 19 PG participants. Majority of the respondents were from UG I Year representing 41.50% (188 participants) followed by UG III Year 29.14% (132 participants), UG II Year 25.17% (114 participants), PG I semester 2.65% (12 participants) and only seven respondents were there from PG III semester representing 1.54% of the total 453 respondents.

Confirmatory Composite Analysis

The measurement model was analysed for the reliability of the constructs. For the purpose of the study Cronbach's Alpha with a threshold value of 0.7 was analysed. Composite reliability was also analysed with a threshold value of 0.7. Although a value of 0.5 is considered adequate for Average Variance Extracted (AVE), the value of AVE was more than 0.7 for all the three constructs (Table 2).

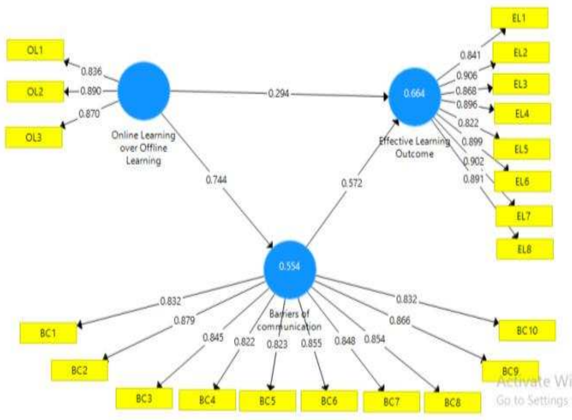

Figure -3: Measurement Model

Table 1: Summary Analysis of the Demographic Features Using Frequency, Percentage, and Cumulative Percentage

Demographic Factors	Frequency	Percent	Cumulative Percent
Gender			
Male	228	50.33	50.33
Female	225	49.67	100.00
Total	**453**	**100.00**	
Program			
UG	434	95.81	95.81
PG	19	4.19	100
Total	**453**	**100.00**	
UG Male	219	50.46	50.46
UG Female	215	49.54	100.00
UG Total	**434**	**100.00**	
PG Male	9	47.37	47.37
PG Female	10	52.63	100.00
PG Total	**19**	**100.00**	
Class			
UG I Year	188	41.50	41.50
UG II Year	114	25.17	66.67
UG III Year	132	29.14	95.81
PG I Semester	12	2.65	98.46
PG III Semester	7	1.54	100.00
Total	**453**	**100.00**	

The table above presents the results of the Cronbach Alpha, roh_A, Composite Reliability and Average Variance extracted. The data shows all the criteria for analysing the reliability of the constructs are met in the model.

Table 2: Results of Confirmatory Composite Analysis, Average Variance Extracted, and Construct Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Barriers of communication	**0.956**	**0.957**	**0.962**	**0.715**
Effective Learning Outcome	**0.958**	**0.959**	**0.964**	**0.772**
Online Learning over Offline Learning	**0.832**	**0.833**	**0.900**	**0.749**

Source: Authors own work.

DISCRIMINANT VALIDITY

To analyse that the variables under the study are truly different to each other discriminant validity was undertaken. Fornell-Larcker Criterion (1981) and HTMT criteria was applied to test discriminant validity. Fornell-Larcker Criterion is the traditional method based on the degree to shared variance that is there between the variables to evaluate the degree of shared variance that exists between the latent variables. Table 3 presents Fornell-Larcker Criterion results which indicate that the square root of average variance extracted is higher than crossed correlation constructs, thereby establishing discriminant validity of the constructs of the study. HTMT is latest method which has gained popularity amongst researchers to calculate discriminant validity of the constructs. SmartPLS SEM enables to analyse discriminant validity through HTMT. The threshold value for HTMT is suggested as 0.85 (Kline., 2011, Henseler et al., 2015) and 0.95 (Teo et al., 2008, Gold et al., 2001). The results of the analysis presented in Table 4 are as per the criteria suggested. The results again reaffirm the discriminant validity of the constructs through HTMT. Thus, results establish discriminant validity of the constructs and indicates that further analysis can be undertaken. Table 5 represents Model fit summary and indicates that the model is fit as SRMR is 0.051 which is less than 0.08 and NFI is 0.871 which is near to 0.90.

STRUCTURAL MODEL ASSESSMENT

Structural Model assessment for the study was done through bootstrapping process in PLS SEM. To analyse the predictive power of the model and to test the hypothesis 5000 bootstraps were employed through the bootstrapping process. The results of the analysis are presented in figure 4 and table number 6.

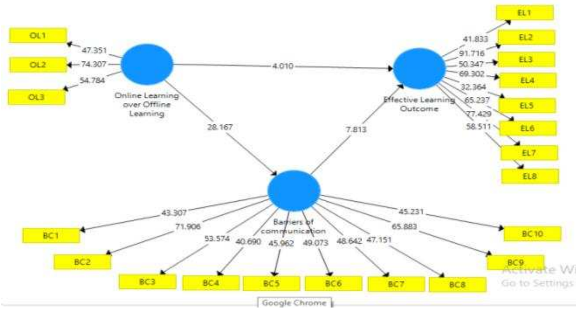

Figure 4: Structural Equation Model

Table 3: Discriminant Validity

Fornell-Larcker Criterion

	Barriers of communication	Effective Learning Outcome	Online Learning over Offline Learning
Barriers of communication	**0.846**		
Effective Learning Outcome	0.791	**0.879**	
Online Learning over Offline Learning	0.744	0.720	**0.866**

Source: Authors own work.

Table 4: HETEROTRAIT-MONOTRAIT RATIO (HTMT)

Heterotrait-Monotrait Ratio (HTMT)

	Barriers of communication	Effective Learning Outcome	Online Learning over Offline Learning
Barriers of communication			
Effective Learning Outcome	**0.822**		
Online Learning over Offline Learning	**0.830**	**0.803**	

Source: Authors own work.

Table-5

Model Fit Summary

	Saturated Model	Estimated Model
SRMR	0.051	0.051
d_ULS	0.606	0.606
d_G	0.503	0.503
Chi-Square	1281.149	1281.149
NFI	0.870	0.870

Source: Authors own work.

Table 6: Hypotheses Testing Results of the Structural Model

	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Barriers of communication -> Effective Learning Outcome	0.572	7.813	**0.000**
Online Learning over Offline Learning -> Barriers of communication	0.744	28.167	**0.000**
Online Learning over Offline Learning -> Effective Learning Outcome	0.294	4.010	**0.000**

TABLE 7: STANDARDIZED DIRECT, INDIRECT AND TOTAL EFFECTS OF VARIOUS CONSTRUCTS

Dependent Variables ↓		Independent Variables↓	
		Online Learning over Offline Learning	**Barriers of Communication**
Barriers of Communication	DE	0.744	-
	IE	-	-
	TE	**0.744**	**-**
Effective Learning Outcome	DE	0.294	-
	IE	0.426	-
	TE	**0.720**	**0.572**

Source: Author's own work.
Notes: DE: Direct Effects, IE: Indirect Effects, and TE: Total Effects

CONCLUSION

The barrier may occur at any stage during the communication process (Sending, Encoding, Transmission, Decoding, or Receiving). Since this research was undertaken during the COVID-19 time frame, when students were supposed to attend online classes, it revealed the different barriers to communication that they experienced. The research uncovered communication barriers among students who prefer offline classes to online classes.

PHYSICAL BARRIER- Face-to-face conversation aids in an excellent understanding of the topic. Students become more alert and active in class with the reflection of the teacher's body language and facial expressions. The physicality of an instructor, according to students, is essential for a better understanding of the subject. Due to the distance, students believe that responding to teachers through the use of the internet is not as quick as it is in person.

TECHNICAL BARRIER (NOISE) Technical barriers are generated by digital disruptions to Internet access, such as glitches or screen lag, visibility and audibility problems, a lack of technical expertise, inadequate preparation, and unfamiliarity with learning software's creates technical barriers.

TIMINGS Students have often expressed the opinion that online tutorials do not allow enough time for practical topics, which require a great deal of personal guidance and practice.

INFORMATION OVERLOAD Many of the respondents have seen this barrier because they have to attend lectures on different subjects three to four times a day for 45-55 minutes with a short break, which leaves them paralyzed due to the overload of learning.

FAULTY PLANNING Since each subject necessitates a different set of materials and teaching styles, some topics include handouts or worksheets, and others necessitate audio, video, or other activities, online classes fall short of meeting these requirements.

ENVIRONMENTAL SETTINGS

Surroundings are crucial because, in an online setting, each student is seated in a different physical environment, which can be peaceful or distracting. The traditional classroom setting provides all the students with a common physical environment, which not only helps them to concentrate on their studies but also motivates them to work together.

PERSONAL BARRIERS Students have claimed that taking online classes has raised their costs (internet data, smartphone, etc).

The use of a computer has weakened their eyesight, and the repetition of the same body postures for extended periods has resulted in mental health problems, sadness, and an indiscipline routine. Students complained about interruptions while studying at home and expressed dissatisfaction with the class size. Students believed that teachers lacked expertise in online learning tools for delivering classes, as well as class participation skills. Online learning is not tailored to the needs of students, there is a shortage of academic advisors due to the online system, and online course materials are not delivered on time. They also reported difficulty in contacting academic or administrative staff and online activities are difficult than offline activities

PSYCHOLOGICAL BARRIERS Students have shared feelings of unfairness, un-belongingness, and a lack of motivation, as well as the fact that classes are more difficult and less pleasant, and that it is better suited for active students rather than introverts. They also claimed that online classes necessitated the help of family and friends.

PERCEPTIONAL BARRIERS In online courses, the learning environment is demotivating, and personal analytical abilities, speaking skills, expression of thoughts, and confidence have all deteriorated. Online courses lack the opportunity to link academia and business, and practical principles are less clear. Online classes do not have much in the way of skills enhancement because they are dull. Overall, online classes do not have an appropriate learning environment.

RECOMMENDATIONS

To eliminate the problem of long physical distance, a personal touch should be present; for technological errors, good internet connectivity and equipment should be ensured to avoid lags and glitches. Institutes should provide instructors with faculty development programs and ready reckoners to ensure that classes run smoothly. Time management and scheduling can be conducted in such a way that practical or difficult subjects can be accommodated, and students can stay focused in class.

These barriers can be overcome by systematic planning for lectures, by preparing the study material that is rich in content, imaginative, and easy to understand, by communicating in a way that motivates responses and tries to get immediate feedback from students, and by developing the class in a more interactive way so that students can learn more effectively. Off-screen time should be provided, and some online physical activities or ice-breaking sessions should be added.

The class size should be structured in such a way that specific groups can be handled individually. For the timely availability of class counseling services and study materials, both asynchronous (educational video conferences, virtual webinars, chat-based online discussions) and synchronous (phone calls or video meetings) approaches should be used. To make the learning process easier for students and prevent misunderstanding, a unified LMS should be developed, and a common forum should be used by all faculty members. Students should be given the same amount of time to express themselves. Class schedules should not be irregular or inconvenient for students.

Students' presentations and class engagement activities should be made a prerequisite in all colleges. To avoid the issue of information overload and to facilitate effective listening, an online class should be a combination of both formal and informal interactions.

LIMITATIONS AND FURTHER STUDY

Since this research is limited to student's experiences, data from educators should be collected as well to learn about the challenges they face. Data from primary and secondary schools are not collected, limiting the scope of this report. The information for this study was gathered primarily from residents of Bhopal and the surrounding area, and it was limited to Madhya Pradesh. Furthermore, data was gathered using a Google Form and distributed to people who were either directly or indirectly acquainted with the researcher.

The study overlooked a broader segment of society, such as people from remote regions, people from other states in the country, and people from all over the world. Their online learning experiences would almost certainly have affected the findings of this report. Furthermore, the analysis avoids constructs that may have explained the relevance of the current study, suggesting the likelihood of conducting rigorous research on those

constructs in the future using cross-country longitudinal data.

References

Monkhouse, W. S. (1992). M.J.T. FitzGerald: Undergraduate Medical Anatomy Teaching: *Journal of Anatomy* (1992) 180, 203-209 [1]. *Journal of Anatomy*, 181, 177–177.

Abu , B., Kiramat , S., & Xu , Q. (2020). The Effect Of Communication Barriers On Distance Learners Achievements. Revista Argentina de Clínica Psicológica, 248-264. doi: 10.24205/03276716.2020.1027

Aynur , S., Tülay , A., & Zülfiye , A. (2015). Communication Barriers in Online Teaching and Online Learning with digital media, in the Framework of Teaching and Learning TheoryApproaches. International Conference on Communication, Media, Technology and Design (pp. 57-68). Dubai: XYZ.

Muilenburg, L., & Berge, Z. (2005, 05 01). Student Barriers to Online Learning: A FactorAnalytic Study. Distance Education-DISTANCE EDUC, 26(1), 29-48. doi:https://doi.org/10.1080/01587910500081269

Abramenka, V. (2015). *Students' Motivations and Barriers to Online Education*. *7*, 1–72. http://scholarworks.gvsu.edu/theses

Kaushal Kumar Bhagat, Leon Yufeng Wu, & Chun-Yen Chang. (2016). Development and Validation of the Perception of Students Towards Online Learning (POSTOL). Journal of Educational Technology & Society, 19(1), 350-359. Retrieved February 10, 2021, from http://www.jstor.org/stable/jeductechsoci.19.1.350

Dabaj, F., & Yetkin, A. (2020). Analysis of Communication Barriers to Distance Education: A Review Study. *Online Journal of Communication and Media Technologies*, *1*(1), 1–15. https://doi.org/10.29333/ojcmt/2328

Aytekin, I., & Fahriye, A. (2005, 10 1). Communication Barriers: A Study of Eastern Mediterranean University Students' and Teachers' of Online Program and Courses. *Turkish Online Journal of Distance Education*, 6, 1111.

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017, 09 01). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. *Journal of Educational Technology Systems*, 46(1), 4-29. doi:https://www.researchgate.net/deref/http%3A%2F%2Fdx.doi.org%2F10.1177%2F0047239516661713

Khanna, D., & Prasad, A. (2020). Problems Faced by Students and Teachers During Online Education Due to COVID-19 and How to Resolve Them. 2020 6th International Conference on Education and Technology (ICET) (pp. 32-35). Malang, Indonesia: IEEE. doi:https://doi.org/10.1109/ICET51153.2020.9276625

Shiva, Narula, & Shahi, (2020). What drives retail investors' investment decisions? Evidence from no mobile phone phobia (nomophobia) and investor fear of missing out (I – FOMO). *Journal of Content, Community & Communication, 11, pp.2-20.*

Gilitwala, B., & Nag, A. K. (2020). Impact Assessment of Factors Influencing User'S Continuance Intention To Use Near Field Communication (Nfc). *Journal of Content, Community and Communication*, *12*, 219–226. https://doi.org/10.31620/JCCC.12.20/20.

Marks, R., Sibley, S., & Arbaugh, J. (2005, 08 01). A Structural Equation Model of Predictors for Effective Online Learning. *Journal of Management Education*, 29(1), 531-563. doi:https://doi.org/10.1177%2F1052562904271199

Fornell , C. G., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobervable Variables and Measurement Errors. *Journal of Marketing Research , 18* (1), 39-50.

Kline, R. B. (2011). *Methodology in the Social Sciences: Principles and Practice of Structural Equation Modeling* (3rd ed.). Guilford Press.

Henseler , J., Ringle , C. M., & Sarstedt, M. (2015). A New Criterion for Assesing Discriminant Validity in Variance-Based Structural Equation Modeling. *Journal of Academy of Markeing Science , 43* (1), 115-135.

Teo, T., Lee, C. B., & Chai, C. S. (2008). Understanding Pre-Service Teacher's Computer Attitudes: Applying and Extending the Technology Acceptance Model (TAM). *Journal of Computer Assisted Learning , 24* (2), 128-143.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge Management: An Organizational Capabilities Perspective. *Journal of Management Information Systems , 18* (1), 185-214.

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SUCCESS FACTORS OF HOME-BASED DIGITAL ENTREPRENEURS : EMPIRICAL STUDY

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ABSTRACT

The pandemic made a great impact on our lives. It caused many business activities to shut down and their employees are forced to leave their jobs. As a result, people are looking for other sources to earn their livelihood. Businesses are also forced to transform their business into online. Social media networks such as Facebook, Instagram, WhatsApp have created tremendous opportunities to start a home-based business for these people. Despite having many negative ripples effects on global business due to pandemics, home-based digital businesses have been accelerated extremely. Hence, the study investigates the success factors of home-based digital businesses by applying social capital theory. A total of 222 home-based digital entrepreneurs who are marketing their products through Facebook and Instagram were taken part in the study. The study adopted a quantitative method and data analysed PLS method y using Adanco software. The findings showed that ethicality, human capital, and social capital, and innovation are the determinant of success factors of home-based businesses. The study contributed to the academic literature on home-based businesses and insights of the success factors of home-based entrepreneurs for people who intend to venture into home-based businesses using social media network platforms.

Keywords: Social media networks, Human Capital, Social Capital, Innovation, ethicality, success factors, home-based business, and digital entrepreneurs.

INTRODUCTION

Advanced digitation has created a new type of entrepreneur known as digital entrepreneurs who sells their products in the social medial networks and the digital platform, Lazada .com, eBay, and Lelong.com in Malaysia. Home-based digital entrepreneurs can be defined as any business operating from home and marketing their products and service through social media works or any other portal by themselves with or without employees (Ries,2011).

Fong et al., (2000) described that any business is carried out from home, regardless of size or any type of business. Roes, (2011) defined that digital Entrepreneurship as embracing "new ventures and the transformation of existing business by creating and using novel digital technologies. Digital Enterprises are characterized by a high intensity of utilization of new digital technologies (particularly social, mobile, analytics, and cloud solutions) to improve business operations, invent new (digital) business models, sharpen business intelligence, and engage with customers and stakeholders through new (digital) channels". In Malaysia, the business from home based refers to people who are self-employed by doing business and perform their business operations from home (Kementerian Pembangunan Wanita, Keluarga dan Masyarakat (KPWKM), 2007).

Social media networks offer a common platform for its members to communicate with one another, share their experiences and advertise their products. It also provides a low-cost and interactive; a platform that allows businesses to exchange information with their customers and members to share information among their friends. Home-based digital entrepreneurs, who operate their business from home, value the extremely low operating costs with limited resources. (Chetty and Wilson, 2003); Zhang et al., (2014) asserted that digital businesses provide novel value to their customers by lowering the cost of the product, rapid delivery, and increase socialization.

In Malaysia, young adults, single mothers, and homemakers are doing business through social media networks such as Facebook and Instagram. Digital News Asia (2020) reported that 40 percent of online businesses have been increased on social media networks especially Facebook and Instagram during covid-19 last year and 89 percent of the Malaysian population are using social media networks such as Facebook and Instagram. During this pandemic period, social media platforms become the centre of attraction of various businesses for marketing, such as promotions, market intelligence, and market communications. Many people were attracted to these offers and started home-based businesses with low capital. Thus, the home-based business has been increased to 40 percent last year 2020 during the lockdown. Previously, the Malaysian government also aimed to increase the income of B40 group of the population by 2020. To uplift these peoples' income, the government of Malaysia launched in 2015 Eusahawan program to empower youth to be digital entrepreneurs. RM100 million has allocated in 2018 budget for Eusahawan programmes to increase the number of digital entrepreneurs.

There are many studies conducted on larger organizations and SMEs to determine the success factors of their businesses. Although the home-based digital entrepreneurs contribute significant economic growth in the country, their contributions are not noticed. Despite businesses moving wildly into digitization, there are only 35 articles identified on this topic (Kraus et al., 2018). Hence, the research on digital entrepreneurship is still in its infancy stage especially on home-based digital entrepreneurs who actively use social media networks. However, in this pandemic period, many home-based digital entrepreneurs entered the business world and their success factors are unknown. So, there is a need to investigate to answer the question "what are the factors that drive to success for home-based digital entrepreneurs "?

LITERATURE REVIEW

This section presents the various literature reviews on the success factors of home-based digital entrepreneurs.

Human Capital

Human capital is defined as the skills and knowledge that individuals, family members, or their ancestors accumulate through training, formal education, and experience, which expedite them to improve their socio-economic well-being (Heckman 2000). The human capital factor refers to market knowledge and experience. It is a fundamental factor for digital entrepreneurs influencing success (Lerner & Almor 2002). Previous studies showed that there is a positive relationship between education and experience with the success of the business (Reid and Smith,2000; Brush & Hisrich,2002 and Singh & Vinnicombe,2003). Unger et al., (2011) and Ahmad (2007) asserted that entrepreneurs' knowledge and skills are the important factors that contribute to the performance of the organization. The human capital theory argues that employee performance and developing initiatives are mainly based on their training and experiences of entrepreneurs. Digital entrepreneurs sell their products on social media network platforms from home. Based on human capital theory, ICT skills, IT knowledge and various skill sets are very important for home-based digital entrepreneurs to sustain the business and market their products in the social media networks. Thus, it is essential to have education in ICT skills and knowledge on the internet to do business in social media networks. Sylvie Feindt et al., (2002) asserted that web businesses are required innovation, flexibility, and openness combined with a profound understanding of digital technology. Previous studies found that human capital is a vital resource to sustain the business and to identify opportunities (Nyberg and Wright, 2015). Therefore, the study includes human capital as a vital construct to achieve success in home-based digital businesses.

Social Capital

Last two decades the social capital plays an important role in the field of digital entrepreneurship. Social capital refers to direct and indirect networks, peers, family members of the entrepreneurs, and it is derived from people's network relations such as friends and colleagues (Wellman et al .,2001). Putnam (2000) stated that entrepreneurs make a business decision based on the information of competitors collected from social media network sites. Helliwell and Putnam (2004) asserted that social trust and reciprocity are two essential elements of social capital. Individuals interact with people whom they consider reliable and trustworthy in social media networks. Consequentially, when trustworthiness increases, the likelihood of increasing buying things, which they recommend also increases. Bennet & Richardson, (2005) were highlighted that networking is an important success factor of entrepreneurship. In this situation, social capital means communications among friends, colleagues, and Facebook members through whom the entrepreneurs receive opportunities to sell the products of their business in social media networks. Onyx and Bullen (2000) defined that social capital contains five main themes: networks, reciprocity, trust, shared norms, and social agency. Digital entrepreneurs used social media networks as a platform to market their products. Social capital is the most important resource for them to promote their products in the social media networks and it directly influences their business development. The combination of social capital through social media networks creates a favourable condition for information exchange and it disseminates new knowledge of the products among the customers. Social capital through social media networks is the most source of knowledge and it promotes innovation among digital entrepreneurs. Thus, Social media networks are associated with a lot of new opportunities for the home-based on digital entrepreneurs. Furthermore, previous studies supported that social capital enhances entrepreneurial success in the business (Yang & Hu, 2013; Chen & He, 2011). However, these studies were not focused on the relationship between social capital and home-based digital entrepreneurs. Therefore, the study includes social capital as a major factor that contributes to the success of the business.

Ethicality factors

Ethical factors focus on the reliability and trust of consumers towards digital entrepreneurs. Trust and reliability are the most important ethical factors of the entrepreneurs' success. Santos (2003) described reliability as the ability to perform the promised service consistently, including the frequency of updating the website, sending the products on time, and prompt reply to customer inquiries. The digital entrepreneurs also take responsibility for goods sent to the customer together with the return policy of the goods. Trust and reliability of the digital entrepreneurs influence the consumers to buy their products. Medlin and Green (2003) stated that small businesses are vulnerable to the practice of unethical behaviours because of their limited finances and size of the business. The dearth of general ethics among small business entrepreneurs affects business growth and customers' loyalty (Kalyar, Rafi & Kalyar, 2013). It is important to deliver the goods on time to the customers of the home-based digital business. Thus , Ethicality is included as one of the constructs in the study.

Innovation

Innovation is considering the key element in the free market of digital entrepreneurship. Jennifer,et al.,(2009) stated that entrepreneurship is systematic phenomena which offered benefits for those who identify the opportunities through innovation and willing take risk by using the available resource to produce new things in the marketplace. Mark and Kickul (2004) stated that entrepreneurs who create new ideas or introduce new products retain the success of the business. Siegel and Renko (2012) asserted that human capital contributes to identifying entrepreneurial opportunities. According to Joseph Schumpeter's innovation theory of entrepreneurship (1949), the entrepreneur who has innovation, foresight, and creativity will become a successful entrepreneur. Entrepreneurs' perseverance of creativeness and innovativeness stretch their confidence to be a successful entrepreneurs. Social media friends requirement leads to develop a lot of new ideas to innovate new products. Product knowledge and human skills also lead to creating new ideas for products and services. Thus, social capital and human capital play an important role in innovating new products. Eric Ries (2011) found that innovation is something new under conditions of extreme uncertainty. Home-based digital entrepreneurs should search for new ideas, bring ethnic values into the modern way of living to be successful in the business with help of their social media networks. In this case, innovation is a mediator for human capital and social capital to find out the success of digital entrepreneurs. Prior studies confirmed that the innovation of new products are the main factor that influences the success of digital entrepreneurs.

Success Factors

The success of a business is a complex term to measure. Merriam-Webster, (2012)defined success can be rendered as accomplishing a "favourable or desired outcome". The measurement focused predominantly on economic achievements. Previous studies show that success factors are measured by profit or growth (Simpson et al., 2004) satisfaction with work, and customer satisfaction (Greenbank, 2001). Positioning of the platform is one of the important factors for digital business. If the business does not have a reputation and good positioning, the success of the business is considered limited (Srinivasan and Venkatraman, 2018). Many people believe that financial gain is the main success factor. Mair and Martí,(2009) stated that financial gain is not the main success factor of digital entrepreneurs. Non-financial measures of the success of the home-based business are difficult to measure because the variables are subjective. Hence this study focused on the only financial gain is the success of the home-based digital entrepreneurs.

H1a: Human capital contributes significantly to the innovation of home-based digital entrepreneurs.

H1b: Innovation mediates the relationship between human capital and success factors of entrepreneurs

H2a: Social capital contributes significantly to the innovation of home-based digital entrepreneurs.

H2b: Innovation mediates the relationship between social capital and success factors of entrepreneurs

H3: Innovation positively contributes to the success of the home-based digital business.

H4: Ethicality significantly contributes to the success of home-based digital businesses.

METHODOLOGY

The study adopted a quantitative method and the primary data collected from home-based digital entrepreneurs who are doing business through social media networks such as Facebook and Instagram. The non-probability sampling technique and the purposive sampling method were used in this study. The survey questions were comprised of two sections, Frist section A consists of demographic questions and second B consists of survey questions based on the constructs social capital (4 items), Innovation (5 items), human capital (5itmes), ethicality (6 items) and Business success (5 items).

Data analysis

The collected data was analysed by SPSS 20 to check the missing data and descriptive statistics. Partial Least Squares Structural Equation Modelling (PLS-SEM) method was applied to test the research hypothesis by using ADANCO software. Table 1 shows the descriptive analysis of the respondents. 222 respondents aged between 20 to 35 voluntarily participated in the study. Among them 75.23 percent of them were female and 24.77 percent of them were male. 58.11 percent of the digital entrepreneurs were using Facebook as a platform, 41.89 percent of the digital entrepreneurs were using Instagram as a platform for their business.

Table 1: Respondents' profile

		Frequency	**Percentage**
Gender	Female	167	75.23
	Male	55	24.77
Age	20 to 25	9	4.06
	25 to 30	125	56.30
	30 to 38	88	39.64
Platform	Facebook	129	58.11
	Instagram	93	41.89

Measurement Model

Table 2 demonstrated the reliability and validity of the data. The measurement model was evaluated based on the criteria of convergent validity, discriminant validity, and construct reliability. PLS software measures the composite reliability by Jöreskog's rho (ρc) and Cronbach's alpha (α). Reliability of the constructs measured by internal consistency, which represents how closely related a set of items is, as a group at a minimum cut-off value of 0.7. (Nunnally and Bernstein, 1994). Dijkstra & Henseler (2015) declared that their rho (ρA) is the most reliable test for consistent reliability in PLS. Table 2 shows that all three reliability is more than 0.7, which is considered an acceptable consistency. Fornell & Lorcker (1981) declared that the minimum cut of value for each latent construct is 0.50. Items loading less than 0.50 were removed. Thus, the results confirmed the high reliability of the latent constructs. The AVE score is above 0.50 (Hair et al., 2017) and item loadings are above 0.70, which is an acceptable level for social science study.

Table 3 present the criterion of discriminant validity of Heterotrait -Monotrait Ratio (HTMT). According to Teo et al., (2008) and Henseler et al., (2016) HTMT value should be below 0.85 to 0.90 to have discrimination between constructs. Table 3 showed that the values were below 0.90, discriminant validity has been established between the two constructs. According to Fornell –Lacker (1981) AVE values should be greater than the off-diagonal values and correlations between constructs are lesser than 1. Thus, the existence of discriminant validity is acceptable.

Assessment of Structural Model

The proposed model has examined by adopting PLS for hypothesis testing after the proposed model was validated. The result of the structural path analysis of the model was shown in table 4. The results of the structural relationship are described by total effects interference. The total effects of interference were tested using two-tailed tests with 1percent and 5 percent significance.

Table 2: Construct Reliability and Validity

	Indicator	Loading	Dijkstra-Henseler's rho (ρ_A)	Jöreskog's rho (ρ_c	Cronbach's alpha(α)	AVE
Social Capital	SC1	0.6388	0.7003	0.685621569	0.676926177	0.5648
	SC4	0.8009				
Human Capital	HC1	0.8758	0.9082	0.880150272	0.880941266	0.6544
	HC2	0.6509				
	HC3	0.6710				
	HC4	0.9883				
Innovation	IN1	0.9316	0.8563	0.836748613	0.839750379	0.6348
	IN2	0.7543				
	IN3	0.6837				
Ethicality	E2	0.6198	0.8211	0.804305309	0.795761742	0.5916
	E3	0.7112				
	E4	0.8684				
	E5	0.6342				
Success Factors	SF1	0.6756	0.7948	0.78928771	0.786576631	0.5854
	SF2	0.7663				
	SF3	0.6090				
	SF4	0.7260				

Table 3: Discriminant Validity: HTMT criteria

Construct	Social Capital	Human Capital	Innovation	Ethicality	Success in Business
Social Capital					
Human Capital	0.8818				
Innovation	0.8843	0.8571			
Ethicality	0.8790	0.6656	0.6530		
Success in Business	0.9015	0.8463	0.8868	0.9018	

Table 4

Total Effects	Original coefficient	t-value	p-value	Decision
Social Capital -> Innovation	0.4389	3.1894**	0.0014	Supported
Human Capital -> Innovation	0.4774	3.6944***	0.0002	Supported
Innovation -> Success in Business	0.5469	8.2943***	0.0002	Supported
Ethicality -> Success in Business	0.5032	7.3893***	0.0012	Supported
Indirect Effects				
Social Capital -> Success in Business	0.24	3.0816**	0.0021	Supported
Human Capital -> Success in Business	0.2611	3.2550**	0.0012	Supported

Note : Two tailed tests: *1.96 (5% significant);** 2.57 (1% significant level

The result showed that social capital and social capital has significant contribution towards innovation (H1a) (B = 0.4389) ,*p*-value < 0.05;(H2a) human capital (B =0.4774, *p*- value <0.05);(H3) Innovation to business success (B= 0.5469; p-value <0.05) are significant effect on business success on home based digital entrepreneurs ;(H4) Ethicality significantly contributes to success of business (B= 0.5032; p-value <0.05). The result also showed that social capital (H1b) and human capital (H2b) indirectly contributes to success of the business.

The result of coefficient of determination (R^2) of endogenous constructs was attained by using PLS algorithm procedure. It indicates that the R^2 value for innovation to business success is 0.74 and business success factors are 0.86. It predicted that 74 percent of innovation predicated by human capital and social capital and 86 percent of success factors can be predicated by innovation.

Cohen (1988) suggested the effective size of the values in the exogenous latent variable in the prediction of endogenous constructs. The effect of social capital on innovation (f^2 =0.30); ethicality on business success factors (f^2 = 0.25); human capital on innovation ((f^2 = 0.35) .The fit of the model is determined by the effective size of linking of the predictor to the dependent variable. According to Cohen (1988) suggestions *f2* values of 0.02, 0.15, and 0.35, respectively, represent small, medium, and large effects of an exogenous latent variable on an endogenous latent variable, and the values less than 0.02 denotes that there are no effects of an exogenous latent variable on an endogenous latent variable. In this case, f^2 more than 0.02, hence all exogenous variable has a big effect on the endogenous variable.

Theoretical Contribution and Implication of the study.

The research contributes to theoretical knowledge and understandings of success factors of home-based digital entrepreneurship to the literature. The study revealed that there are several concepts of social capital theory such as trust, relationships, and ties with social media members that influence the success of home-based digital entrepreneurs. One of the key factors of social capital theory is knowledge sharing. The social media platform created a marketplace, and it provides a dyadic relationship between the buyer and seller as well as social relationships. Members of the social media platform willing to share the information about the product to their members it reaches a wide range of people and that plays a major role in the innovation and success of the business. Social media members, several friends in the social media networks, and the relationship with social media members play a vital role in the success of home-based digital entrepreneurs.

Social media networks create a virtual social capital with the extent to connect to bridging and bonding. Social capital theory suggests that interpersonal relationships with friends, family members create the value of individuals. According to Wu et al.(2011), social capital creates a strong trust relationship, that leads to the success of the business at a micro-level and bonding and bridging relationships (Ponam 2000). The study endeavours to understand, the important factors that lead to success, for the people who are intended to start digital entrepreneurship in social media networks. Social capital also stimulates entrepreneurs to innovate new products and contributes the business sustainability.

DISCUSSION AND CONCLUSION

The study investigated the structural relationship between human capital, social capital, innovation, ethicality in business, and the business success of home-based digital entrepreneurs. According to the findings of the study, social capital and human capital are significantly contribute to being innovative, ethicality and innovation directly contribute to the business success of the home-based digital business. In this case, social capital provides strong ties with the digital entrepreneurs, and their "Like" clicks, Share clicks, and comments of the products are the main important factors that create the value of the product, and it influences the members of the social media to buy the product that increases the success of the business. The result in line with (Srinivasan and Venkatraman, 2018) statement that personal and stable social media network members are important for digital entrepreneurs to succeed in the business.

The result also in line with Santos (2003) findings that reliability, delivering products on time and prompt reply to consumers in inquiries will drive the members of the social media member's influence their friends to buy the products. Consumers are concern about the delivery time of the products; they are only interested in members of social media comments and rely on their positive comments. Consequently, ethical factors such as delivery on time are significant, contribute to the business success. It is confirmed that delivery on time and return policy of damaged goods are playing a significant role on success factors of the home-based business.

Social media members, contribute a lot of ideas to innovate new products and by posting their requirements on social media networks. Innovation is one of the main drivers of home-based digital entrepreneurship and the sustainability of the business. Social media networks are the platforms, not only market their products, to members also post their essentials necessities. These postings, with the human capital, create a lot of opportunities and ideas to be innovative that contribute to the success of the business. The study asserted that innovation is the main factor in the success of the digital business. Furthermore, the studies also emphasized that human capital generates new ideas, which leads to the success of the home-based business. Therefore, digital entrepreneurs upgrade their technical skills to sustain their business and try to increase their social capital in social media networks.

The study revealed that home-based digital entrepreneurs continuously change their products and service based on consumers' needs and demands and that will increase the success of home-business. Home-based digital entrepreneurs have a very small number of customers, and they can have a personal touch with customers' needs and wants. The personal touch of social capital inspires to development of entirely new and improved products and services. The result revealed that human capital is one of the factors that contribute to the success of home-based digital entrepreneurs which in line with previous studies showed that there is a positive relationship between education and experience (Reid and Smith,2000; Brush & Hisrich,2002 and Singh & Vinnicombe ,2003). Besides that, ethicality is significantly contributing to the success of the home-based digital business.

The study reveals that home-based business entrepreneurs consistently innovate new products and maintain ethicality in the business by delivering goods on time. Innovation and ethicality lead to maintain their customers and bring success to the business.

LIMITATIONS

There are certain limitations associated with the research that can provide guidelines for future research. The present study focused on only Facebook and Instagram platform, it is suggesting to look into other major social media sites and also relook into any other variables contribute to the success of the home-based digital business. The study only focused on success factors in general. The future study should focus on nonofficial factors of success in home-based digital businesses.

REFERENCES

Adler, P. S., & Kwon, S.-W. (2002). Social Capital: Prospects for a New Concept. *Academy of Management Review*, *27*(1), 17–40. https://doi.org/10.5465/amr.2002.5922314.

Badura, A(1977),social Learning theory, prentice Hall ,Eaglewood ,cliffs .New York

Boone, T. I. M., reilly, A. N. T. H. O. N. Y. J., & Sashkin, M. (1977a). SOCIAL LEARNING THEORY Albert Bandura Englewood Cliffs, N.J.: Prentice-Hall, 1977. 247 pp., paperbound. *Group & Organization Studies*, *2*(3), 384–385. https://doi.org/10.1177/105960117700200317

Balan ,J & Linnsay (2005),Entrepreneurs self-efficacy and personal entrepreneurs success ,*Regional frontiers of entrepreneurship Research* 1118 -1152.

Bennet, D. & Richardson, P. (2005) Building Relationships and Social Capital Development. Paper presented at the 50th ICSB World Conference, June 15-18, Washington DC

Brush, C. & Hisrich, R. (2002). Women-Owned Businesses: An Exploratory Study Comparing Factors Affecting Performance. *Washington Research Institute for Small & Emerging Business, Inc.*

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.), Hillsdale, Lawrence Erlbaum Associates, NJ

Chetty SK, Wilson HIM (2003) Collaborating with competitors to acquire resources. *International Business Review* 12(1),61-81.

Chen,Y., & He, Y. Q. (2011). The impact of strongest on entrepreneurial intention. Journal of Chinese Entrepreneurship, 3(2), 147-158. http://dx.doi.org/10.1108/17561391111144573

Dijkstra, T. K., and Henseler, J. (2015). Consistent and Asymptotically Normal PLS Estimators for Linear Structural Equations, *Computational Statistics & Data Analysis* 81(1), pp. 10-23.

Feindt, S., Chappell, C., & Jeffcoate, J. (2002). Identifying Success Factors for Rapid Growth in SME E-commerce. *Small Business Economics*, *19*, 51–62. https://doi.org/10.1023/A:1016165825476.

Fornell, C., and Larcker, D.F. (1981) Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, (1) , 39–50

Greenbank, P. (2001),Objective setting in the micro-business, *International Journal of Entrepreneurial Behaviour and Research,*. 7 (3),108-27.

Henseler, Jö.; Ringle, C. M. & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science,* 1-21

Jennifer, M Sequeria, Jon C. Carr & Abdul Al Rasheed. (2009). Factors Contributory to Success: A Study of Pakistan's Small Business Owners. *Journal of Developmental Entrepreneurship.* Retrieved from http: www. Highbeam.com /Docprint.asp?Docld+1P3:1311169111.

Kalyar, M. N., Rafi, N. & Kalyar, A. N. (2013).Factors Affecting Corporate Social Responsibility: An Empirical Study. *Systems Research and Behavioral Sciences*,30(4), 495-505.

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet Paradox Revisited, *Journal of Social Issues*, 58, 49-74

Santos, F. (2003). E-service quality: A model of virtual service quality dimensions. *Managing Service Quality,* 13(3), 233–246.

Siegel, D. S., & Renko, M. (2012). The role of market and technological knowledge in recognizing entrepreneurial opportunities. *Management Decision*, 50, 797-816. doi:10.1108/ 00251741211227500

Schumpeter, J. A. (1934) *The Theory of Economic Development*. Cambridge MA: Harvard University Press

Mark, D. Griffiths & Jill Kickul. (2004). The Socio-economic determinants of innovation, an empirical examination, *The International Journal of Entrepreneurship & Innovation*, 9(4), 231

Malaysian small businesses increase use of digital technologies due to Covid-19. (2021, March 24). Digital News Asia. https://www.digitalnewsasia.com/business/malaysian-small- businesses-increase-use-digital-technologies-due-covid-19

Medlin, B., & Green, K.W. (2003). Ethics in small business: attitudes and perceptions of owners/managers. *Academy of Entrepreneurship Journal* 9(1),

Nyberg, A. J., & Wright, P. M. (2015). 50 Years of Human Capital Research: Assessing What We Know, Exploring Where We Go. *Academy of Management Perspectives*, *29*(3), 287–295. https://doi.org/10.5465/amp.2014.0113

https://www.nst.com.my/business/2017/10/286879/cimb-budget-2018-should-focus-more-b40-m40-smes **By LIDIANA ROSLI - October 3, 2017**

Lerner, M., Almor, T., (2002). Relationships among strategic capabilities and the performance of women-owned small ventures. *Journal of Small Business Management* 40, 109–125.

Onyx, J., & Bullen, P. (2000). Measuring Social Capital in Five Communities. The Journal of Applied Behavioral Science, 36(1), 23–42. https://doi.org/10.1177/0021886300361002

Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26, 341–358. doi:10.1016/j.jbusvent.2009.09.004

Yang, Y., & Hu, B. (2011). Research on Relationship between Social network, Entrepreneur Self- efficacy and entrepreneurship Intention. *Soft Science*,(6), 59-63.

Reid, G. & Smith, J. (2000). What Makes a New Business Start-up Successful. *Small Business Economics,* 14 (3), 165-182.

Ries, E. (2011). *The Lean Start-up: How Constant Innovation Creates Radically Successful Businesses*. Portfolio Penguin. ISBN-10: 0670921602.

Singh V & Vinnicombe S (2003) The 2002 female FTSE Index and women directors, *Women In Management Review*, 18 (7) 349-358.

Srinivasan, A. and Venkatraman, N. (2018), Entrepreneurship digital platforms: a network centric view, *Strategic Entrepreneurship Journal*, Vol. 12 No. 3, pp. 54-

Teo, T.S., Srivastava, S.C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems*, 25(3), 99-132.

Putnam, R, D. (2000).Bowling Alone: *The Collapse and Revival of American Community*, New York, NY. Simon& Schuster

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society,* 359, 1435–1446.

Wellman, B. A. R. R. Y., Haase, A. N. A. B. E. L. Q. U. A. N., WITTE, J. A. M. E. S., & HAMPTON, K. E. I. T. H. (2001). Does the Internet Increase, Decrease, or Supplement Social Capital? *American Behavioral Scientist*, *45*(3), 436–455. https://doi.org/10.1177/00027640121957286.

Wu, J. J., Chen, Y. H., & Chung, Y. S. (2011). Trust factors influencing virtual community members: A study of transaction communities. *Journal of Business Research, 6*3(9-10), 1025-1032.

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COMMUNICATION AND ITS IMPACT ON CUSTOMER OUTCOMES IN PRIVATE BANKING SCETOR

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ABSTRACT

Organizational communication is often assumed to play an important role in the private banking sector. In this study the research design survey is a descriptive method. The population of this study was 399 respondents on which 145 respondents were employees and 254 respondents were customers of private sector banks in Gwalior. The main aim of this study is to explore the impact of organizational communication on the service performance of employees in a private banking sector. These findings will help scholars in understanding how organizational communication affects employee service performance with respect to customer outcomes.

***Keywords*:** Organizational communication, employee service performance, customer outcomes.

INTRODUCTION

With globalization advancements in social, political, financial and innovative zones influence organizational and communal lives in a significant way. In accordance with these improvements, the executives are obliged to grow new management methods to battle significantly harder rivalry conditions. These procedures of modern management to an enormous degree expect to raise performance of employees to the communication power (Eroğluer, 2011). The activities that are covered by communication that an individual does when he needs to make a change in another person's mind. This is a significant connection between an individual or people and organization. According to (Banerji and Dayal, 2005) "Communication is a process that contains expressing, listening and understanding". Similarly, Oliver (1997) propounds that among two or more individuals communication is a way to exchange their thoughts, ideas and emotions through sematic, verbal and words. Communication plays an important role in every organization. For any organization it is important to recognize the human behavior in the workplace which has become one of the most organized tasks. This is because of significant changes like innovative/ technological and globalization advancement that result in the change of the structure of the business done, the workforce behavior and employee's management. To become effective or successful by keeping up the business best in the art, the organizations ought to adjust with these changes (Vercueil, 2001). Along these lines, it has gotten significant for employees to realize what propels their employees as opposed to emphasizing them to expand efficiency.

Notion of Communication

Nowadays communication is the most effective thing which is broadly running successfully in all organizations. To flourish any business or organization an effective communication is very essential and to succeed and discover satisfaction it is necessary to sit around idly and provide employees as well as customers with the important instruments. At the point when correspondence isn't powerful, the final product is an expansion underway and a lessening of the primary concern. So as to stay away from this result, effective or viable communication must be set up (Joey, 2002). According to (Bowditch et al, 1997) "communication is the exchange of information between a sender and a receiver, and the inference (perception) of meaning between the individuals involved". Though it is not possible to define communication in a single sentence.

Types of Communication

- Interpersonal Communication
- Intrapersonal Communication
- Group Communication
- Public Communication
- Mass Communication
- Online or Machine Assisted Communication

Interpersonal Communication

"Interpersonal Communication means to interact with another person".

Intrapersonal Communication

"Intrapersonal Communication means to interact with oneself".

Group Communication

"It is a process of interacting with a limited number of others such as developing ideas, solving problems, making decisions, work to share information etc".

Mass Communication

"It is communicating to a large number of people using media such as television, newspaper, internet, radio etc".

Online or Machine Assisted communication

"It deals with communicating through the use of online software that is programmed to interact with browsers or users".

Communication may also be two types which are;

- **Verbal Communication**
- **Non-Verbal Communication**

Verbal Communication: In verbal communication one can transmit their messages through spoken words while communicating.

Non-Verbal Communication: In non-Verbal Communication, one can transmit their messages through signs, writing and body signals.

Communication plays an important role in organization as well as in everyday human life. Gamble and Gamble (2002) has stated that: "Communication is the core of our humanness", and that "how we communicate with each other shapes our lives and our world". Communication skills help people to connect with each other or to confront occasions that challenge our adaptability, expressiveness, critical thinking skills and integrity.

Impact of communication on employee service performance

In banks or in any organizations employees have generally spent most of their time to communicate with their higher authority as well as customers in one form or another such as face to face discussions, meetings, e-mails, reports, letters, memos etc.). Communication has become the imperative part of their work. In various different groups a viable management of production forms requires more prominent coordinated effort and collaboration among employees. Effective communication is more important while interacting with customers to make them understand about their policies, products etc. it may be ineffective if a customer is unable to understand all these things because of lack of communication and because of this the customer will not be satisfied by the employee performance that would impact the leading price of that particular organization. Nowadays in any organization communication practices have become more effective. Hence, it is important in all organizations to motivate their employees for better performance.

In present days, communication has become one of the most prominent and significant activities in organizations (Harris and Nelson, 2008). Communication enables people to organize activities to accomplish objectives, and it's indispensable in socialization, dynamic and critical thinking and change-the management forms. Internal communication likewise furnishes employees with significant data about their occupations, association, condition and one another. Communication can help in building trust, persuade, make shared personality and prod commitment; it gives an approach to people to communicate feelings, share expectations and aspirations and celebrate and recollect achievements. Communication is the reason for people to understand their organization, what it is and what it implies.

Impact of Employee Service Performance on Customer Outcomes

In general, employee service performance refers to the behavior of an individual which is relevant to the goal of an organization. (Campbell, McCloy, Oppler, & Sager, 1993). In shaping the perception of customers about service quality depends upon the behavior of an employee as like how they treat their customer and how they complete their query directly affects the customer satisfaction. If the customer is satisfied by the service or performance given by employees then that customer will become loyal to that particular organization and if it doesn't then it directly affects the finances of that organization. Thus from service effectiveness, employee service performance is recognized which refers to the consequences of service performance, for example, customer retention and satisfaction. As the employees of an organization perform their work, they share relevant components that decide how successful they are. This study examines the employee service performance in the context of customer outcomes. Here the customer outcomes include the customer's perception of service quality, customer satisfaction and loyalty.

In this paper we studied the employee service performance on customer outcomes for two reasons. To begin with, most of the service encounters which have been experienced by the customers include their contributions and interactions from numerous employees. In this study, a customer's evaluation of their service experience which has been determined by the service performance of employees of a private bank. Accordingly, the employees of the bank work in a group to make service performance satisfactory for customers.

REVIEW OF LITERATURE

Venkatesh et al (2010) investigated the effect of Information and communication technology performance on employee's job. The finding of their study shows that there is a significant positive relationship between information and communication technology on job characteristics of employees. Following the information and communication technology (ICT) implementation, employees were not that much satisfied with their job and had lower performance.

Anitha (2014) studied the employee engagement importance. Furthermore, distinguishes different aspects that significantly affect it. It likewise shows that there is a connection between employee engagement and performance. The objective of this paper is to distinguish the key determinants of employee engagement and their consistency of the idea. It additionally identifies the effect of employee engagement on performance of an employee. The findings of this study show that all the distinguished factors were indicators of employee engagement. In any case, the factors that had a significant effect were the team, co-worker and working environment relationship.

Baker et al (2014) developed a two process model dependent on the theories of internalization and identification to clarify how brand relevant information which is internally disseminating helps in enhancing performance of frontline employees. Using the multi-source data information from the managers, employees and customers of a B2B firm in the industry of hospitality, researchers found that giving information related to brand-specific directly to frontline employees helps in enhancing their identification with the brand (as evidenced in perceptions of firm authenticity) and also helps in increasing their brand values internalization. Results of this study shows that organizations should put forth an extra effort to communicate brand specific related information to frontline employees if they want performance of brand-consistency that is perceptible to customers and managers alike.

Jacobs et al (2016) investigated that from the point of view of social capital theory the impact of internal communication and satisfaction of an employee on supply chain integration. In this study data was taken from the context of the emerging markets. The findings of this study shows that on external integration, there is a direct and positive effect of internal communication. While, through internal integration, external integration indirectly affects by the employee satisfaction.

Bezen & yoo (2016) suggested that the sort of communication channel which is used by loyalty program members of a hotel which impacts their communication style perception and quality of information. The result of this study shows that choice of communication channel significantly affects perceived communication style and quality of an information.

Kang & Sung (2017) examined how a symmetrical internal communication of a company endeavours could impact the relationship outcome's perception of its employees with the organization or company and the ensuing communication behaviours of an employee about the organization to other people and their turnover intention. Along with this, the mediation effects of EOR (employee-organization relationship) were also tested between employee engagement and symmetrical internal communication.

Jha et al (2019) analysed that in a trade show setting, the key upstream and downstream connections around customer orientation focal construct. On the upstream, findings show that on customer orientation service leadership positively directs service technology effect. Moreover, to affect customer orientation, service leadership adversely interacts with empowerment. The main impact of service technology, job satisfaction empowerment and service leadership, on the downstream are mediated by the orientation of customers.

Hee et al (2019) examined types of communication (horizontal communication, downward communication and horizontal communication) that affect employee performance. The findings can give bits of knowledge and significant data to the firms of property development to all the more likely comprehend the significance of communication among employees in improving employee performance. The findings of this paper show that there is a significantly positive relationship among horizontal communication and performance of an employee.

OBJECTIVE OF THE STUDY

- To study the impact of organizational communication on employee service performance.
- To study the impact of employee service performance on customer outcomes.

Research Gap of the Study

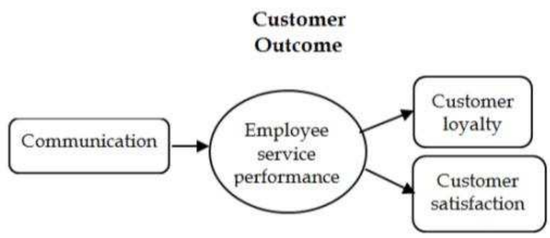
This research bridges the gap between organizational communication and the performance of employee service and employee service performance and customer outcomes, i.e., customer satisfaction and customer loyalty. As this is the first research performed in the Gwalior district on these variables. We, therefore, developed and tested an employee service performance framework and analysed the effect of organizational communication on the performance of employee service with respect to customer outcomes.

Hypothesis

H1: There is significant relationship between organizational communication and employee service performance.
H2: There is no significant relationship between employee service performance and customer loyalty.
H3: There is no significant relationship between employee service performance and customer satisfaction.

RESEARCH METHODOLOGY

Proposed Model of the Study



Sample Design

Population

Population included employees and customers of private banks in Gwalior.

Sampling technique

Probability Random Sampling

Sample size

Total 399 respondents were taken in this study. On which, 145 respondents were employees and 254 respondents were customers of a private bank in Gwalior city.

Tools For Data Collection

- 5 point Likert scale

Data Analysis Tools

- Composite reliability, convergent validity, HTMT, Fornell-Larcker

RESULTS AND DISCUSSION

Measurement Model Assessment

The research analysed the outer model based on ADANCO measurement model analysis to evaluate internal reliability and convergent validity. The study used confirmatory composite analysis in ADANCO 2.0.1 for structural equation modeling.

The findings display the cross-loading of all indicator variables. The results demonstrate that the metrics have higher values for their corresponding endogenous variables compared to other variables. It validates that the latent variables in each construct reflect the assigned latent variable and establishes the discriminant validity of the measurement model.

According to above table:2, the inner reliability was evaluated by Cronbach's Alpha value. In reliability we can consider 0.60. It is good, if it ranges between "0.70 to 0.90" (Hair et al. 2020, 2019, 2017). Hence Cronbach's alpha value of communication, employee service performance, customer loyalty, & customer satisfaction, all latent variables and total item correlation are above threshold limit.

Next, with composite reliability, convergent validity was checked, Here after study analysed that composite reliability of all the constructs are above threshold limit 0.7 Hair et. al., 2017, so that it can be supposed that all constructs have a high degree of internal consistency as values are showed in table 2.

The Rho A value has been defined in Dijkstra et al., 2015; Hair et al., 2019; which needs a threshold limit of 0.70, here the values are communication, employee service performance, customer loyalty, customer satisfaction all values of Rho_A are above the minimum criteria. Eventually, the convergent validity was also established with AVE values was also tested, which were above the specified limit of 0.50 Hair, et al; 2019; Fornell & Larcker; 1981.

After convergent validity, the discriminant validity has been verified by the assumption as per the criteria of Fornell & Larcker's 1981, discriminant validity assists to calculate the amount of variation measured by the latent variables and to analyse shared variance with other latent variables. Therefore, the bold number in table: 3 are obtained from the

Table: 1 Cross Loadings of constructs

Indicator	communication	ESP	customer loyalty	customer satisfaction
comm1	0.8661	0.1981	0.0556	0.1904
comm2	0.8661	0.2553	0.1864	0.3458
ESP1	0.1841	0.6018	-0.1346	-0.0074
ESP2	0.2671	0.8510	0.0401	-0.0042
ESP3	0.2219	0.7905	-0.0566	0.1043
ESP4	0.1880	0.8486	-0.0516	0.0175
ESP5	0.1838	0.8639	-0.0429	-0.0080
CL1	0.1738	-0.0281	0.9154	0.3074
CL2	0.0368	-0.1129	0.9282	0.4239
CL3	0.1726	-0.0035	0.8718	0.3800
CS1	0.1777	0.0242	0.2911	0.5624
CS2	0.2080	0.0277	0.4852	0.7606
CS3	0.2410	0.0154	0.2703	0.8954
CS4	0.3046	0.0141	0.2097	0.7692

Table:2 Construct Reliabilities & Convergent Validity (AVE)

Construct	Dijkstra-Henseler's rho (ρA)	Jöreskog's rho (ρc)	Cronbach's alpha(α)	Average variance extracted (AVE)
communication	0.6670	0.8573	0.6670	**0.7502**
ESP	0.8676	0.8957	0.8520	**0.6356**
Customer loyalty	0.8914	0.9317	0.8898	**0.8199**
Customer satisfaction	0.7740	0.8391	0.7402	**0.5721**

results of the square root value of AVE in the latent variable.

The major dimension of discriminant validity was determined by evaluating Heterotrait - Monotrait ratio of correlations via a threshold ratio of 0.85 Ringle and Sarstedt 2015; Henseler et al., 2015. According to Gold et al., 2001 suggested 0.9 as appropriate validity. In this research, the Heterotrait - Monotrait ratio of correlations results were predicted by using above formula and the results found that almost all values were less than the threshold point of 0.85, thereby defining the individuality of all latent variables according to the statistical criteria shown above in Table 4.

The path coefficients analysis displays a significant, conceptual and theoretical connection between all the experimental results on input and output sides of both the framework. In additional, the structural model was used to determine one or more predicated links as theorized in model building (Hair, et al; 2017, 2014). Hence the bootstrapping method has been used identify the p-values for framed hypothesized relationships (Hair, et al; 2020). The analysis of hypothesis can be done only after identifying the VIF standards of latent variables. The variance inflation factor (VIF) standards found to be below 3.33 (Diamantopoulos et al., 2008) were reported. The internal VIF value in study was calculated to be below the specified threshold limit the

Table:3 Discriminant Validity: Fornell-Larcker Criterion

Construct	First construct	ESP	Customer loyalty	Customer satisfaction
First construct	**0.7502**			
ESP	0.0685	**0.6356**		
CL	0.0195	0.0029	**0.8199**	
CS	0.0958	0.0007	0.1673	**0.5721**

i.e: ESP = Employee Service Performance, CL= Customer Loyalty, CS=Customer Satisfaction

Table 4: Discriminant Validity: Heterotrait-Monotrait Ratio of Correlations (HTMT)

Construct	First Construct	ESP	Customer loyalty	Customer satisfaction
First construct				
Employee service performance	0.3497			
Customer loyalty	0.1831	0.0700		
Customer satisfaction	0.4420	0.0336	0.5166	

Table: 5 Structural Model Assessments

Indicator	communication	ESP	customer loyalty	customer satisfaction
comm1	1.3341			
comm2	1.3341			
ESP1		1.3338		
ESP2		2.6304		
ESP3		1.9080		
ESP4		2.6168		
ESP5		2.4862		
CL1			3.0526	
CL2			3.3308	
CL3			2.1276	
CS1				1.2410
CS2				1.4781
CS3				2.4886
CS4				1.9361

table below is giving VIF value and all the values are below 3.33

After analysing VIF in measurement models, the next stage was to verify the significance and importance of the predictor variables, which must have ranges between-1 & +1 by implementing the bootstrapping method through 5000 subsamples in the Partial Least Square Algorithm. The measurement of the structural equation model and the testing of hypotheses is quite well explained in Table 6.

impact as the β is **0.0277** which is not significant at significance level of **0.8077.**

The next step there is a determination of coefficient (R^2) which describes the predictive accuracy of the endogenous variable and is determined the squared link among the actual and predicted values of the particular endogenous variable (HairJf et al;2014).

The (R^2) indicates the percent of variation in the endogenous latent variables explained by these exogenous variables connected to all of

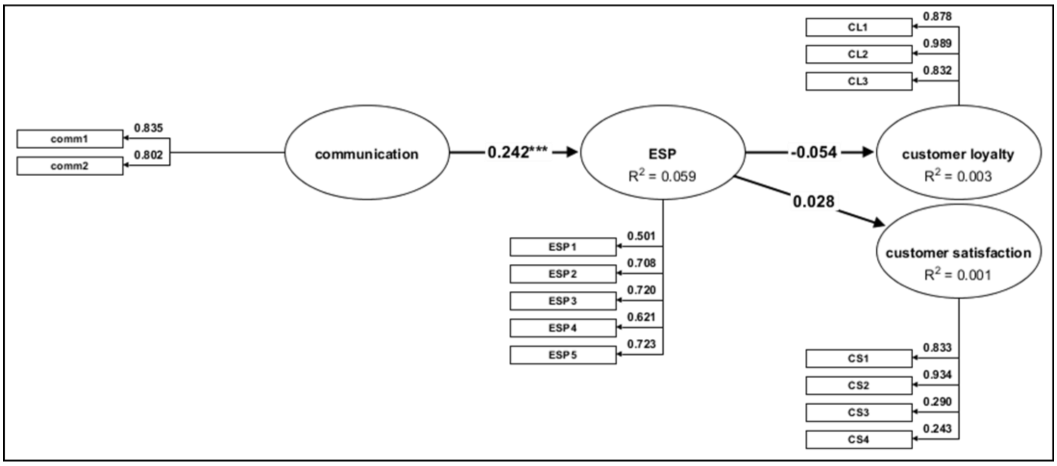


Figure 1: Structural Model Assessments

Table 6: Structural Model Assessment

Effect	Original coefficient	Standard bootstrap results					Decision
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	
communication -> ESP	0.2421	0.2417	0.0705	3.4352	0.0006	0.0003	supported
ESP -> customer loyalty	-0.0540	-0.0345	0.0993	-0.5442	0.5865	0.2932	Not supported
ESP -> customer satisfaction	0.0277	0.0140	0.1136	0.2435	0.8077	0.4038	Not supported

Table 6: demonstrate the findings of the model assessment, the table revels that there is a substantial impact of communication on employee service performance (ESP) β: **0.2421** is significant at **0.0006** level of significance, therefore the supporting the hypothesis that there is impact of communication on ESP. The next relationship between employee service performance (ESP) and customer loyalty is not showing the impact as the significance level of **0.5865** at which β: **-0.0540** is not significant which is higher than 0.05 level of significance. The result of employee service performance on customer satisfaction also not having the

it. The R^2value varies from {0 to 1}& a value closer to 1 suggests high level of accuracy (HairJf et al;2014).

The table below is showing R^2 values of different constructs.

Construct	Coefficient of determination (R^2)	Adjusted R^2
ESP	0.0586	0.0549
customer loyalty	0.0029	-0.0011
customer satisfaction	0.0008	-0.0032

The next step is to evaluate the effect of f2, if the exogenous construct is eliminated from the model, the difference in the R-square is used to measure if the eliminated construct has a significant effect on the endogenous latent variables HairJf et al;2014.

To identify the model fit the value of SRMR is to be checked which helps to determine the average significance differences between both the actual and the predicted correlations as an actual measure of the model fit evaluation criteria. As according to Hairetal; 2014 the value less 0.08 is measured as good fit criteria. Therefore, the study examined SRMR value i.e. 0.065which specify that the model is good fit.

The table below is giving Value for SRMR

Goodness of model fit (saturated model)

	Value	HI95	HI99
SRMR	0.0973	0.1329	0.1560
d_{ULS}	0.9944	1.8539	2.5551
d_G	0.3582	0.6216	0.9408

LIMITATION OF THE STUDY

To begin with, the research was limited to a single location and focused solely on private banks.

Second, though this study only looked at a few variables, future research should look at other variables to see how they affect an employee's service performance.

FUTURE SCOPE OF THE STUDY

In this study we have seen that employee service performance is not proportional directly to customer satisfaction and customer loyalty. So, it is believed that this study can be used to imply the further policy changes that irrespective of the employee service performance with respect to customer outcomes.

CONCLUSION

Data were analysed by using composite reliability, HTMT, and Fornell-Larcker. These tests are applied to find the effect of organizational communication on employee service performance and the effect of employee service performance on customer outcomes. This study concludes that the result of the study shows the significant impact between organizational communication and employee service performance. But also shows that there is no significant relationship between employee service performance and customer outcomes (customer loyalty and customer satisfaction).

REFERENCE

Anitha, J. (2014). Determinants of employee engagement and their impact on employee performance. *International journal of productivity and performance management*.

Baker, T. L., Rapp, A., Meyer, T., & Mullins, R. (2014). The role of brand communications on front line service employee beliefs, behaviours, and performance. *Journal of the academy of marketing science*, *42*(6), 642-657.

Banerji, A. and A. Dayal, 2005. "A Study of Communication in Emergency Situations in Hospitals", Journal of Organizational Culture, Communications and Conflict 9(2), pp. 35-45.

Berezan, O., Yoo, M., &Christodoulidou, N. (2016). The impact of communication channels on communication style and information quality for hotel loyalty programs. *Journal of Hospitality and Tourism Technology*.

Fernie, S., & Metcalf, D. (1995). Participation, contingent pay, representation and workplace performance: evidence from Great Britain. *British Journal of Industrial Relations*, *33*(3), 379-415.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297–334.

Dijkstra, T. K., &Henseler, J. (2015a). Consistent and asymptotically normal PLS estimators for linear structural equations. Computational Statistics & Data Analysis, 81(1), 10–23.

Dijkstra, T. K., &Henseler, J. (2015b). Consistent partial least squares path modeling. MIS Quarterly, 39(2), 297–316.

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. Journal of the Academy of Marketing Science, 40(3), 434–449.

Eroğluer, K., 2011. "Örgütsel İletişimileİş Tatmini Unsurları Arasındaki İlişkiler: Kuramsal Bir İnceleme", Ege Akademik Bakış / Ege Academic Review 11(1), pp. 1409-1424.

Fornell, C., &Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50.

Gamble, B. & Gamble, B. (2002). Organizational communication comes out, Management Communication Quarterly: Vol 21. No.1 pages 80-91.

Harris, M. & Nelson, W. (2008). The Importance of Managerial Communication in Establishing the Company Marketing Communication; The International Conference on Administration and Business; University of Bucharest pp.7

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. Journal of the Academy of Marketing Science, 40(3), 414–433.

Henseler, J., Ringle, C. M., &Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135.

Hee, O. C., Qin, D. A. H., Kowang, T. O., Husin, M. M., & Ping, L. L. Exploring the Impact of Communication on Employee Performance.

Ince, M., &Gül, H. (2011). The role of the organizational communication on employees' perception of justice: A sample of public institution from Turkey. *European Journal of Social Sciences*, *21*(1), 106-124.

Jacobs, M. A., Yu, W., & Chavez, R. (2016). The effect of internal communication and employee satisfaction on supply chain integration. *International Journal of Production Economics*, *171*, 60-70.

Jha, S., Balaji, M. S., Ranjan, K. R., & Sharma, A. (2019). Effect of service-related resources on employee and customer outcomes in trade shows. *Industrial Marketing Management*, *76*, 48-59.

Joey, M. (2002). Human Resource Management Systems and the Performance of U .S. Manufacturing Businesses, NBER Working Paper Series #3449, Cambridge MA .

Kang, M., & Sung, M. (2017). How symmetrical employee communication leads to employee engagement and positive employee communication behaviours. *Journal of Communication Management*.

Mutuku, C. K., &Mathooko, P. (2014). Effects of organizational communication on employee motivation: A case study of Nokia Siemens Networks Kenya. *International Journal of Social Sciences and Project Planning Management*, *1*(3), 28-62.

Oliver RL. A cognitive model of the antecedents and consequences of satisfaction decisions. Journal of Marketing Research. 1980;19:460-469.

Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. Boenningstedt: SmartPLS GmbH. http://www.smartpls.com.

Venkatesh, V., Bala, H., & Sykes, T. A. (2010). Impacts of information and communication technology implementations on employees' jobs in service organizations in India: a multi-method longitudinal field study. *Production and Operations Management*, *19*(5), 591-613.

Vercueil, G. (2001). Essentials of business communication. South-Western college publishing, USA.

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DIGITAL ADVOCACY BY NON-GOVERNMENTAL ORGANIZATIONS FOR MENSTRUAL ACTIVISM: A FRAMING ANALYSIS OF #LAHUKALAGAAN (BLOOD TAX) CAMPAIGN BY SHESAYS INDIA

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ABSTRACT

Digital advocacy for social and political change is emerging as a strategic choice by non-governmental organizations (NGOs) in India. On the social front, menstrual activism has taken flight in compelling and powerful forms across the world to address the issue of menstrual equity across the globe. The present study looked at how a non-government organization, She Says, framed menstrual issues and policy change in their campaign #LahuKaLagaan (Blood Tax) directed against indiscriminate tax policy on menstrual hygiene in India. A qualitative framing analysis of the NGO's Twitter handle was done from April 2017 to July 2018, along with in-depth interviews with advocacy specialists in India. Results show that the organization optimally utilized the three core framing techniques: diagnostic, prognostic, and motivational frames in their advocacy. NGO's thrust on prognostic framing was new and made the campaign potent. Extensive use of themes like gender injustice, female identity, solidarity, participation, and action in framing the issue helped the organization transform its message into action, making #LahuKaLagaan an effective advocacy campaign.

Keywords: Digital Advocacy, New Media, Menstrual Activism, Framing, Twitter, #LahuKaLagaan

INTRODUCTION

Social media has found an integral position in modern advocacy campaigning. Citizens, civic groups, and NPO's use a plethora of platforms, such as Twitter, Facebook, and Reddit, to talk about policy issues and engage with civil society groups and political leaders. While many factors affect whether or not NPO's adopt social media in their media mix, the vast majority today are actively trying to integrate social media into their campaigns.

Initiating #LahuKaLagaan, a digital advocacy campaign

#LahuKaLagaan was by started by She Says, a non-governmental organization (NGO) to protest against Indian Government's imposition of 14 % Goods and Services Tax on sanitary pads. The government had classified sanitary napkins used by menstruating women as a luxury commodity triggering the digital advocacy campaign by the NGO. Besides tax exemption, the NGO She Says, sought that the sanitary napkins should fall under the Essential Commodities Act and sanitary vending machines should be installed at more places so that women have access to inexpensive napkins. A parody video featuring a popular feminist comedian marked the beginning of the campaign on Twitter. Various humorous analogies likening the tax to a monthly subscription were used that made the campaign gain instant attention (Fadnis, 2017). Supporting the campaign, Sushmita De, member parliament, started an internet-based petition resulting in signatures by more than 400,000 people. Students from several universities too joined the digital advocacy campaign. With both online and offline (legal petitions) efforts within 15 months of the campaign on 21st July 2018, India's GST Council agreed to eliminate the tax imposed on menstrual hygiene products such as sanitary pads and tampons. The campaign activity on social media created a ripple effect propelling coverage by mainstream media that created pressure on Finance Minister and GST Council to relook and change the taxation policy yielding tangible outcomes (Saxena, 2017). The campaign is also cited as the catalyst for creating the groundswell of public discussion, start a conversation around menstrual hygiene, and challenge the perception of them as luxury goods (Mukherjee, Ratho, & Jain, 2021). #LahuKaLagaan is salient as it presents the social network and activities akin to social and political activists working on ground who display distinct characteristics (Hon, 2016).

Menstrual Activism and Global Campaigns

Menstrual activism is finding traction as women demand attention towards issues long dismissed as individual female complaints be heard, acknowledged, and reconsidered by society at large. Parallelly, the expansion of social media helps in challenging and eradicating stereotypes besides transforming audiences into more educated, empowered, and motivated internet users (Moscato, 2016). Menstrual activism has been a part of feminist activism history worldwide (Gender Equality, Global Annual Report, 2018). However, there has been a spurt in conversation around menstruation-related issues on mainstream media platforms in recent years. 2015 was named as year period went public by the Cosmopolitan magazine making the academia and advocates say that menstruation is now 'having a moment' ("Social Media Preferences Vary by Race and Ethnicity | Pew Research Center," 2015). In the same year, drummer Kiran Gandhi ran the London marathon without the tampon bringing the issue to the CenterStage. Agencies, activists, and advocates created loud conversations and discourses asking the governments to eliminate the tampon tax and make space in their agendas for a menstrual equity policy (Social Media Site Usage 2019 | Pew Research Center," 2020). In India, a documentary about menstruation set in India, 'Period. End of Sentence.' won an Oscar in 2019, and the Bollywood film 'Pad Man' (2018), based on Arunachalam Muruganathan, who devised the technology to make low-cost sanitary pads for rural women was released. Campaigns by NGOs like Plan International UK's #PeriodEmoji campaign institutionalized the red blood droplet – an emoji meant to normalize periods in public discourse. ("Period Poverty: Everything You Need to Know," 2019). A global cohort of activists is finding their way into the policy solutions and crisis interventions for creating informed opinions and education around menstrual issues, for more affordable access to menstrual hygiene products-tampons, pads, and menstrual cups; and against laws that make life more difficult for menstruators. At present, less than 20 countries have a zero-taxation policy on menstrual hygiene products. A few success stories come from Kenya, Australia, Canada, Germany, the UK, 32 states of the US, and India. According to a report titled *International Day of the Girl 2020* more than eight hundred million people are menstruating everyday (UNICEF,2020). Period poverty has an adverse effect on the health, education, employment, and livelihoods of millions of females, transgender men, non-binaries, gender-queers, or people with gender dysphonia worldwide. More than eighty-eight percent of women aged 15 to 24 do not have access to sanitary products during their period in India. ("National Family Health Survey-5," 2020). Ninety-three percent of the women do not practice menstrual hygiene and use harmful materials like rags, husk, sand, ash during periods due to lack of knowledge and money (Sharma, 2019).

Advocacy on Menstruation in India

Over the years, governments, NPO's and corporates have made efforts to bring menstrual hygiene to the forefront and foster civic engagement in India. For example, #Period of Pride (2021), #KeepGirlsInSchool (2020), by P&G's Whisper brand, #RedDotChallenge (2020) by UNICEF, #UngenderMenstruation (2021), India's first-ever gender-inclusive menstruation campaign by Boondh Social Foundation and Schbang for Good and Menstrual Hygiene Scheme under National Health Mission (2011) are a few notable campaigns in the recent past.

REVIEW OF LITERATURE

Studies have been done to understand the framing of an issue by non-government organizations through digital advocacy vis-à-vis the salience of digital campaigns in social movements and social networking sites and activism.

Digital campaigns & Organizations

(Tilly, 2019) kept campaigns among the three main elements of social movements to bridge social movement theory with public relations scholarship by highlighting strategic communication and public mobilization. Shirly (2008) found scope for digital advocacy since initiating and sustaining the cause-based movement is low cost, requires less resource mobilization and does not need structural organizational protocols as opposed to prerequisites of an offline advocacy campaign planning by a non-governmental organization. Campaigns on digital media can reach global and local audiences alike at a much faster speed referred to as 'supersizing effects' besides leveraged affordances. A civil society network is created online as the digital media provides opportunity to all online media consumers to ideate, create and share content without any obstruction or gatekeeping (Castells,2002; Carty, 2018). Hon (2016) analysed the Million Hoodies campaign movement for justice, resulting in examples of frame alignment for collective online and offline support. (Muralidharan et al., 2011). Designing an effective messaging strategy requires the framing of issues (Hallahan, 1999).

Twitter has opened a new era of possibilities for organizations to communicate with and engage their core stakeholders and the general public. (Moscato, 2016). Organizations find Twitter effective to strategically engage their stakeholders via dialogic and community-building practices, possibly because Twitter has the feature hashtag, which is arguably a modern-day adaptation of Kristeva's intertextuality (D'Angelo, 2009).

Digital Campaign Issues & Snow and Benford's Framing

A lot of studies employ Snow and Benford's framing analysis (2000) in social movements. As it: (1) gives greater attention to the context in which framing occurs (such as the multiorganizational field), (2) works effectively on movements that transcend nation-state borders, (3) examines framing dynamics over time, so that changing social and political contexts can be taken into account, and (4) provides scope for understanding conflict and negotiation underlining formation of collective action frames.

Particular progress has been made in demonstrating how external political and cultural forces influence movement framing (McCammon et al., 2007) (Ihlen & Nitz, 2008) (Putnam et al.,)1984). But in the areas of campaign design and research, significant gaps remain. (Gerbaudo, 2012) while examining the presence of Snow and Benford's framing processes in public relations content found merely18% had framed the messages using diagnostic, prognostic, and motivational framing in one

Research Questions

From the literature, the following research questions emerged:

RQ1. What are the specific frames and alignments used by She Says #LahuKaLagaan campaign in its communication on Twitter?

RQ2. What is the differential use of prognostic, diagnostic, and motivational framing in #LahuKaLagaan?

RQ3. How do frame alignments- bridging, amplification, extension, and/or transformation in this campaign advocate menstrual rights in India?

METHODOLOGY

Snow and Benford's framing of issues form the conceptual basis of the framing analysis of #LahuKaLagaan**.** David Snow and Robert Benford proposed that organizations accomplish their tasks through diagnostic framing, prognostic framing, and motivational framing (Table 2). The four strategies of frame alignment used in social movements by activists to identify shared interests, similar socio- cultural background so as to mobilize to achieve the cause have been adapted to analyse digital advocacy in this campaign (Figure 1).

Diagnostic framing (Problems)	What led to #LahuKaLagaan? What is the problematic tax policy of the Indian government? What is the core and peripherical issues associated with menstrual activism in the campaign?
Prognostic framing (Solutions)	What actions and measures does the campaign advocate?
Motivational framing (How to Solve)	How are motivations created through tools and tactics used to? achieve the goals?

Table 2: Adapted from Benford & Snow, 2000 for framing analysis of #LahuKaLagaan

Subsequently, four strategies of frame alignment were examined while analysing the campaign (Fig.1).

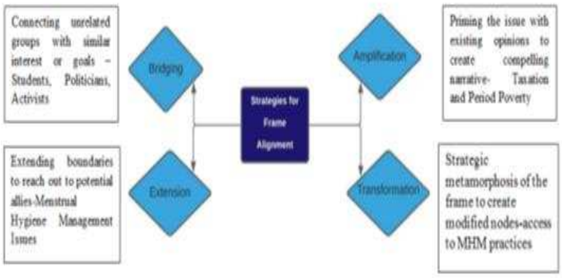


Fig. 1: Adapted from Snow et al., 2000, four strategies for frame alignment

Methods & Procedure

Mixed research methods were adopted to analyse the campaign. A qualitative content analysis of #LahuKaLagaan tweets by the NGO, She Says twitter handle was done based on Snow and Benford's Framing Analysis. Twitter data was collected for 15 months, i.e., from the day the campaign was initiated (18th April 2017) until 21st July 2018, when taxation was waived off on menstrual hygiene products by the government. Primary data was collected from NGOs through semi-structured interview schedules.

Sample

This paper draws on n=1540 tweets with #LahuKaLagaan, on its Twitter page and @SheSays Twitter Handle. Nine in-depth Interviews with campaign planners of the non-government organizations working on digital advocacy conducted in 2019. As many as 1540 tweets of the Twitter posts examined here cross-referenced related Facebook posts. The entire web history showed maximum engagement posts on the web and the themes highlighted. Twitter posts were examined and analysed qualitatively using the textual analysis approach of social media communication. The interviews (face-to-face, telephonic and web-based) were approximately 20 minutes to half an hour duration each. Interviews were transcribed and analysed as frames and processes emerged.

The process of identification and categorization of themes into diagnostic, prognostic and motivational frames is illustrated in Table 5-9 (Annexure II). Exemplar tweets for each manifest theme is presented in Exhibit 1-10 (Annexure III).

RESULTS AND DISCUSSIONS

1. **She Says uses all the three core frames in the #LahuKaLagaan campaign**

The framing analysis shows the use of the three types of framing: Diagnostic, Prognostic & Motivational. By She Says # LahuKaLagaan's twitter posts during the period examined. Through its posts on twitter, the NGO used gender injustice and identity themes for diagnostic framing to gain the attention of the publics. Several tweets called out the inherent bias and apathy towards menstruation hygiene management as it concerns women alone while some pointed out the discriminatory behavior of polity and society towards menstruation related problems. A lot tweets used gender identity as a theme embodying issues of body, self and commune. #LahuKaLagaan diagnosed the problem as lack of awareness and accessibility about female menstrual hygiene products and framed the solution (prognostic framing) adopting solidarity among people as the theme and change in policy through political action as an imminent solution. The organization used motivational framing in #LahuKaLagaan to mobilize the participants, co-opted supporters from media and entertainment industry for various online , on-ground events and activities in order to build pressure on the policymakers for tax withdrawn.

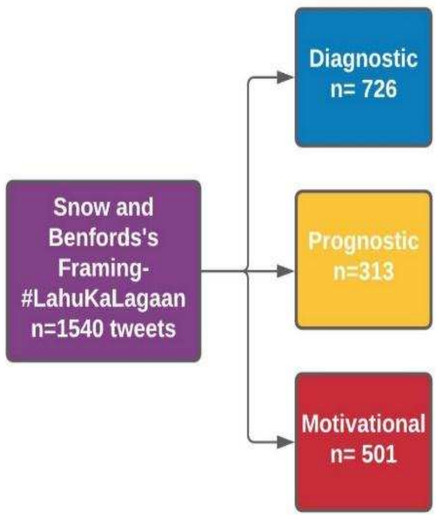


Figure 2: Framing distribution among sample tweets

2. **Established media themes on gender were present in framing #LahuKaLagaan**

The researchers found the data from the tweets and interviews collapsing into the following gender-specific themes w.r.t the issue in the campaign. (Figure 3) and (Table 4).

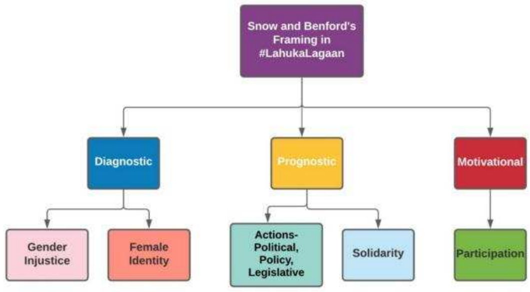


Figure 3: Dominant themes of core frame in #LahuKaLagaan.

Diagnostic Framing
a) Gender Injustice- Scope and influence of the master frame of injustice is expanded in Gender to highlight exclusion, bias and discrimination. The frame embodies both cognitive and affective perceptions of inequitable situations (van Zomeren, Postmes, & Spears, 2008)
b) Female Identity- Building collective definition of we- the movement protagonist and supporters that emerges out of common experiences and external labels (van Zomeren, Postmes, & Spears, 2008)
Prognostic Framing
a) Action – Triggering emotions of mobilization, building a call for action for common goals under social movements-symbolizing actions (Tarrow, 1998).
b) Solidarity- Connecting vast stakeholder group to illuminate a topic, developing frames of political discourse that spans social movements, allies, opponents, and authorities (Tarrow, 1998)
Motivational Framing
a) Participation: Movement participation creates a sense of contribution. A voluntary act of fighting for the cause. It holds a belief that one's group is capable of resolving its grievances through a campaign (Klandermans, 2007) (van Zomeren, Postmes, & Spears, 2008)

Table 4: Descriptive summary of the themes in core frames

Diagnostic framing

The organization tweeted extensively to build public awareness about the unfair tax policy of the Indian government besides allied issues of menstrual taboos, government's apathy towards menstrual hygiene, and sanitary napkins. Within it, Gender Injustice and Female Identity were the most prevalent themes.

From the outset (April 2017) the NGO in its diagnostic framing, tweeted on gender injustice. One of the earliest posts (tweet no 5) raised the issue of gender discrimination while tweets 8-15 shared posters and facts about sindoor, bangles, and bindis (symbols of marriage) were made tax free; condoms and contraceptives are already tax-exempt, but the sanitary napkins continue to be taxed to highlight the inequality by the government to underline the priorities set by the government where non-essential items are considered to be more critical to a woman's well-being than essential sanitary products (Table 5). A video post on18th April 2017 showed an actress and social media influencer Shenaz Treasury, with her travel bag, and she starts to pack while addressing Arun Jaitley (Finance Minister of India) (Saxena, 2017). Shenaz gets sarcastic for the campaign and explains to Arun Jaitley how she feels fortunate to be to afford the napkin listed in luxury items. (Exhibit 1).

@SheSays shared a one-minute video featuring comedian/actor Mallika Dua sending a message to the Finance Minister "It's not like I signed up for a monthly blood subscription. It just happens. So why am I being punished for it? " (20th April 2017). The sarcastic tone of the campaign has resonated with campaign supporters.

The posts highlighted economic injustice on women because of taxation on products related to their biological process. A woman's body mechanisms shouldn't be treated as fair game to tax. Menstrual bleeding is a natural function, not a voluntary act, and neither is it a luxury. All women, on average, menstruate from the ages of 12 to 51. Despite being the biological and hygienic requisite of more than half the population, current legislation systematically discriminates against women by taxing essential commodities such as sanitary napkins. (Exhibit 2)

Few posts (Exhibit 3) raised the issue of justice under constitutional provisions mentioning specific articles that guarantee equal rights for women without any discrimination. Various celebrities like Anshula Kapoor and influencers like Kanan Gill from film and entertainment industry too joined the campaign. Popular television news anchor and journalist Faye D'Souza joined the conversation. (Exhibit 4). Later online content channels Girliyapa, Buzzfeed, ScoopWhoop, VitaminStree were approached to make an audio-video content on menstrual hygiene, prevailing conditions in India and data driven communication based on research. (Exhibit 3).

"*#LahuKaLagaan clearly highlighted the inherent biases in socio-politico cultural norms in our country. I definitely feel like there's a moment happening right now, where we're reaching a tipping point to talk about what gender equality means and why it's important*" (Interview A, dated 8th April 2019)

In its diagnostic framing, #LahuKaLagaan underlined the lack of implementation of the UN Universal Declaration of Human Rights which has been adopted by the country (Table 6).

Tweets questioned why the legislature has been ignorant about issues related to the promotion of women's health and well-being. Several posts by She Says implied that the unfair bracketing of sanitary napkins for tax purposes is of concern because the government does not recognize the purpose of sanitary products as essential. Posts communicated a distrust of the law enforcement system with mentions about women lacking access to health and hygiene during menstruation was framed as a significant health issue. Posts with people flashing sanitary napkins were put up, showcasing the need to speak up. (Exhibit 4) The NGO representatives asserted the need to preserve identity and dignity, resonating with the theme of Female Identity within the frame.

"*#LahuKaLagaan was a step forward in educating and empowering women to speak up ... for doing what's right and hold the values of dignity and self-identity*". - (Interview A, 8th April 2019)

She Says emphasis upon objectives and actions for prognostically framing the issue

She Says used prognostic framing more than diagnostic framing and talked about clear goals and aims. In order to mitigate the feelings of gender injustice reflected in tweets on reasons for levying the blood tax, use of solidarity gave the organization widespread engagement and momentum in order to result in legislative action. Both Solidarity and Actions framed the solution to the tax issue.

"*#LahuKaLagaan moved ahead from just retweeting hashtags on Twitter. Its call for action was direct- calling out the elite decision-makers to be accountable.*" – (Interview E, dated 26th April 2019)

#LahuKaLagaan digitally advocates Real Action as opposed to Slacktivism

The campaign emphasizes making real change by taking action, particularly concerning government policy. (Table 6) countering the perception of hashtag activism as a lazy, armchair, and narcissistic (slacktivism).

"*It is difficult to gauge how successful hashtag activism is, as much of it aims to change social attitudes rather than changing legislation. #LahukaLagaan was action-driven; the strategy was to break bigger issues into smaller achievable steps/actions that can translate our ideas across.*" - (Interview A, dated 8th April 2019).

The NGO framed the issue to advocate sanitary napkin as a necessity item instead of a luxury by offering 100% tax exclusion for the production and distribution of environment and health-friendly pads. #LahuKaLagaan used solidarity as a theme to form a collective of advocates, influencers, civil society with shared views . One of their twitter posts asked the public to "showcase what all products they consider as a luxury in their life." (Exhibit 6). Furthering the solidarity frame, celebrities and influencers were part of the campaign. A post about Mirror Now #Exclusive: WCD Minister @Manekagandhibjp defends #LahuKaLagaan; says 12% tax on sanitary pads is fine! @fayedsouza #CheaperSanitaryPads. Social Media Entertainment (SME) creators-influencers, Youtubers, were requested to send tweets to the Finance Minister for making sanitary napkins tax-free under the GST bill. Comedians Kenny Sebastian, Mallika Dua, Kanan Gill, Rohan Joshi, Sorabh Pant encouraged their followers to tweet, post and share. (Exhibit 6). She Says tweeted about how NGO Youth Ki Awaaz and some other prominent personalities met the Finance Minister illustrating other NGOs' commitment to the cause, reinforcing solidarity as a key theme in prognostic framing.

"*Social media has progressed from a predominant tool for social interaction to an important tool for organizing solidarity. #LahukaLagaan brought the celebrity power to bring collective attention to the issue*"- (Interview E, dated 13th April 2019)

Another advocate said: "*#LahukaLagaan has contributed in community building and mobilization of people towards gender issues. With a clear strategy at hand, we aimed at creating a common voice*" (Interview G, dated 22nd April 2019).

Using social media to motivate participation
#LahuKaLagaan's motivational framing centred around open conversation and forming a chain of participants for sustained pressure. In India, menstruation is not talked about aloud, but this campaign reversed it. The participation included famous stand-up comedians, radio and music show hosts, soap opera stars, and fashion models who also took to Twitter to urge the Finance Minister to consider their appeal for tax-free sanitary pads and improved sanitation facilities in rural areas. Social Participation was found as the dominant theme in motivational framing.

Beyond Internal Publics towards Media Mileage
Internal publics of She Says tweeted effectively to create a spill over to the external publics such as the mass media. Sustained media coverage was found in Indian English dailies like The Hindustan Times , Times of India, The Economic Times Daily News & Analysis, Hindustan Times, and The Economic Times and articles on nature and cause of the campaign appeared on the websites of The New York Times, Guardian and The Huffington Post (Saxena 2017;Sharma 2019) . Increased visibility in the media not only spread awareness but also fuelled the online engagement, sharpening the focus on the campaign building imminent pressure towards the outcomes. The blood tax campaign also reduced the hesitation on communication menstruation amongst the legislators as it asked the parliamentarians to participate via its posts (Exhibit 7).

"*Participation marketing doesn't just entail getting audiences to subscribe to a newsletter or like a social media post. It's about following a consumers' journey and becoming a part of their lives, thus evolving the brand narrative. #LahukaLagaan asked for joining brand-initiated conversations/posting brand-solicited messages.* (Interview I, dated 28th April 2019).

Even after the tax was exempted, the campaigns urged people to remain motivated and continue to fight for menstrual awareness and rights.

#LahuKaLagaan bridged conversations, amplified the issue significantly , and transformed to a certain extent
Frame bridging was visible in tweets that linked issues surrounding #LahuKaLagaan to women facing injustice and neglect. One of the most prominent examples was comparing, highlighting the consequences of non-accessibility of menstrual hygiene products on women's education, health, and overall development. (Exhibit 8). Amplification was equally notable. Many examples were found of how #LahuKaLagaan's Twitter communication amplified its framing through clarification and invigoration. Some posts included videos that dramatized the injustice and showed how women in rural areas use unhygienic alternatives due to lack of access to sanitary napkins. (Exhibit 8). Collective and amplified voice create impact, then it's no longer just about an NGO fighting. It became a cool thing to talk about; a people's movement. People questioned the composition of the finance ministry – it had only one woman on it. They had multiple demands, classifying sanitary napkins as an essential commodity, ensuring a price ceiling, and making it tax-free. They even filed multiple RTIs to look at the government schemes, such as the National Rural Health Mission, which were supposed to distribute sanitary napkins in villages (Exhibit 9). She Says used frame extension too. From media advocates to celebrities or people at large, #LahuKaLagaan tried to increase its base of supporters. For example, as the campaign progressed, She Says started offline advocacy efforts among college students. (Exhibit 10). To claim transformation will be premature given that the period for this study extended only till the campaign resulted in the desired outcome. Menstrual hygiene is closely associated with gender equality and female empowerment through its direct influence on women's reproductive health, education, and

labour. It brings it to the forefront of international development concerns represented in UN Sustainable Development Goals (SDG 5-6). The movement aims to move beyond a legislative action and work towards achieving the SDG-5. It managed to break the taboo, raise mass awareness about the issue, and mobilize people to lend their voice to it.

As advocates for #LahukaLagaan, we followed the following design tools to make a campaign effective: a) Issue Building by Amplification: tell new recruits what is wrong and why b) Highlighting Sustainable Solutions: present a solution to the existing issue and c) Driving Motivation: give people a reason to join collective action. (Interview I, dated 28th April 2019).

CONCLUSION

In the case of non-governmental organizations, digital advocacy can motivate collective action, but only if new media tools are organized intentionally and maintained consistently in a campaign. Since networked communication gives young people opportunities to enter new communities, the advocacy organizations should create a participatory loop to run a campaign. Developing a campaign based on a mix of diagnostic-prognostic or prognostic - motivational framing of issues can result in a wider reach of the message as people today don't only consume the mainstream agenda but are actively co-constructing the contents of the civic imagination. The framing analysis of #LahuKaLagaan underlines the importance of using multiple framing processes in addition to issuing specific themes that make digital advocacy an effective strategy.

LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

This study is limited to a digital advocacy campaign on a specific gender-based issue in order to analyse the strategic use of frames. It would be useful to know how organizations, NGO's in particular apply frame extension in digital advocacy in further research studies. We could find a few posts exemplifying frame transformation. Additional research needs to examine salience of frame transformation in digital advocacy campaigns on gender to find the efficacy of the device in while planning and executing a short-term campaign with WUNC properties. #LahuKaLagaan is an example of how organizations are combining principles of offline and grassroot activism with new media tools in order to create advocacy campaigns that may have global reach and outcomes. With increasing new media consumption across geodemographics of India, digital advocacy has evolved as an effective form and a visible marker of socio-political change.

REFERENCES

Altman, A. (2015, August 20). Where Black Lives Matter Goes from Here | Time. Retrieved June 24, 2021, from Time website: https://time.com/4004380/where-black-lives-matter-goes-from-here/

Benford, R. D., & Snow, D. A. (2000). Framing Processes and Social Movements: An Overview and Assessment. Annual Review of Sociology, (1), 611–639. https://doi.org/10.1146/annurev.soc.26.1.611

Bloom, L. (2014). Suspicion nation: The inside story of the Trayvon Martin injustice and why we continue to repeat it. Retrieved June 24, 2021, from https://scholar.google.co.in/citations?user=a9FKgScAAAAJ&hl=en&oi=sra#d=gs_md_cita-d&u=%2Fcitations%3Fview_op%3Dview_citation%26hl%3Den%26user%3Da9FKgScAAAAJ%26citation_for_view%3Da9FKgScAAAAJ%3AmVmsd5A6BfQC%26tzom%3D-330

Carty, V. (2018). Social Movements and New Technology. Routledge.

Castells, M. (2002). The Internet Galaxy. Oxford University Press on Demand.

D'Angelo, F. J. (2009). The Rhetoric of Intertextuality. Rhetoric Review, (1), 31–47. https://doi.org/10.1080/07350190903415172

Demographics of Social Media Users and Adoption in the United States | Pew Research Center. (n.d.). Retrieved June 24, 2021, from Pew Research Center: Internet, Science & Tech website: https://www.pewresearch.org/internet/fact-sheet/social-media/

Earl, J., & Kimport, K. (2011). Digitally Enabled Social Change. MIT Press.

Fadnis, D. (2017). Feminist activists protest tax on sanitary pads: attempts to normalize conversations about menstruation in India using hashtag activism. Feminist Media Studies, (6), 1111–1114. https://doi.org/10.1080/14680777.2017.1380430

Gerbaudo, P. (2012). Tweets and the Streets. Pluto Press.

Hallahan, K. (1999). Seven Models of Framing: Implications for Public Relations. Journal of Public Relations Research, (3), 205–242. https://doi.org/10.1207/s1532754xjprr1103_02

Hon, L. (2016). Social media framing within the Million Hoodies movement for justice. Public Relations Review, (1), 9–19. https://doi.org/10.1016/j.pubrev.2015.11.013

How Trayvon Martin's Death Launched a New Generation of Black Activism | The Nation. (2014, August 27). Retrieved June 24, 2021, from The Nation website: https://www.thenation.com/article/archive/how-trayvon-martins-death-launched-new-generation-black-activism/

Ihlen, Ø., & Nitz, M. (2008). Framing Contests in Environmental Disputes: Paying Attention to Media and Cultural Master Frames. International Journal of Strategic Communication, (1), 1–18. https://doi.org/10.1080/15531180701623478

International Day of the Girl 2020 | UNICEF. (n.d.). Retrieved June 24, 2021, from UNICEF website: https://www.unicef.org/gender-equality/international-day-girl-2020

Klandermans, B. (2007). The Demand and Supply of Participation: Social-Psychological Correlates of Participation in Social Movements. In The Blackwell Companion to Social Movements (pp. 360–379). Blackwell Publishing Ltd. Retrieved from http://dx.doi.org/10.1002/9780470999103.ch16

Linda L. Putnam and Michael E. Pacanowsky (eds.): Communication and Organization: An Interpretive Approach 1983, Beverly Hills: Sage. 303 pages. (1984). Organization Studies, (4), 380–380. https://doi.org/10.1177/017084068400500424

Mathias, T. (2017, January 27). The Tweeter Side to Life: How Indians on Twitter Are Making a Difference. Retrieved May 6, 2021, from The Better India website: http://www.thebetterindia.com/83396/twitter-for-good-social-outreach/.

McCammon, H. J., Muse, C. S., Newman, H. D., & Terrell, T. M. (2007). Movement Framing and Discursive Opportunity Structures: The Political Successes of the U.S. Women's Jury Movements. American Sociological Review, (5), 725–749. https://doi.org/10.1177/000312240707200504

Moscato, D. (2015). Media Portrayals of Hashtag Activism: A Framing Analysis of Canada's #Idlenomore Movement.

Mukherjee, M., Ratho, A., & Jain, S. (2021, May 6). Unsocial Media: Inclusion, Representation, and Safety for Women on Social Networking Platforms. Retrieved May 6, 2021, from www.orfonline.org website: https://www.orfonline.org/wp-content/uploads/2021/05/ORF_OccasionalPaper_312_UnsocialMedia.pdf

Muralidharan, S., Rasmussen, L., Patterson, D., & Shin, J.-H. (2011). Hope for Haiti: An analysis of Facebook and Twitter usage during the earthquake relief efforts. Public Relations Review, (2), 175–177. https://doi.org/10.1016/j.pubrev.2011.01.010

National Family Health Survey-5. (2020, December 15). Retrieved May 6, 2021, from Press Information Bureau website: https://pib.gov.in/Pressreleaseshare.aspx?PRID=1680702

Period Poverty: Everything You Need to Know. (2019). Retrieved May 6, 2021, from Global Citizen website: https://www.globalcitizen.org/en/content/period-poverty-everything-you-need-to-know/

Sachdev, C. (2017, July 13). Company In India Gives Women A Day Off If Their Period Is Painful. Retrieved May 6, 2021, from https://www.npr.org/ website: https://www.npr.org/sections/goatsandsoda/2017/07/13/535798455/company-in-india-gives-women-a-day-off-if-their-period-is-painful

Saxena, N. (2017, April 26). Celebrities support #LahuKaLagaan, request Arun Jaitley to remove sanitary napkin tax | Hindustan

Times. Retrieved May 6, 2021, from Hindustan Times website: https://www.hindustantimes.com/bollywood/celebrities-support-lahukalagaan-request-arun-jaitley-to-remove-sanitary-napkin-tax/story-c7nzLdJFe1lEVNfdII7hyO.html

Sharma, N. C. (2019, June 13). ICMR to find out if green, cheaper sanitary pads best option for girls. Retrieved May 6, 2021, from Livemint website: https://www.livemint.com/news/india/icmr-to-find-out-if-green-cheaper-sanitary-pads-best-option-for-girls-1560366790378.html

Shirky, C. (2008). Here Comes Everybody (p. 84). Penguin.

Social Media Site Usage 2019 | Pew Research Center. (2020, January 9). Retrieved May 6, 2021, from Pew Research Center: Internet, Science & Tech website: https://www.pewresearch.org/internet/2015/01/09/social-media-update-2014/

Tarrow, S. (1998). Contentious Politics and Social Movements. In Power in Movement (pp. 10–26). Cambridge University Press. Retrieved from http://dx.doi.org/10.1017/cbo9780511813245.003

Tilly, C. (2019). Futures of Social Movements. In Social Movements, 1768–2004 (pp. 144–158). Routledge. Retrieved from http://dx.doi.org/10.4324/9781315632063-7

UNICEF. (n.d.). Gender equality: Global annual results report 2018 | UNICEF. Retrieved June 24, 2021, from UNICEF website: https://www.unicef.org/documents/gender-equality-global-annual-results-report-2018

van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. Psychological Bulletin, (4), 504–535. https://doi.org/10.1037/0033-2909.134.4.504

Annexure I (Interview Details)

S.No	Interviewee	Title	Date
1	A	Gender Advocacy Director, She Says	8th April, 2019
2	B	PIL Activist	22nd April, 2019
3	C	Gender Advocate	23rd April,2019
4	D	Communication Researcher	15thApril 2019
5	E	Corporate Communications, Goonj	13th April, 2019
6	F	Communications Director, She Says	26th April, 2019
7	G	Programme Director – Research, Advocacy and Communications, Azad Foundation	22nd April, 2019
8	H	Founder & CEO, WAT Consult	26th April, 2019
9	I	Founder, She Says	28th April, 2019

Annexure II (Table 5-9)

a) **DIAGNOSTIC FRAMING**		
Tweet	**Theme**	**Rationale**
if beedis are tax-free, why not sanitary products? Expenses incurred by a woman on sanitary napkins. They are taxed up to 14.5% depending on states! No to #LahuKaLagaan! @arunjaitleypic.twitter.com/k1GawlewDD — She Says (@SheSaysIndia) April 18, 2017	**Gender Injustice** Unequal /Unfair treatment meted out to women based on discrimination between men and women.	Use of metaphors, analogies and comparisons with items consumed largely by men to pose critical questions on blood tax. The posts outlined the gender injustice of the taxation policy in the country.

Table 5: Shows the illustrations of diagnostic framing in tweets of #LahuKaLagaan

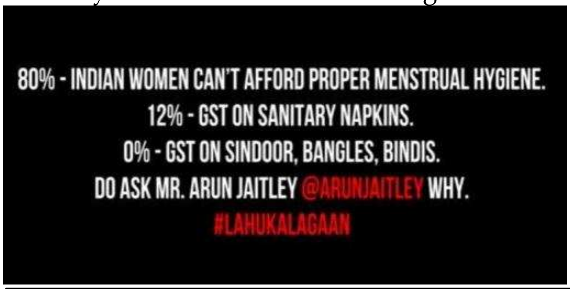
DIAGNOSTIC FRAMING		
Tweet	**Theme**	**Rationale**
@SheSays dated 9th August 2017  	**Female Identity** **(**Women want to see their human rights respected. Rights to personal safety, economic security and meaningful participation)	Tweets quoting data on magnitude and scale of the problem highlighting its gender specific nature. The posts highlighted that it is important to understand and accept that menstrual health is a public health issue.

Table 6: Shows the illustrations of diagnostic framing in tweets of #LahuKaLagaan

PROGNOSTIC FRAMING		
Tweet	**Theme**	**Rationale**
@SheSaysIndia Legal representations have been sent to government officials on behalf of women at large. These are few of our demands #LahuKaLagaan @arunjaitley5:42 PM - Apr 19, 2017	**Actions** (Political, Legislative for change in tax policy)	Tweets on what is being done about the demands put to the government, an update on day-to-day developments to bring about the policy change The campaign had posted its objective right in the beginning setting the tax exemption as a legislative action frame as the possible solution.

Table 7: Shows the illustrations of Prognostic Framing in tweets of #LahuKaLagaan

PROGNOSTIC FRAMING		
Tweet	**Theme**	**Rationale**
@SheSays Mirror Now #Exclusive: WCD Minister @Manekagandhibjp defends #LahuKaLagaan; says 12% tax on sanitary pads is fine! @fayedsouza #CheaperSanitaryPads 	**Solidarity**	Presence of solidarity frame as mainstream news media handles , film and Social Media Entertainment (SME) content creators tweeted in support of the protest campaign.

Table 8: Shows the illustrations of Prognostic Framing in tweets of #LahuKaLagaan

MOTIVATIONAL FRAMING		
Tweet	**Theme**	**Rationale**
@SheSaysIndia, dated 12 June 2018 Dear @poonam_mahajan, you have been a stellar advocate for women. Do support our campaign #LahuKaLagaan to make sanitary napkins tax-free.	**Participation** (of bystander publics, the media, potential allies, and elite decision makers)	Asking all stakeholders to participate and break the taboos around talking about menstrual hygiene.

Table 9: Shows the illustrations of Motivational Framing in tweets of #LahuKaLagaan

Annexure III (Exhibit1-10)

Humour based Twitter post using celebrity

Exhibit 1: Sample tweets reflecting gender injustice framing

Post reflecting discrimination against women population (Tweet No 327)

Exhibit 2: Sample tweets reflecting gender injustice framing

@fayedsouza, 11 Nov 2017
In closing, a woman needs about 12 pads per month/per women for half her life. Do the math. 75% of rural India survives on Rs 33 per day (Source: SECC). Also, NO UTERUS NO OPINION!#LahuKaLagaan
181 replies 213 retweets 579 likes (Tweet 743)

Online Content Channels were partnered to create engaging content (Tweet 329)

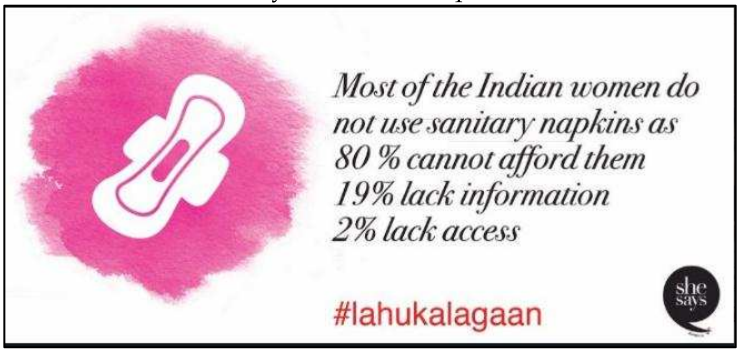
Trisha Shetty
@TrishaBShetty
Huge win for us all -Sanitary napkins to be exempt from GST!Thank you, GST Council for doing what's right by the women of India & dropping the #lahukalagaan @SheSaysIndia had filed a PIL over this issue along with other prayers in 2017. (Tweet 1445)

Exhibit 3: Sample tweets reflecting gender injustice framing

@SheSays, dated 22 July 2018

Tweet No (1503)

@SheSays, dated 18th April 2017



Tweet No(432)

@SheSays, dated 8th February 2018

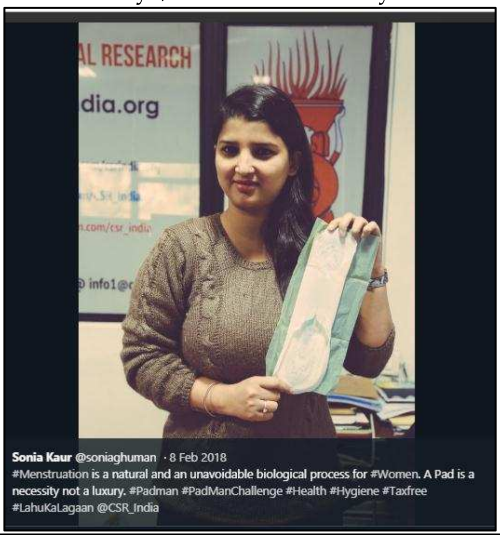


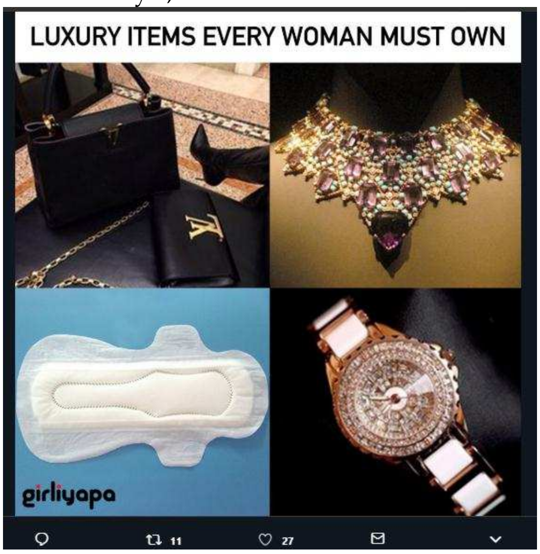
Exhibit 4: Sample tweets reflecting female identity framing-use of celebrities and research studies

She Says @SheSaysIndia · 18 Apr 2017 Time to do away with the tax on Sanitary Napkins. Mr @arunjaitley, Sanitary Napkins must be affordable & accessible. Say no to #LahuKaLagaan.(Tweet 816)
We would like to thank @MoHFW_INDIA for taking cognizance of our representation to them to make sanitary napkins tax-free. #LahuKaLagaan SheSays@SheSaysIndia June 14, 2017 (Tweet 1020)
@SheSays Update on the PIL filed by She Says India for tax-free Sanitary. A division bench of Justices heard the matter earlier today and recognized the seriousness of the issue that affects half of India's population. #LahuKaLagaan #morepower.(Tweet 1029)
@SheSays, dated 19 June, 2017

Finance Minister Arun Jaitley with petition activist (Tweet 842)

Exhibit 5: Sample tweets reflecting action framing

@SheSays , dated 22nd November 2017

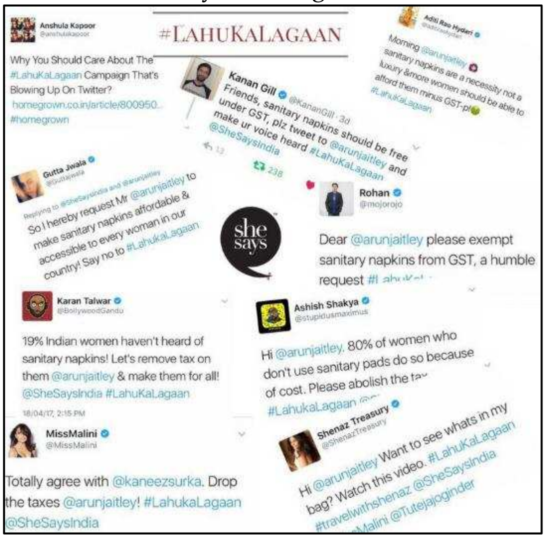


Use of hyperbole to draw comparisons (Tweet 923)

@SheSays , dated 4th July 2017

News coverage across national channels

@SheSays, 18 August 2017



Tweet Cloud (Tweet 692)

Exhibit 6: Sample tweets reflecting solidarity framing

@SheSaysIndia, 27 July 2017

University students protesting across streets (Tweet 397)

She Says @SheSaysIndia, February 3, 2018
Bollywood has taken the brilliant initiative of posing and posting photos to social media with sanitary napkins in an effort to dispel the strong stigma surrounding menstruation, products for which carry an unnecessary tax. (Tweet 1071)

Congress President Sonia Gandhi supported a Change.org petition, started by Congress MP Sushmita Dev., for scrapping of tax on sanitary napkins.
Shalini Thackeray @ThakareShalini, Apr 20, 2017 (Tweet 283)

Our fight results in budget for installation of sanitary napkin vending machines in BMC schools and toilets. #LahukaLagaan She Says @SheSaysIndia, February 22, 2018 (Tweet 1322)

Exhibit 7: Sample tweets reflecting participation framing

@SheSays India
When It Comes To #MenstrualHealth In #India, There Are A Number Of Barriers, While Many Are Still Stuck With Taboo And Absurd Superstitions, Others Simply Don't Have Access To #SanitaryPads,ActionAidUSA, @ActionAidUSA August 3, 2017

@SheSays India

India should get rid of an unpopular 12% tax on feminine products. This will allow more women and girls to have access to these products and do everyday things like go to work and school. #LahuKaLagaan,ActionAidUK, @ActionAidUK July 23, 2017

@SheSays India
#PeriodPoverty means millions of women and girls across the world are still denied the right to manage their own natural bodily cycles with dignity and control. #MyBodyIsMine #LahuKaLagaan, July 30, 2017

Exhibit 8: Sample tweets reflecting frame alignment-bridging

@SheSaysIndia RJ Sukriti
@RjSukriti May 25, 2017
#SanitaryNapkins are much more imp than #Bindis & #Sindoor. Why is it so difficult to understand? #LahukaLagaan #GST #gstcouncilSheSays (Tweet 288)

Exhibit 9: Sample tweet reflecting frame alignment-alignment

(November 27, 2017).
She Says@SheSaysIndia Nov 27
She Says' Gender Advocacy Director, Prageeyaa Khanna, having a discussion with students from University of Exeter and Mumbai. This one is on the significance of Advocacy and the journey of how the hashtag #LahuKaLagaan translated into public interest litigation.
@SheSays, dated 6th July 2017
She activist Trisha took part in prime time offline news debates on National news channels like CNN-IBN, MirrorNow, and AajTak etc. (Tweet 373)

Exhibit 10: Sample tweet reflecting frame alignment-extension

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CONTEMPORARY BOLLYWOOD'S TRYST WITH BOURGEOIS ROMANCES OF HINDI CINEMA

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ABSTRACT

Hindi cinema is a grand syntagm with sentimental romances as an inevitable element; post 2000 the romantic portrayals in Bollywood underwent metamorphosis but kept connections with its past alive; thus, feudal family romances, social romances, domestic drama romances, action romances and bourgeois romances all contributed towards the romantic Hindi cinema post 2000. This commentary charts the trends of Hindi cinema post 2000 and critiques how contemporary Bollywood romances need to be interpreted through a consciousness towards the above said trends and a cognitive culturalist approach model.

Keywords: Hindi Cinema, Bollywood, Bourgeois Romance

INTRODUCTION

Hindi cinema is like a wedding *thali* (feast), it is infused with multiple plots, a melodrama type which is different from Hollywood melodrama genres (Vasudevan,1989), a period which surpasses logic and follows the time-trajectory of mythological epic texts of the country (Hogan, 2008), characters and their life stories are not tied to narrative of the film but bring intertextuality from the previous characters played by the star or the persona of the stellar in real life (Dwyer,2014; Gopinath,2017) and the unavoidable song and dance sequences which are the junctures/ 'para-diegesis' which fill in the story with a lot of details absent from the main plot using narrative tools like flashback, flash-forward and dreams and fantasy (Dwyer 2014; Hogan 2008).

Ye Jawani hai Deewani (Mukherji, 2013) is a rom com from the decade of 2010-2020 of Hindi cinema; but has a lot of elements which belong to romance films (main plot is love between the heterosexual bourgeois couple) of 1990s, of which the best example is *Dilwale Dulhania Le Jayenge* (Chopra,1995) : a film which set the standard for romantic Hindi cinema of the 90s decade (Dwyer, 1998; Rajadhakshya, 2003; Mehta, 2010). Though the film has faint impressions of bourgeois romance films of 1990s (Bollywoodisation) but it also authenticates with the trend of romances post 2000 in Bollywood. The image of male protagonist undergoes a change compared to the stereotypical selfless, *bechara* (brooding) image projected till 1990s (Mishra, 2002; Mubarki, 2018); for the millennial protagonist personal goals are important than family goals, he believes in travel and adventure as inescapable for individual development and his *Awara* tattoo brings in a postmodernist meaning to the cinematic motif (Wright,2015); the female protagonist breaks many patriarchal trends - for e.g.- Aditi's character (Kalki Koechlin), she is flamboyant, her friends occupy most of her life space, we never see her immediate kin except during her wedding when we get to see the elaborate family and she is dressed like a tomboy initially; we witness her in traditional Indian clothes only during her wedding ceremony (Kamble, 2015). She is a contrast to the typical image of Hindi film female lead: submissive, selfless, bearer of tradition, dependent on men to take her life decisions (Bose, 2014; Kamble, 2015; Kaur & Sharma, 2017).

Globalization and liberalization impressions are present in the film, though it was not a niche (*hatke*) subject but still a topic which the multiplex audience enjoyed watching and marketing was done as best suited the trends post 2000- brand integration and extensive social media campaigns (Exchange4media, 2013; Bose, 2014; Dwyer , 2014). Hindi cinema post 2000 experimented with narrative, plots and characters, film-making techniques, and marketing strategy - Wright (2015) mentions two categories in which she places post 2000 Bollywood films- the New Bollywood (*hatke* films) and Contemporary Bollywood. Due to the emergence of multiplex audiences and production houses ready to take risks there are a range of subjects that erupted. Where on one side was the aesthetically exquisite cinema of Bhansali; *hatke* films (Dwyer, 2014) of directors like Kashyap, Bhardwaj, Dhulia and Sircar and many like them mesmerized the audiences with stories which were from interiors of India, language used was with a touch of regional, locations and film ambience was much like documentary and characters were nowhere close to the perfect and fantastical protagonist that Hindi cinema created till the 1990s decade (Paunksnis, 2017). But the trend of big budget, foreign location based, diaspora centered, bourgeois romance and cinema which projected the life of super rich Indian's sans the subaltern space and based more on their personal life struggles also sustained (Kamble,2015) - a kind of cinema whose aesthetics were created by Yash Chopra (Dwyer,1998) :*Ye Jawani Hai Diwani* being an example but not untouched by the experimentation of post 2000 decade.

Post 2000 Hindi Cinema Trends

Hindi Cinema as Public Culture

Hindi cinema is not restricted to cinema halls but is an important part of the audience's life; 'Bollywood permeates India's public culture more significantly than viewership of films themselves'. Post 'Hollywoodization', Independent cinema emerged strongly, production houses corporatized themselves, films and their marketing entered digital arena; films became a guide to lifestyle trends; the star text overpowered the characters they played in films and song junctures continued strongly in Hindi films (Dwyer, 2014). The trend of big budget films whose subject were either the diasporic Indians or upper class/ upper middle-class Indians for whom the day-to-day livelihood struggles don't exist, but the film focuses on their personal life struggles more like bourgeois romances of Yash Chopra (Dwyer , 2010) ; films like these continued to be to be made in 2000s.

Hindi cinema and Postmodernism

Hum Dil De Chuke Sanam (Bhansali, 1999) started the 'visually excessive style of film making'; Aishwarya Rai represented the perfect feminine visual based on Raja Ravi Verma created female image (Mishra,2002; Dwyer,2010). Hrithik Roshan introduced the 'hyper masculine physique' (Mubarki, 2018) and superhuman dancing abilities. *Gaja Gamini* (Husain,2015) emerged as first commercially released *Avant Garde* cinema which brought an 'explicit postmodern aesthetic' to Hindi Cinema. Farhan Akhter's *Dil Chahta Hai* (2001) challenged the old attitudes and promoted a modern India (Wright, 2015).

Lagaan (Gowarikar, 2001) became the third film from Hindi cinema to be nominated for Academy Award for Best Foreign Language Film. Films like *Koi Mil Gaya* (Roshan, 2003), *Main Hoon Na* (Khan,2004) and *Hum Tum* (Kohli, 2004) adapted plot ideas and technology thought from Hollywood. *Black* (Bhansali, 2005) lacked the song and dance sequences and was commercially successful indicating diversifying tastes of the Indian public.

Film franchises made huge profits with films like *Krrish* (Roshan, 2006) and *Dhoom 2* (Gadhvi, 2006); a trend of remakes of old Hindi films started with *Don* (Akhtar, 2006) and *Umrao Jaan* (Dutta, 2006); *Om Shnati Om* (Khan, 2017) was the highest grossing film of the year and a 'postmodernist' remake of 1980 film *Karz* (Ghai,1980); international rap start Snoop Dog wore a turban and produced theme song for Bollywood film *Singh is King* (Bazmee, 2008). Post 2000 Wright (2015) suggests:

Bollywood made films with elements of recycle, repeat, to excessively express and visualize, to commercialize and self com-modify, to appropriate other cultural works and to differentiate binaries or blur distinctions…this cinema has in restructuring acquired striking postmodern qualities.

Hindi Cinema and Branding

Kriplani (2007) makes an important point, the films based on weddings continued to be made; crossover films also picked up the trend - *Monsoon Wedding* (Nair, 2001), *Bend it Like Beckham* (Chadha, 2002) and *Bride and Prejudice* (Chadha, 2004) have marriage as important plot point . The extended wedding drama films *Kabhie Khushi Kabhie Gham* (Johar, 2001), *Kal Ho Na Ho* (Advani, 2003), and *Hum Dil De Chuke Sanam* (1999) and the films in 1990s decade- 'the domestic dramas' (Malhotra and Alag, 2004) created a trend of big fat Indian weddings which emulated the visual style, costumes and elaborate ceremonies of these film weddings and promoted foreign locales as the perfect spot for honeymoon. He also mentions the image that Hrithik Roshan projected: the muscular metrosexual man with his speed machine set the trend for the image of male protagonist : some films being *Kabhie Khushi Kabhie Gham* and *Kaho Na Pyaar Hai* (Roshan, 2000). Films also advertised brands through their inclusion in the narrative , example being *Koi Mil Gaya* (Roshan, 2003) ; tourism to foreign locales surged with films like *Kaho Na Pyar Hai* making New Zealand as a desirable location and Scotland tourism surged with Indians after *Kuch Kuch Hota ha*i (Johar, 1998).

Crossover Films

Crossover films, the films where east meets west; films with Indian actors speaking in English ; plots were to do with stories of Indian families settled in country or abroad; their struggles of love and identity; portrayal of endeavor between tradition and globalization influences but the style of film making (camera techniques, *mise en scene* and editing and portrayal of characters by actors) was like any Hollywood movie rather than Bollywood style make. Examples include *Bend it Like Beckham* (2002), *Hollywood Bollywood* (Mehta, 2002), *The Mistress of Spices* (Berges, 2005) and *Being Cyrus* (Adajania, 2006) (Wright, 2015; Kidwai, 2016).

Women Character Portrayal

Women characters portrayed in post 2000 Bollywood have been vastly critiqued upon : Central female characters - post 1990s started wearing western outfits frequently, were shown financially independent but dependent on father or husband/boyfriend to take important life decisions and once aware of her conventional responsibilities would only be seen in Indian traditional attires (Derne, 2000); post 2000 female character portrayal underwent change -Kaur and Sharma (2017) mention films like *Mardaani* (Sarkar, 2014) and *Gunday* (Zafar, 2014) where female characters underwent a psychological change and the narrative supported her journey being completely in her hands, male characters would act like sidekicks; a withdrawal from 'larger agenda of patriarchal ideology and traditional values'.

Bose (2014) mentions the stardom of Vidya Balan and cites reasons for it being favourable industrial and technological changes; radical transformation in exhibition of films and sectorial practices; trans-media marketing and promotions; production houses hiring new filmmakers who were ready to experiment with subjects due to presence of multiplex niche audiences. But Sharma (2017), and Khan and Taylor (2018) mention films like *Queen* (Bahl, 2013) which though hailed as films with a female perspective but the world she exists in and the conditioning she has is patriarchal; projecting this ideology in transnational space; also locating a trend of 'Central Female Characters adherence to prescriptive gender norms ' so they suggest radical changes in female character portrayal.

Male Protagonist Image Post 2000

Some films from the decade of 2000-2010 which portray the trend of Hindi Cinema in this decade are - *Kaho Na Pyar Hai* (2000) brought overnight stardom to Hrithik Roshan and created a new image for the male protagonist in contrast to the image of three Khans who ruled Bollywood in 1990s decade-burly neo-liberal Hindutva expectation laden body in 2000s compared to the metrosexual man of 1990s (Kavi, 2000; Mubarki, 2018) . *Dil Chahta Hai* (2001) became the defining film of the decade : the way it was shot, clothes characters wore, the way they spoke and even the wall paint everything was different; protagonist were shown fighting personal battles: identity, love, career (Dwyer, 2014; Wright, 2015).

Hatke and Contemporary Bollywood

Multiplexes emerged; Hindi films left the days of underworld funding and corporatized itself; studios like UTV Motion Pictures emerged. Middle road cinema resurfaced with films like *Ab Tak Chhappan* (Amin, 2004), *Khosla Ka Ghosla* (Banerjee, 2006), *Rocket Singh: Salesman of the Year* (Amin, 2009). Amitabh Bachchan started doing character roles, Amir Khan produced and acted in experimental films like Rang De Basanti (Mehra, 2006), Taare Zameen Par (Khan and Gupte, 2007), *Jaane Tu Ya Jaane Na (Tyrewala, 2008)*, *3 Idiots (Hirani, 2009)*. *Hera Pheri* (2000) helped Akshay Kumar, an action star in the 90s, find his sublime comic side. Saif Ali Khan was suddenly the most exciting star-actor around, making adventurous choices, showing range with characters played in films : *Hum Tum (Kohli,2004)*, *Omkara (Bhardwaj, 2006)*, *Being Cyrus (Adajania, 2006)*. Shah Rukh did some of his most loved films – *Kal Ho Na Ho* (Advani, 2003), *Swades* (Gowarikar, 2004) and *Chak De!India* (Amin, 2007). Lage Raho Munnabhai (2006) – which established Raju Hirani as a major director – 'joined the ranks of the hallowed sequels that actually improved on a fantastic first part'.

Sriram Raghavan's **Johnny Gaddaar *(2007*)** brought the iconography, narrative and ideology of *noir* genre to Bollywood; Vishal Bhardwaj, Anurag Kashyap, Dibakar Banerjee, Raghavan – 'stylists with eyes for characters and milieus from the fringe – came into their own in the 2000s' (Ghosh, 2019).

Post 2010 Hindi Cinema
2010 onwards the experimentation with subject and technical aspect of a films continued : *Aligarh* (Mehta, 2015) is a film that exists in Indian social milieu and exposes its 'hypocrisy and homophobia'. *Madras Cafe* (Sircar, 2013) is a spy thriller with a subtle political commentary sans melodramatic violence. *Newton* (Masurkar, 2017) a film about the righteous protagonist who is rigid and impractical but critiques the political system of our country. *Raman Raghav 2.0* is a typical Kashyap *noir* film about a serial killer, *Piku* (Sarkar, 2015) a story which traverses a father daughter relation through mundane every day and realizes the beauty of unremarkable, *Highway* (Ali,2014) a self-evolutionary journey through social hypocrisy and Stockholm syndrome, *Lootera* (Motwane, 2013) -O Henry's 'Last Leaf (1907)' through an Indian socio-political lens and a love story in between.

Delhi Belly (Deo, 2011): The representative 'adult comedy of errors from Bollywood…the satire is exaggerated on purpose and the film takes pleasure in treating its characters like objects'. *Rockstar* (Ali, 2011), *Shanghai* (Bannerjee, 2011), *Soni* (Ayr, 2019), *Badlapur* (Raghavan, 2015), *Ankhon Dekhi* (Kapoor, 2013) are few more experimental films. *Lunchbox* (Batra, 2013), *October* (Sircar, 2018), *Kapoor and Sons* (Batra, 2016) , *Haider* (Bhardwaj, 2014), and *Masaan* (Ghaywan, 2015) are some films which show love in peculiar circumstances (Kumar, 2020). Film making has become 'radically novel', high end technology use, blending of parallel and commercial cinema, divagation from song sequences formula, genre multifariousness, and use of Hinglish.

These new films don't match the 'existing models and established theories'; this new cinema is challenge to established definition of Hindi cinema. New Bollywood is 'aesthetically distinct and innovative' and contemporary Bollywood 'accentuates the post millennial era' . These contemporary films 'exhibit strong postmodern aesthetic style…it has been used as a means of internally commenting on and critiquing industry in its cultural form'; the subjects of these films are in the unstable environment of neo-liberalism, a state of crisis, anxiety and unquenched desires; another term used for these films is 'neurotic realism' (Wright, 2015; Paunksnis, 2017).

Analysis through Cognitive Culturalist (Schneider, 2009) Approach : *Ye Jawani Hai Diwani*
Cognitive theory says mental representations are structured and processed; narrative cinema uses mental processes for events presented in films; thus, reading a film should use mental representations. Film spectatorship is a motivated and informed action; the process of creating a story out of perceptual cues offered by dramaturgy of cinema is a precondition for narrative understanding. Cognitivists argue w.r.t. films, thinking and feeling are intimately related ; our emotional response to films depends on our understanding of textual information (Bordwell, 1989).

To understand Hindi films, acquaintance with *Rasa* theory (The theory of Indian Aesthetics) is important. The presentation of actors and audience reaction to a film are understood through *rasa* essentials. Story, character , themes of love and grief, intricate backgrounds, exquisite makeup and the elaborate song and dance sequences all are related to the *rasa* theory. *Natyashastra* (Detailed treatise and handbook on dramatic art explaining all aspects of classical Sanskrit theatre; written by Bharatmuni between 1st and 3rd century BCE) places audience experience while encountering a performance art supreme most; the performance of the actors should be able to evoke the *navrasas* (nine types of sentiments).

S. No	Rasa	Emotion Conveyed
1	*Sringara*	Love/Romance
2	*Hasya*	Laughter
3	*Karuna*	Grief
4	*Raudra*	Anger
5	*Vira*	Vigour
6	*Bibhasta*	Disgust
7	*Bhayanak*	Fear
8	*Adbhuta*	Surprise

The eight *rasas* and the corresponding emotions conveyed

The most commonly used *rasas* in Hindi cinema are *shringara* and *karuna,* thus Hindi films from early times have focused more on melodrama and romance. (Schneider, 2009; Roy, 2017).

Cognitive models of film reception infused with culturalist elements of explanation help understand films intricately. The Cognitive Psychological approach helps in understanding the 'emotional strategies of Indian cinema'. Post 2000 Hindi cinema has a changed audience, 'strategic reorientation in production' and development of a new aesthetic.

More than anything traditional feature film is a genuine emotion machine…the key to understanding emotions those represented in fiction as well as triggered in viewers lies in film's narration. (Tan qtd.in Schneider, 2009)

Main features of Bollywood cinema (Schneider, 2009)

1.Song and dance sequences are para-diegetic and anti-chronological
2.Concept of subject non psychological
3.Song and dance sequences : non clarity in objective and subjective perspectives much like Sanskrit dramas
4.Hindi cinema has no clear genres, but audience has a high expectation waiting to be gratified by film's stars
5.Story stereotypical, fragmentary, episodic
6.Dialogues rhetorical and sometimes act as disruption
7.Hindi cinema invariably contains song and dance sequences

Main features of Bollywood Cinema post 2000

New Bollywood (*Hatke*)	**Contemporary Bollywood**
Low budget	Big budget
Experimental filmmaking	Amalgamation of experimental and standard Hindi cinema film making
Neurotic realism	Hindi cinema melodramatic characteristics and postmodern features too
Altered distribution and exhibition	Aggressive and big budget marketing
Transnational audience and urban middle class audience	Pan Indian as well as global diaspora audience
Digression from song sequences	Song sequences inevitable
Genre diversity	No demarcation of genres

Ye Jawani Hai Deewani (Source: livemint.com)

Ye Jawani Hai Deewani reminds one of bourgeois romances of Yash Chopra; Naina (Padukone) takes audiences through a flashback; a powerful tool of Hindi cinema to break the chronology of time (Hogan, 2008). A memorable trip to Manali with Kabir (Ranbir Kapoor), Aditi (Kalki Koechlin) and Avi (Aditya Roy Kapoor) is what she reminisces as she receives Aditi's wedding card.

The trip is a self-introspective journey for Naina; she finds her life mundane, and this holiday brings fun, adventure and cheer to her life: a theme which dwells on neoliberal Indian's consumerist power and likeness for individuality (Kamble,2015). Kriplani's (2007) analysis about branding in films post 2000 can be observed here as the trip is managed by 'Make My Trip'. Ranbir's character is a Fox TV travel journalist and while capturing different cities in the film; Fox TV crew can be seen with him; while Fox TV was also part of marketing strategy for the film (Exchange4media, 2013).

Aditi is not afraid of being an average person; she fits no threshold of a perfect girl stereotypical image. Avi is a typical aimless youth who enjoys being drunk always and Kabir believes in adventure, self-love, and goals above relationships, and they all are happy with who they are. Naina is a dutiful daughter, academically good but annoyed with the burden of perfection. The film projects in the beginning about it being about upper middle class youth of globalized India, who are unapologetic about exploring a lot of western ideals like being self-centered, live in relationships and friends above family; it is about their internal struggles reminiscent of the genre Yash Chopra created but the aim, ideals and perspective of protagonists here is much different from Chopra's protagonists; here being self-centered, individualist and consumerist is celebrated (Dwyer, 2010; Wright, 2015). Manali's snowcapped mountains, beautiful natural landscape and its small corners are captured aesthetically. The dream song and dance sequence *subhanallah* express Naina's transformation and her love for Kabir. *Balam Pichkari* brings in the folk element into the world of globalized postmodernist youth; *sambhoga sringara* is expressed through both the private and public love songs like *dilliwali girlfriend* , *batmeez dil* and *kabira* (Sarrazin, 2008).

Kabir: the protagonist is a travel photographer and earning very well .He is introduced through a tattoo on his wrist and a camera in his hand: the tattoo says '*Awara*'; this word brings in the element of intertextuality and postmodernist streak as well: Raj Kapoor's - the tramp and the trickster, the star lineage of Ranbir Kapoor and his flamboyant, playboy image as is projected in media and the elements of the *vipralamba* induced sentimental hero (Mishra, 2009; Dwyer,2014) all come together to create the image of Kabir.

Kabir's love for his goals, Naina's belief in a simple life with family, Aditi's growth, and acceptance of life challenges and Avi's failure as a businessman show contrasting images of globalized neo-liberal youth who are accepted and identified by the multiplex niche audience (Bose, 2014; Dwyer, 2014). The middle of the film explores the romantic relationship between Naina and Kabir and uses elements of melodrama, sentimentality, song and dance sequences, the elaborate wedding ceremonies, intricate costumes, and aesthetically beautiful location of Udaipur to evoke feelings of *Sringara* . It is typical characteristics of the 'grand syntagm' that is Hindi cinema (Mishra, 2002) that are used in the middle to explore the *sambhoga* and *ayogya sringara* (Sarrazin, 2008). *Bano re bano chali sasuraal* is a folk touch to Aditi's *Haldi* ceremony (one of pre wedding wedding functions) and as certain researchers mention a hold of old patriarchy over the neo-liberal globalized youth (Sharma, 2014); *re kabira* is a song which dwells on Aditi's *bidaai* (folk song sung at time of girl leaving for groom's house) and at the same time is a cry to the neo-liberal, post modernist, globalized youth to come back to the nationalist, Hindu and elite world of upper class Hindus created in the 1990s decade in Bollywood which shows modernity as a facade and at heart believes in the *dharmic* world of Hindutva (Derne, 2000; Malhotra and Alag, 2004).

The conclusion can be understood by what Prasad (1998) calls the feudal family romance and the heterosexual couple accepted within the world of patriarchy where the man is the upholder of modernity and can experiment with his lifestyle and life goals while as the women is the bearer of tradition, selfless and ambition-less with no personal goals. The man retains his flamboyance but within the patriarchal structure and the women never challenges and is happy within this world. *Batmeez dil i*s the character song for Kabir but at the same time acts as the *nazar milana* (erotic romance) song for the heterosexual couple. Throughout the middle and end Naina is dressed in intricate Indian attire which makes her look sensual and attracts Kabir's attention: *angika* (costume), *natya* (Dance) and her *abhinaya* (acting) are in sync with *the sringara rasa* she has to evoke (Dwyer, 2010). Kabir's closeup of facial expressions through middle and end, when he gazes at Naina in the song *batmeez dil* or when he casually flirts with her or when he is filled with *bibhasta rasa* (disgust) when Naina is with someone else; or *vipralamba* (sorrow) evoked expressions when he realizes he must choose between his goals and his love can be understood through *rasa* parameters.

CONCLUSION

Ye Jawani hai Deewani is contemporary Bollywood; it has roots in the domestic drama genre of 1990s; iconography is much like these films; but the narrative begins with the dreams and expectations of neo-liberal youth , love for consumerism, and the characters are carved with strong individualistic sense; their portrayal is sans melodrama and their ideals are less traditional and more western but as the film reaches its conclusion, this postmodernist neoliberal youth finds solace in the virtuous world of traditional India; the female completely immersed in this traditional world but the man a combination of both traditional streak and neoliberal ambitions.

REFERENCES

Bordwell, David. (1989). *Making Meaning*. Harvard University Press.

Bose, N. (2014). 'Bollywood's fourth Khan': deconstructing the

'hatke' stardom of Vidya Balan in popular Hindi cinema. *Celebrity Studies.* 5:4, 394-409, DOI: 10.1080/19392397.2014.917431

3.Dwyer, R. (2014). *Picture Abhi Baaki Hai: Bollywood as a Guide to Modern India*. Hachette India.

4.Dwyer, Rachel.(1998). The Hindi Romantic Cinema. *Journal of South Asian Studies*.21:1.Retrieved from: http://www.tandfonline.com/loi/csas20

5.Dwyer, Rachel (2000).The erotics of the wet sari in Hindi films. *South Asia: Journal of South Asian Studies*, 23:2, 143-160, DOI: 10.1080/00856400008723418

6..Derne, S and Jadwin, L. (2000). Male Hindi Filmgoers' Gaze: An Ethnographic Interpretation. *Contributions to Indian Sociology*, 34(2), 243-268. Retrieved from: https://doi.org/10.1177/006996670003400204

7. Gopinath, P. (2018). 'A feeling you cannot resist': Shah Rukh Khan, affect, and the re-scripting of male stardom in Hindi cinema. C*elebrity Studies.* 9:3, 307-325. Retrieved from: DOI:**10.1080/ 19392397. 2017.1411202**

8.Hogan, P. (2008). *Understanding Indian Movies*. University of Texas

9.Kripalani,C. (2006). Trendsetting and Product Placement in Bollywood Film: Consumerism through Consumption. New Cinemas: Journal of Contemporary Film, 4(3), 197-215. Retrieved from: https://www.researchgate.net/publication/233621328_Trendsetting_and_product_placement_in_Bollywood_film_Consumerism_through_consumption

10.Kidwai, S. (2016). *REPRESENTATION OF WOMEN IN HINDI CINEMA: A COMPARATIVE STUDY OF COMMERCIAL AND PARALLEL CINEMA, POST 1980s. (*Doctoral Thesis, Aligarh Muslim University).

11.Kamble, J. (2015). All work or all play? Consumption, leisure, and ethics under globalization in *Zindagi Na Milegi Dobara.* South Asian Popular Culture. 13(1), 1-14, Retrieved from: DOI: **10.1080/14746689.2015.1024592**

12..Kaur & Sharma. (2017). A transition from Male Masculinity to Female Androgyny in Hindi Cinema. Media Watch. 8(2),287-294. retrieved from: https://mediawatch journal.in/mwj/may17-12.pdf

13.. Kavi, A. (2000). The Changing Image of Hero in Hindi Films. Journal of Homosexuality. 39(3), 307-312. Retrieved from: DOI: **10.1300/J082v39n03_15**

14.. Khan & Taylor. (2018). Gender Policing in Mainstream Hindi Cinema. *International Journal of Communication. Retrieved from:* http://ijoc.org.

15. Mishra, Vijay. (2002). *Bollywood Cinema: Temples of Desire*. Routledge.

16.Mishra. Vijay (2009). Spectres of Sentimentality: the Bollywood Film. *Textual Practice*, 23:3, 439-462. Retrieved from: https://uiowa.edu/indiancinema/shri-420

17. Malhotra, S and Alagh, Tavishi. (2004). Dreaming the Nation: Domestic Dramas in Hindi Films Post 1990. *South Asian Popular Culture*, 2(1), 19-37. Retrieved from: http://dx.doi.org/10.1080/1474668042000210492

18. Mubarki, M .(2018). Body, Masculinity, and the Male hero in Hindi Cinema. Social Semiotics. 30(2), 225-253. Retrieved from: https://doi.org/10.1080/10350330.2018.1547497

19. Rajdhakshya, Ashish.(2003). The 'Bollywoodization' of the Indian

Cinema: Cultural Nationalism in a Global Arena, *Inter-Asia Cultural Studies*, 4:1, 25-39, DOI:10.1080/1464937032000060195 35

18. 20.Roy, P. (2016). The Aesthetics of Emotional Acting: An Argument for a Rasa-based Criticism of Indian Cinema and Television. (Doctoral Thesis, University of Edinburgh).

18. 21.Schneider, A. (2009). Hum Aapke Hain Kaun…! An Example of the Coding of Emotions in Contemporary Hindi Mainstream Film. *Berghahn Journal*, 3(2),56-70. Retrieved from: doi: 10:3167/proj.2009.030205

18. 22.Sharma, Shubhra. (2017). Transnational Publics, Nationalist Ideology, and the Women Question in Hindi Cinema. Journal of South Asian Studies. 41(1), 106-120.Retrieved from: DOI: 10.1080/00856401.2017.1357094

18. 23.Paunksnis, S. (2017). Towards Neurotic Realism: Otherness, Subjectivity and New Hindi Cinema. South Asian Popular Culture. 15(1), 73-85. Retrieved from: DOI: **10.1080/14746689.2017.1344480**

24.Sarrazin, N. (2008). Celluloid love songs: musical *modus operandi* and the dramatic aesthetics of romantic Hindi film. *Popular Music*, 27(3),393-411. retrieved from: **https://www.researchgate.net/publication/291909806_Celluloid_love_songs_Musical_modus_operandi_and_the_dramatic_aesthetics_of_romantic_Hindi_film_Popular_Music_2008_27_3_393_DOI101017_S0261143008102197**

25. Vasudevan, Ravi. (1989). The Melodramatic Mode and Commercial Hindi Cinema. *Screen*. 30(3),29-50. Retrieved from: https://doi.org/10.1093/screen/30.3.29

26. Wright, N. (2015). *Bollywood and Postmodernism: Popular Indian Cinema in the 21st Century*. Edinburgh: Edinburgh University Press. Retrieved from http://www.jstor.org/stable/10.3366/j.ctt16r0hqr

27. Ghosh, S. (2019). *Bollywood in 2000s*. Film Companion. Retrieved from: https://www.filmcompanion.in/features/bollywood-features/my-favourite-film-decade-bollywood-in-the-2000s/

28. Kumar, A. (2020). *The 25 Finest Hindi Films of the Decade 2010s*. High on Films. Retrieved from: https://www.highonfilms.com/the-25-finest-hindi-films-of-the-decade-2010s/

29. Social Media Drives Ye Jawani hai Diwani Marketing Blitz. (2013). Exchange4 Media. Retrieved from: https://www.exchange4media.com/advertising-news/social-media-drives-'yeh-jawaani-hai-deewani'-marketing-blitz-50842.html

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INFLUENCE OF PAST ACADEMIC PERFORMANCE AND NEW MEDIA USAGE ON CO-SCHOLASTIC AREA RELATED LEARNING OUTCOMES FOR SENIOR SECONDARY SCHOOL STUDENTS IN NORTH INDIA

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ABSTRACT

The school education as well as higher education has attained a new paradigm due to a massive transformation and the usage of New Media in education learning. The educators have to use internet enabled hybrid technologies in education pedagogies. The hypotheses of this exploratory research study pertain to ascertaining the relationship between Student's past academic performance in grade-XI and the expected learning outcomes using New Media for the student of senior secondary education level in grade-XII. The study based on the questionnaire survey from 785 students of grade-XII,CBSE board affiliated private schools in North India, focuses on identifying expected learning outcomes in term of Non-academic areas of school education which are vital for the holistic development of Students. The results reveal that there is a significant impact due to New Media usage explained in terms of the expected learning outcomes of co-scholastic areas such as Social Wellbeing and Indoor Gaming. The past academic performance i.e., marks secured by students in grade-XI do make a significant impact on the students' use of New Media devices for interest in extra Co-circular activities related media information in term of total effect. Whereas no impact is observed on New Media usage due to past academic performance of students. This led to the conclusion that the usage of New Media for any specific learning objective is not related to the past academic performance but it may motivate students to perform better in terms of Non-academic areas or Co-scholastic areas by accessing to various information sources using New Media technology.

Keywords: Academic performance, CBSE Board, Co-scholastic area, Continuous comprehensive evaluation (CCE) ,Learning outcomes, New Media, PLS-SEM, Senior Secondary.

INTRODUCTION

The conventional or technology-based pedagogy must emphasize on inculcation of academic excellence and professional skills that help students to apply conceptual learning to live business situations while they join any industry after completing their education. The students spend time for the purpose of scholastic as well as co-scholastic areas which defines comprehensive curriculum evaluation in their holistic development. In the modern era of digital and internet revolution and changing lifestyles patterns of family life, students' preference has changed beyond outdoor activities or reading bed time stories. The influx of New Media technology has affected the holistic development of Students. Most of children prefer watching Television, surfing internet, playing video games on smart phones or on computer or watching their favourite video series using online media(Kalyan & Lakshmikantha,2016). The traditional academic evaluation system has been emphasizing more on evaluating children's abilities in scholastic areas whereas the behavioral outcomes in co-scholastic areas are not much discussed. The Continuous comprehensive evaluation (CCE) is being emphasized to achieve the objective of holistic development of learners at school level. In CCE, the student's performance is assessed in term of scholastic and co-scholastic areas. So, the expected learning outcomes for students in term of Scholastic and Co-scholastic areas are the desirable behavior related to the learner's knowledge, understanding, application, evaluation, analysis and creativity in subjects. The objectives of scholastic domain include the feasibility to apply it in an unfamiliar situation. Likewise, the co-scholastic domain includes the desirable behavior related to learner's Life Skills, attitudes, interests, values, co-curricular activities and physical health. As per Senior School Curriculum CBSE(2019),the process of assessing the students' progress in achieving objectives related to scholastic and co-scholastic domain is called comprehensive evaluation.

As per Jayalakshmi (2011), the four main categories of New Media that share certain channel similarities are firstly interpersonal communication media that include the mobile and email. Secondly Interactive and play media, it includes computer-based video games and virtual reality devices. Third is the information search media because internet along with mobile telephone is used as a channel for information retrieval and fourth category of New Media is the collective and participatory media as this involves the use of the internet to communicate and exchange content, thoughts, experiences and to establish a personal relationship facilitated by mobile devices. The New Media also bridged the gaps between the two platforms (technology convergence) and this is now being used for public and private purposes, and for acquiring as well as self-development of contents. (McGrath,2012). The interactive approach of engaging with New Media learning has been widely used in school in all age groups, i.e., it encourages K-12 learning i.e., Kindergarten up to the 12th grade of school education. The application of New Media in education comprises Digital White Boards; designing and implementing digital content and Android or i-pad Tablets, Digital Interactive Classroom, Evaluation Software etc.th Program. Fiber optics and satellite systems work together to facilitate multimedia, which is a combination of several media forms in are integrated as a single medium and interactive media. The multimedia allows individuals, actively to participate in whatever they visualize or listen. The recent year's innovations in New Media technology have transformed telecommunications, the communication of text, sounds or images at a distance through a technological medium (Rego, 2017).

In higher education, mobiles with the help of internet can provide course material to students including due dates for assignments and information about timetable changes or room changes (Naismith et al., 2004).In their study Masoud-ul-Hassan et al. (2014), related to the use of Social media to maximize Student's learning outcomes, emphasized that, with the advent of different types of educational technology, the position of teachers has become more a facilitator rather than a lecturing system. Students today have access to various advanced New Media technologies and their use is gaining popularity as businesses and other institutions want students to be specialists in new technology.

1.1:New Media Consumption and impact on the Co-Scholastic areas of Students' education

Students prefer to use social networking sites (SNS) and apps like Facebook, twitter, YouTube and WhatsApp etc. for themselves. Paying attention to their academic performance and discussing problems would make it easier to stop affecting their education from the negative aspects of social media. Nevertheless, teachers and students are now pushing social networking toward learning beyond classroom boundaries. The fact that many educational institutions still block their access to these sites to avoid misleading information with other people; it becomes a hindrance in collaborating the use of Social media for academic learning. Every day, the numbers of student users are growing, who are addicted to the various New Media platforms. Students have many friends for the sake of numbers, but they're still deprived of good friends. Students are customized and have individualistic behavior.

Banerjee(2015),emphasized that the learning model process has changed from the classroom to a virtual environment based on the internet. Some classes either have an online element at the secondary and post-secondary level, or some are offered fully online. The advent of social media in the area of online learning has changed the learning environment for students like never before.

Though most of the study contributes to the positive impact of Facebook and Twitter on the student learning engagement, only a few of the studies were able to address the impact of Social Media apps on Student's grades and their demographics.

Hung Lin et al. (2017), in their study concluded that digital learning shows better positive effects on learning outcome of students than traditional teaching does. Learning motivation reveals significantly positive effects on learning effect in learning outcome and the learning motivation appears comparatively positive effects on learning gain in learning outcome.

Katz et al. (2011) indicated that the terms such as academic performance, learning outcome, academic achievement, or learning achievement expressed the same ideas, i.e., students' academic learning outcome, or the persistent result through learning history. Learning outcome is an indicator to measure learners learning effect (Lubega et al., 2014) as well as a major item for the evaluation of teaching quality. Learning outcome would be affected by learning mode, curriculum design, and teaching (Jude et al., 2014) that a lot of researcher discussed the effects of personal characteristics or learning behaviours on learning performance. For example, Mostafa & Esmaeel (2012) highlighted the effects of various types of learning style on the learning performance of medical students and the relationship. Kristen (2011) examined the effects of ability, self-efficacy and personal goal on effectiveness and discovered that learning outcome could indeed be affected by learner traits. Chesser (2011) envisaged the effects of training methods, computers self-efficacy and learning mode on learning outcome and observed higher learning performance of learners in favour of abstract concepts. Martin & Herrero (2012) also found out the significant differences between learning mode and learning outcome. They pointed that the effect of learning mode on learning outcome became insignificant after using multimedia assisted teaching materials. Hsu (2012) highlighted the two dimensions in learning outcome. Firstly, the Learning gain containing learning satisfaction, achievement, and preference. The second dimension is Learning effect including test result, time for schedule completion, and academic achievement. So, the Learning effect and learning benefits are therefore utilized as the measure dimensions of teaching effectiveness in this study.

The collections of knowledge human being are used to-such as books and libraries, didn't exist earlier (Neuman, 2010). The use of mobile technologies for entertainment and other recreational purposes typically affects face-to-face interactions with strangers, acquaintances, and families alike in a negative manner (Drago, 2015). As per the study Technology has a negative effect on both the quality and quantity of face-to-face communication.

Virtual video games trend these days and students play online games. The online games inspire students to learn new things as well as effective educational purposes. The game also has a profound impact on student performance and if the student has to improve the level of in-game performance then failures will be prevented without penalization. Game-based learning (GBL) is being used regularly as an effective tool in Classroom. The Web and its innovative developments have changed how people search, extend and interact with information. One indication of this trend is the removal from the book-racks of scholastic and academic libraries of books and serial diaries which has proven suspicious for some scholarly institutions The Mobile technology (Chang, M. et al. (Eds.), 2019) makes communication run fast in its application to learning, offers benefits to facilitate and accelerate the process of delivering information and interchanges between students, lecturers, and other implementers of learning, and provides a positive impact that can accelerate the level of student needs for mobile technology, unusually high cellular devices with an average usage time of more than five hours per day. The impact of games and simulations with regard to achieving specific learning objectives was examined by Vlachopoulos & Makri(2017). The results of this research indicate that games and/or simulations have a positive impact on learning goals and support the positive attitude shown by students towards games and simulations. Three learning outcomes like cognitive, behavioral and affective were established by the researchers, when games were embedded into the learning process. Online games and simulations contribute to better effective outcomes such as behaviours, perceptions, enthusiasm, emotional engagement, performance and happiness for students at universities.

The mobile application use is diverse but has not been used maximally for learning. That can be one of the foundations in the design and development of the mobile broadband model at universities. In this regard Pebriantika et al., (2019) conducted a study and concluded that 35% of students agree and 52% strongly agree on the adoption of a mobile learning model. The design of the mobile learning models must be adapted to the dominant mobile application used by students so that the utilization of the mobile learning model can be maximally utilized in learning.

Rithika & Selvaraj (2013), their research illustrated the success of the community's social networking sites. Study recommended that Students should use this, however, to make better use of it and a better future. Findings reveal that students should engage, share their thoughts, but without getting being addicted and loosing time. In this analysis, the sample size was 100(hundred) students and a questionnaire was designed to recognize the various social media factors that influence the learning of students. Sex, age, social impact and academic achievement were the established variables in the study.

RESEARCH OBJECTIVES

(i) To assess the influence of past academic performance on Co-scholastic area related learning outcomes for Senior secondary school students.

(ii) To study the effect of past academic performance on New Media usage for Co-scholastic areas of Senior secondary school students.

METHODS

This exploratory research study based on Senior secondary school students of central board of Secondary Education(CBSE) board in North India, discusses the relevance of New Media technology used by Students in the development of Co-Scholastics areas as learning outcome of their School education. The study pertains to Pre-covid19 scenario during January'2020 to February'2020.

RESEARCH METHODOLOGY

The above-mentioned research objectives are based upon the study of literature review and secondary data. Methods used for locating the data include data from North India state capitals and union territories in North India state capitals, which included responses collected in the form of questionnaire from 785 students of both Gender and from Jammu, Dehradun, Chandigarh, Lucknow, Delhi, Gurugram, Faridabad. Various pre-defined data selection criteria were followed as depicted in figure no. 1. The responses received from Senior secondary school students class XII students of CBSE board, co-ed schools with all three academic streams viz. Humanities, Commerce and Science.

The researchers considered multiple dependent variables measured as metric data to in order to establish structural as well as measurement model the Smart-PLS was applied. For synthesizing the data the exploratory factor analysis(EFA) was used as data reduction method using statistical software SPSS 16.0 version programme and PLS-SEM 3.0 Version software program (Ringle, Wende, & Becker, 2005) structural equational modeling technique was applied on the factors which were concluded by applying Exploratory factor analysis (EFA) on the Likert scale based responses received from students using questionnaire which has various statements and out of those 23 statements were groups into 05 factors related to Non-academic areas and categorized as Co-scholastic factors.

The Smart PLS 3.0 version programming software is used for the purpose of analysis. Structural equation modeling is a multivariate technique used to interpret and analyses the covariance of observations (McIntosh , Edwards & Antonakis,2014). The relationship between influence of New Media usage can be described using simple linear mathematic expression of the variance of expected learning outcome as influenced by the variance of another.

The reflective model is formulated in the study as the expected learning outcomes are ascertained due to the usage of New Media devices and technology by Senior secondary school students of academic schooling grade of class-XII.

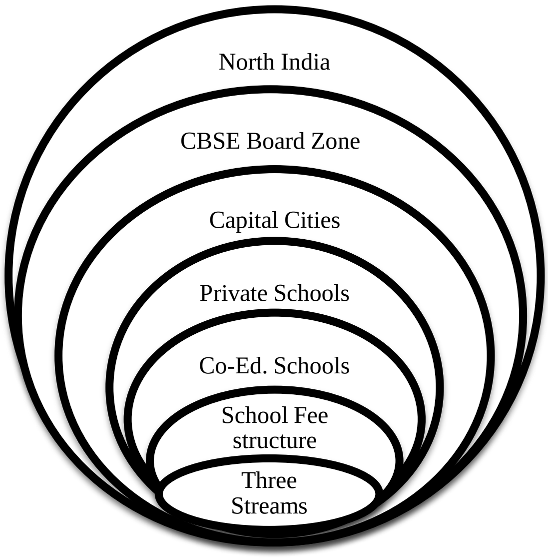

Figure no.1: Sample design criteria for the proposed model
Author's own model

Testing of Null-Hypothesis:
In order to test the Null-hypotheses related to study, the researchers have tried to assess the association between the independent variables (IDVs) i.e., Endogenous variable related to student respondent's demographics, New Media usage habits and 05 dependent variables (DVs) i.e., Exogenous variable was measured using various hypothesis as explained in this section. The figure no.2 represents the two sub-variables i.e. total usage duration of New Media devices and usage periodicity representing New Media usage, which is considered as Exogeneous variable for the purpose of the study. Similarly, the other independent variable(IDV) is the past academic performance of grade-XI of students.

The independent variable i.e., New Media technology consumption which includes all together usage periodicity of Internet enabled devices such as Computer (Desktop, Laptop or Netbook), Smartphone (Android or i-Phone), Tablet (or i-Pad), Smart TV, E-Reader (Kindle) devices by students in a day of 24 hours duration. To test that Null hypothesis (Ho1) that there is no significant influence of New Media usage on the expected Co-scholastic areas as deducted from EFA, researchers have established total of 05(five) sub-hypotheses.

Ho1 There is no significant difference between expected learning outcomes related to Co-scholastic areas and the New Media usage.

Ho1a There is no significant difference between Environmental awareness as expected learning outcomes and the New Media usage.

Ho1b There is no significant difference between Indoor gaming as expected learning outcomes and the New Media usage.

Ho1c There is no significant difference between Creative learning as expected learning outcomes and the New Media usage.

Ho1d There is no significant difference between Extra CCA(Co-curricular activities) as expected learning outcomes and the New Media usage.

Ho1e There is no significant difference between Social Wellbeing as expected learning outcomes and the New Media usage.

Similarly, to test Null hypothesis (Ho2) that there is no significant influence of past academic performance of grade-XI of students on the expected Co-scholastic areas as deducted from EFA, researchers have established hypothesis (Ho2),which was further used to established total of 05(five) sub-hypotheses on the basis of Environmental awareness, Indoor gaming, Creative learning, Extra CCA and Social Wellbeing factors.

Ho2 There is no significant difference between expected learning outcomes related to Co-scholastic areas by New Media usage and the past academic performance in grade-XI of students.

Ho2a There is no significant difference between Environmental awareness as expected learning outcomes and the past academic performance in grade-XI of students.

Ho2b There is no significant difference between Indoor gaming as expected learning outcomes and the past academic performance in grade-XI of students.

Ho2c There is no significant difference between Creative learning as expected learning outcomes and past academic performance in grade-XI of students.

Ho2d There is no significant difference between Extra CCA(Co-curricular activities) as expected learning outcomes and the past academic performance in grade-XI of students.

Ho2e There is no significant difference between Social Wellbeing as expected learning outcomes and past academic performance in grade-XI of students.

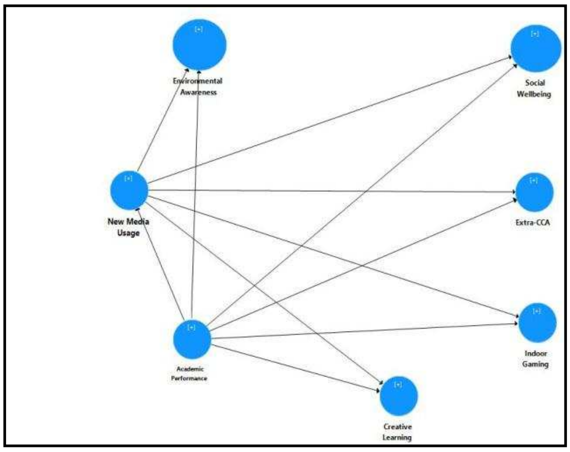

Figure no.2: Conceptual Model for expected Learning outcomes using New Media technologies
Author's own model

RESULTS

The twenty-three (23) indicator variable coding and actual construct used in Questionnaire are mentioned below in table no. 1.These indicator variables are the actual statements on which Student respondent were ask on respond on five-point Likert scale.

The data reduction method, Exploratory factor analysis(EFA) led to formation of 05 factors. These factors were renamed as per the characteristics of the sub-variables (statements). Subsequently the Smart PLS modeling was used to establish the relation of New Media usage sub-variables with these 05 factors.

Smart PLS Measurement model parameters:

The table no. 3 depicts the statistically significant (P values) and non-significant values for all of the eleven factors formed from EFA(Exploratory factor analysis).

The Summary table no.2 of Smart PLS measurement model parameters depicting P -values explains Construct Reliability and Validity. The Social wellbeing and Indoor gaming factors show significant results in term of R-square, Cronbach's alpha, Average variance extracted(AVE),Composite reliability and rho_A. The coefficient of determination, denoted R^2 is the proportion of the variance in the dependent variable(DV) that is predictable from the independent variable(IDV) in linear regression models. Cronbach's alpha is the Reliability and Internal consistency is considered to be a measure of scale reliability,

Table no.1: Indicator Variable Reference

EFA*	Variables	Actual construct in Questionnaire	Mean Score
Creative Learning	VAR00029	Q-33. Writing Skills Improvement	2.90
	VAR00031	Q-35. Internet Slangs	3.11
	VAR00041	Q-45. Creative Writing	3.25
Environmental awareness	VAR00055	Q-59. Gardening	2.58
	VAR00056	Q-60. Social community services	3.07
	VAR00057	Q-61. Environmental Pollution	3.34
	VAR00058	Q-62. Afforestation	3.22
	VAR00059	Q-63. Neatness & Cleanliness	3.32
Extra-CCA	VAR00038	Q-42. Vocal Music	2.76
	VAR00039	Q-43. Instrumental Music	2.69
	VAR00040	Q-44. Hobbies related	3.40
	VAR00042	Q-46. Listening to Motivational speeches	3.56
	VAR00043	Q-47. Dance & Aerobics	3.06
	VAR00044	Q-48. Drama or Debates	3.29
	VAR00045	Q-49. Art & Crafts	3.09
Indoor Gaming	VAR00053	Q-57. Indoor Games	2.90
	VAR00054	Q-58. Online & Virtual reality games	3.04
Social Wellbeing	VAR00046	Q-50. Travelling related info.	3.54
	VAR00047	Q-51. Team work development	3.25
	VAR00049	Q-53. Connectivity with classmates	3.72
	VAR00050	Q-54. Health Awareness	3.64
	VAR00051	Q-55. Improving Outdoor games	3.35
	VAR00052	Q-56. Watching games & sports	3.33

**Exploratory factor analysis(EFA) resulted in five factors with eigen value>1 & these factors were renamed as mentioned on the basis of the attribute they represent.*

whereas Average variance extracted (AVE) is the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error. The Composite reliability is computed on standardized loadings and it assess convergent validity by measuring the average amount of variance in indicator variables that a construct is managed to explain. Similarly, rho_A is a composite reliability indicator computed on unstandardized loading.

value is not statistically significant for Creative learning, Extra Co- curricular activities, Social Wellbeing and Linguistic skills. Cronbach's alpha values are significant for all dependent variables.

The AVE and Composite reliability values are not significant for Extra Co- curricular activities. The rho_A values are not significant for Learning by Modern Technology, Creative learning, Extra Co- curricular activities, Social Wellbeing, Indoor gaming, Linguistic skills and virtual learning.

Table no. 2: Summary of Smart PLS Measurement model parameters

(Construct Reliability and Validity) depicting P values					
P Values	**R Square**	**Cronbach's Alpha**	**Average Variance Extracted (AVE)**	**Composite Reliability**	**rho_A**
Creative Learning	0.134	0	0	0.104	0.571
Environmental Awareness	0.289	0	0	0	0.085
Extra Co-Curricular activities	0.037	0	0	0	0
Indoor Gaming	0.029	0	0	0	0.989
New Media Usage	0.957	0	0	0	0.891
Social Wellbeing	0.001	0	0	0	0

Author's own calculations

Table no.3: Summary of Smart PLS Structural model parameters

	Path Coefficients	**F Square**
Academic Performance -> Creative Learning	0.367	0.465
Academic Performance -> Environmental Awareness	0.206	0.561
Academic Performance -> Extra Co-Curricular activities	0	0.062
Academic Performance -> Indoor Gaming	0.714	0.933
Academic Performance -> New Media Usage	0.777	0.958
Academic Performance -> Social Wellbeing	0.204	0.533
New Media Usage -> Creative Learning	0.185	0.322
New Media Usage -> Environmental Awareness	0.328	0.559
New Media Usage -> Extra Co-Curricular activities	0.689	0.921
New Media Usage -> Indoor Gaming	0	0.035
New Media Usage -> Social Wellbeing	0	0.019

Author's own calculations

Along with the tabular summary the figure no.3 mentioned below depicts the Smart PLS Model representation of R-Square with P-Values results, whereas figure no. depicts the Smart PLS Model representation of Composite Reliability with P-Values.

DISCUSSION

The table no.2 represents the results on the basis of five parameters in which R square

The conceptual model as depicted in figure no.3 represents the relationship of Exogenous variable i.e., New Media usage variable with the Endogenous variables i.e., 05 dependent variable factors, which were formulated using Exploratory factor analysis (EFA). The figure no.3 depicts the conceptual model using Smart PLS Model with reference to New Media and expected learning outcomes (with R-coefficients and with Latent variables).

Whereas the figure no.4 represents Composite Reliability with path coefficient and P-Value for proposed Model.

Results and summary using Smart PLS:

This section envisages the use of inferential statistics tools. The Structural equation

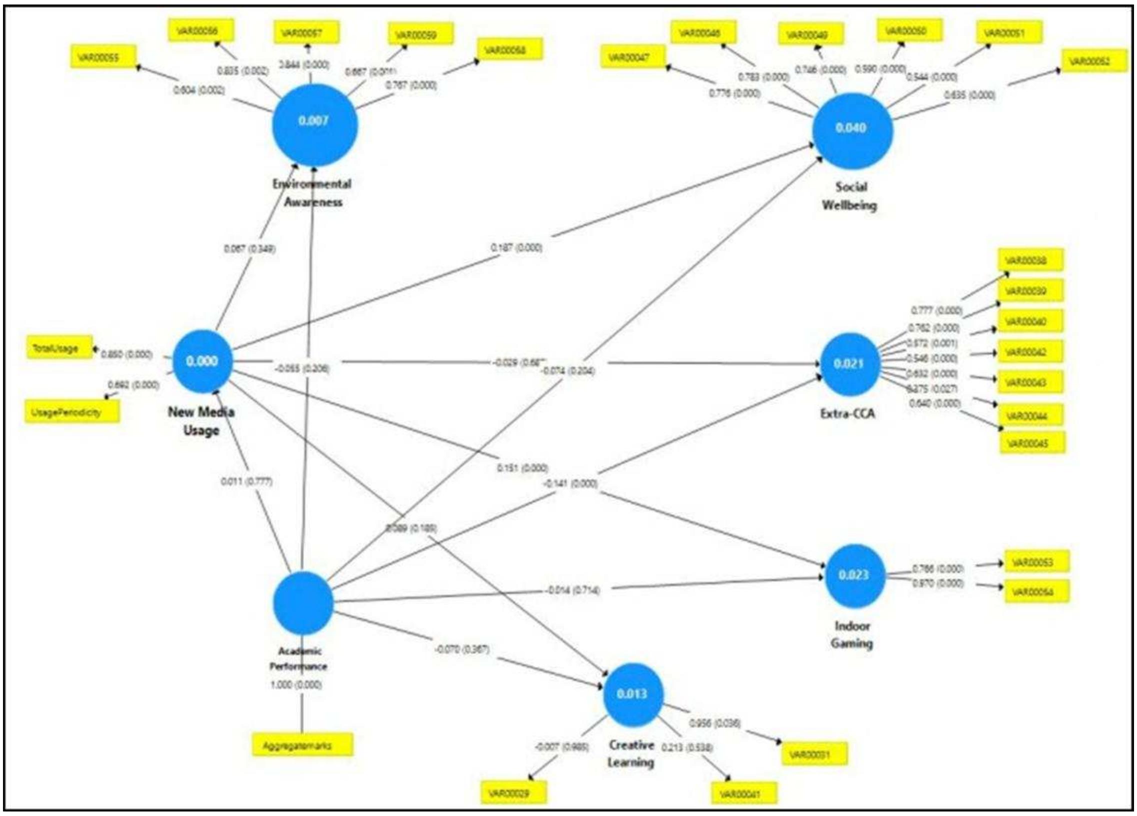

Figure no.3: R-Square with path coefficient and P-Value for proposed Model
Author’s own model

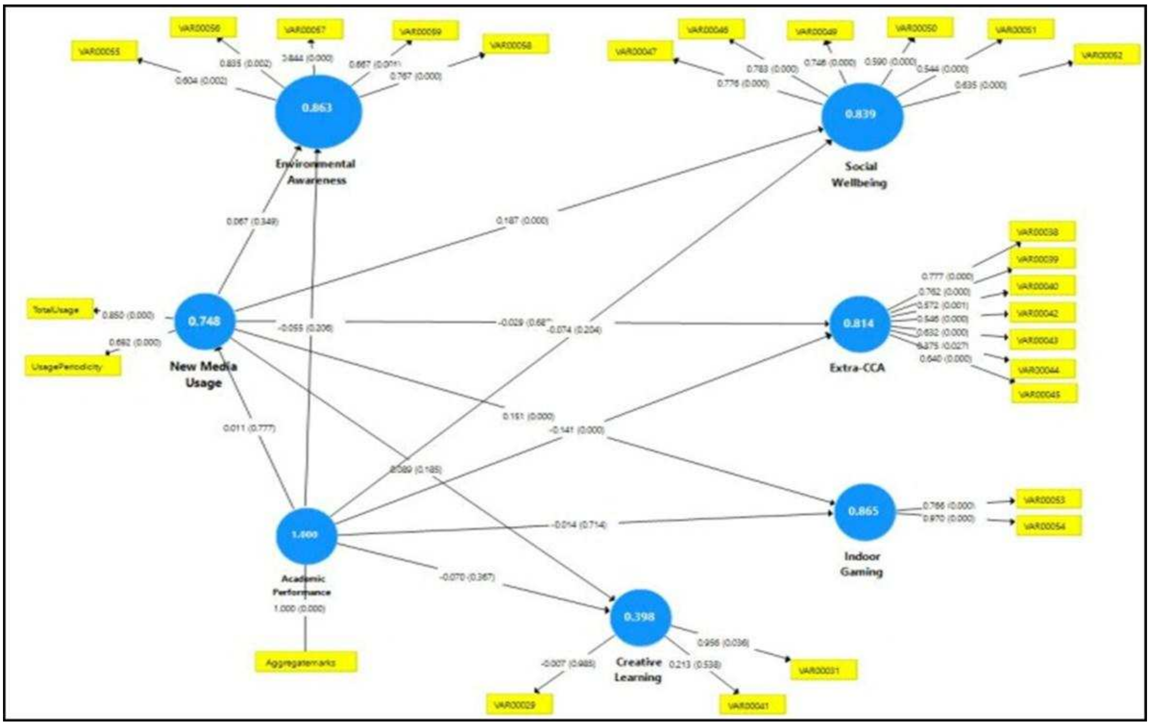

Figure no.4: Composite Reliability with path coefficient and P-Value for proposed Model
Author’s own model

modeling, Smart PLS multivariate technique is used to interpret and analyse the covariance of observations and to prove the hypothesis to conclude the type of relationship between the expected learning outcomes of Student and the impact of New Media consumption.

The results and analysis involve the result values received by PLS Algorithm and Bootstrapping method to conclude and test various hypotheses.

The key parameter results are mentioned in table no. 2 and table no.3.All the key parameters of final results criteria involving Path Coefficients or Total Effects (with direct and indirect Effects), Outer Loadings, Outer Weights, R-square, f-square, determination of construct reliability and validity, determination of discriminant validity, checking collinearity statistics (VIF) and estimation of Model fit criteria (Ringle et al.,2015) were checked. Further the significance values of New Media usage and past academic performance by students' as Exogeneous variables with five Endogenous (dependent)variables formed by EFA were tested.

The significant and insignificant P value results in term of total indirect and direct effects due New Media usage by senior secondary school students as mentioned in table no.4.

The summary of table no.5, Smart PLS Structural model parameters P Values depicts the Specific Indirect Effects. All the indirect effects are insignificant for each of five exogeneous variables.

CONCLUSION

Subsequently after applying exploratory factor analysis(EFA) and on the basis of Smart -PLS structural equation modeling, significant impact of New Media usage on Non-academic areas is observed for expected learning outcome factors such as Social Wellbeing and Indoor Gaming. The past academic performance i.e., marks secured by students in

Table no.4: Summary of Smart PLS Structural model parameters P Values with indirect and total effects

	Total Indirect Effects	Total Effects
Academic Performance -> Creative Learning	0.81	0.371
Academic Performance -> Environmental Awareness	0.848	0.215
Academic Performance -> Extra Co-Curricular activities	0.918	0
Academic Performance -> Indoor Gaming	0.784	0.75
Academic Performance -> New Media Usage		0.777
Academic Performance -> Social Wellbeing	0.789	0.231
New Media Usage -> Creative Learning		0.185
New Media Usage -> Environmental Awareness		0.328
New Media Usage -> Extra Co-Curricular activities		0.689
New Media Usage -> Indoor Gaming		0
New Media Usage -> Social Wellbeing		0

Author's own calculations

Table no.5: Summary of Smart PLS Structural model parameters P Values with Specific Indirect Effects

	P Values
Academic Performance -> New Media Usage -> Environmental Awareness	0.848
Academic Performance -> New Media Usage -> Social Wellbeing	0.789
Academic Performance -> New Media Usage -> Indoor Gaming	0.784
Academic Performance -> New Media Usage -> Creative Learning	0.810
Academic Performance -> New Media Usage -> Extra Co-Curricular activities	0.918

Author's own calculations

grade-XI do make a significant impact on the students' interest in extra Co-circular activities in term of total effect. Whereas no impact is observed in New Media usage due to past academic performance of students. This interprets like the usage of New Media is not related to the past academic performance but it may lead of motivate students to perform better in terms of Non-academic areas or Co-scholastic areas. The table no.6 envisages the hypotheses summaries of all five factors as concluded using exploratory factor analysis (EFA). All of these factors are the expected learning outcomes factors due to the usage of others using Social Media applications and sites, they make new friends using New Media tools. They watch and listen motivational speeches and Success stories on Social Media applications and sites, learn more about hobbies like cooking and home science related updates by means of New Media. They prefer to play online and virtual reality games on New Media devices, learn Creative Writing from New Media apps, but students also believes that internet slangs (acronyms) used over social media adversely affects their communication skills.

Further as per the results the impact was not

Table no. 6: Hypotheses Summary (Ho1)

EFA	Dependent Variables (DV's)	Academic Performance	Ho1x (x=a,b.. k)	New Media Usage	Ho2x (x=a,b.. k)
Factor-1	**Social Wellbeing**	Accepted	Ho1a	**Rejected**	Ho2a
Factor-2	**Environmental Awareness**	Accepted	Ho1b	Accepted	Ho2b
Factor-3	**Extra Co-curricular activities**	**Rejected**	Ho1c	Accepted	Ho2c
Factor-4	**Indoor Gaming**	Accepted	Ho1d	**Rejected**	Ho2d
Factor-5	**Creative Learning**	Accepted	Ho1e	Accepted	Ho2e

Author's own calculations

New Media technology and devices . For both of the Environmental awareness (Factor-2) as well as Creative learning (Factor-5) factors neither the academic performance nor the New Media usage makes any significant influence on related learning outcomes. There is no influence of Academic performance on the learning outcomes related to social wellbeing, Indoor gaming also, but students learning about Extra co- curricular activities is influenced to a larger extend.

The table no.6 also depicts that New Media technology(devices) usage helps students in learning about social wellbeing and playing indoor game but, there is no significant influence on the expected learning outcome factors like Environmental awareness, Extra co-curricular activities and creative learning.

As per the student respondents' mean score on five-point Likert scale it is revealed that Students remain connected with classmates using New Media devices, they get Health Awareness tips on New Media, search about activities to control Environmental Pollution on New Media, Neatness and Cleanliness on New Media. Students speak freely among significant for T values < 1.96 and P values > .05 for Creative Learning, Extra Co-Curricular activities and Environmental awareness. The responses received on five-point Likert scale for sub-variable of Creative learning i.e., Creative Writing with statement as "I learn Creative Writing from New Media apps." has higher mean score of 3.25 on Likert scale. For Extra Co-Curricular activities factor sub-variable Listening to Motivational speeches with statement as "I watch and listen motivational speeches and Success stories on Social Media applications and sites" has higher mean score of 3.56 on Likert scale. For Environmental awareness as expected learning outcome using New Media, the responses for sub-variable Environmental Pollution with statement as "I search about activities to control Environmental Pollution on New Media" has higher mean score of 3.34 on Likert scale.

The Social wellbeing with the sub-variable "Connectivity with classmates or friends is the most weighted Sub-variable with the mean score of 3.72 on Likert scale followed by Health awareness at a score of 3.64.Another factor Indoor gaming with sub-variable as

Online & Virtual reality games stands with average mean of 3.04.

In the situation arising similar to Covid-19 or compulsory social distancing the using of educational learning apps may become necessity due to non-availability of offline or face to face tuition classes. Hence, the role of New Media technology becomes more relevant as an effective tool in School Education especially due to compulsory social distancing in the situation, provided one can afford these devices. The limitations of using such technology have become more prudent for collaborative or group learning for Co-scholastic areas which play vital role for the holistic development of students in the form of mass education of a large group of students due to compulsory social distancing circumstances.

REFERENCES

Banerjee,D.(2015).The Impact of Facebook on Student Learning Outcomes. International Journal of Research in Economics and Social Sciences,IJRESS,5(9).

Chang, M. et al. (Eds.) (2019). Proceedings of the 27th International Conference on Computers in Education. Taiwan: *Asia-Pacific Society for Computers in Education, Conference Proceedings* ,*1*,484–486.

Chesser, W. D. (2011). Chapter 5: The E-textbook Revolution. Library Technology Reports, 47(8),28-40.

Drago, E. (2015). The Effect of Technology on Face-to-Face Communication. *The Elon Journal of Undergraduate Research in Communications*,6(1).

Hsu, Y.C, & Ching, Y.H. (2012). Mobile Micro blogging: Using Twitter and Mobile Devices in an Online Course to Promote Learning in Authentic Contexts, *The International review of research in open and distance learning, 13*(4),211-227.

Hung. Lin et al. (2017). A study of the effects of Digital Learning on Learning Motivation and Learning Outcome, *EURASIA Journal of Mathematics Science and Technology Education, 13*(7),3553-3564. DOI 10.12973/eurasia.2017.00744a

Jayalakshmi, M.K.(2011,June).Arrival of New Media and Social Implications with Particular Reference to Youth-A Comparative Study of Male and Female, Doctor of Philosophy thesis , Madurai Kamaraj University, Madurai(India)

Jude, L. T., Kajura, M. A., & Birevu, M. P. (2014). Adoption of the SAMR model to assess ict pedagogical adoption: A case of Makerere University. *International Journal of e-Education, e-Business, e-Management and e-Learning, 4*(2),106- 115.

Junco, R. (2011). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education 58*(1), pp.162–171.doi: 10.1016/j.compedu.2011.08.004

Kalyan & Lakshmikantha (2016).Effectiveness of New Media as a Tool of Edu-Entertainment among School Children. *International Journal of Humanities and Social Science Invention, 5*(6),pp.85-90.

Katz, D. L., Katz, C. S., Treu, J. A., Reynolds, J., Njike, V., Walker, J., & Michael, J. (2011). Teaching Healthful Food Choices to Elementary School Students and Their Parents: *The Nutrition Detectives Program. Journal of School Health, 81*(1), 21-28.

Kristen, E. R. (2011). Analytical Evaluation of the Health Belief Model and the Vulnerable Populations Conceptual Model Applied to a Medically Underserved, Rural Population. *International Journal of Applied Science and Technology, 1*(2),15-21.

Lubega, T. J., Mugisha, A. K., & Muyinda, P. B. (2014). Adoption of the SAMR model to assess ICT pedagogical adoption: A case of Makerere University. *International Journal of e-Education, e-Business, e-Management and e-Learning, 4*(2), 106- 115.

Martin, H. S., & Herrero, A. (2012). Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework. Tourism Management, *33*(2),341-350.

Masoud-ul-Hassan,S.,Azhar,T.,Hassan,T. & Hassan,S.H.(2014),Using social media to Maximize Students' Learning Outcomes. *Journal of Education and Practice* (www.iiste.org),5(23)

McGrath,S.(2012).The Impact of New Media Technologies on Social interaction in the household, Electronic Culture and Social Change(SO303H), National University of Ireland Maynooth.

Mcintosh, C., Edwards, J., & Antonakis, J. (2014). Reflections on Partial Least Squares Path Modeling. *Organizational Research Methods, 17*, 210 - 251. DOI:10.1177/1094428114529165

Mostafa, P., & Esmaeel, A. (2012). Teacher motivational practice, student motivation, and possible L2 selves: An examination in the Iranian EFL context. Language Learning, *62*(2),571-594.

Naismith,L., Sharples,M.,Vavoula,G.,&Lonsdale,P. (2004).Literature Review in Mobile Technologies and Learning". ffhal-00190143f. https://telearn.archivesouvertes.fr/hal-00190143

Neuman,W.R.(2010).Media Technology and Society-Theories of Media evolution

Pebriantika, L., Paristiowati, M., &Mochtar, H. (2019). Students' Perceptions of Mobile Technology in Higher Education: Preparation to Design Mobile Learning Models. *Universal Journal of Educational Research* *7*(9A),180–185.DOI: 10.13189/ujer.2019.071621.

Rego,R.(2017).New Media Technologies in Teaching and Learning in Higher Education, Media Watch,8(1),75-88.DOI: 10.15655/mw/2017/v8i1/41273

Ringle, C. M., Wende, S., & Becker, J.-M.(2015). "Smart PLS 3." Boenning stedt: Smart PLS GmbH. Retrieved from http://www.smartpls.com.

Rithika M. & Selvaraj, S. (2013). Impact of Social Media on Student's Academic Performance, *International Journal of Logistics & Supply Chain Management Perspectives,2*(4), 636–640.ISSN (P):2319-9032, (O):2319-9040

Senior School Curriculum (CBSE) 2019-20. Retrieved from http://cbseacademic.nic.in/ web_material/CurriculumMain20/SrSecondary/Intitial_pages_srsec_2019-20.pdf

Vlachopoulos.D.&Makri.A.(2017). The effect of games and simulations on higher education: a systematic literature review. *International Journal of Educational Technology in Higher Education,*14:22. DOI 10.1186/s41239-017-0062-1.

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DOES MEDIA USAGE ENHANCE NUTRITION LITERACY? A SYSTEMATIC LITERATURE REVIEW AND THEMATIC ANALYSIS

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ABSTRACT

The aim of this article is to show in-depth view about the potent of different media usage aid in enhancing nutrition literacy in society. In this review article, 25 studies were selected from the year 2010 to 2021 to identify the gaps and recent trends in media and nutrition literacy. The incorporated studies are selected from the databases- Science Direct, PMC, Sage, Taylor and Francis, and Willey as all of them are well established for their authenticity. The studies discussed are analysed quantitatively and thematically. In the quantitative phase, seven categories are defined and in the thematic analysis phase, four themes are extracted from the conclusion of each literature about various media harnessed to improve nutrition literacy. From the quantitative data and the thematic analysis, following media category are found: (1) Traditional media as a source of nutrition literacy; (2) Online media as a source of nutrition literacy; (3) Intervention of nutrition app as a source of nutrition literacy, and (4) Intervention of gaming as a source of nutrition literacy. Media usage is considered as a substantial avenue to improve nutrition literacy globally by researchers.

Keywords: Media Usage, Nutrition Literacy, Mobile App, Health Communication

INTRODUCTION

Media Technologies are the fastest medium to spread information among masses collectively and individually. People obtain new knowledge and information through new media technologies as well as from the other forms of media sources. Many prominent health institutions and health professionals believe media could play a vital role in promoting good health (Flora et al., 1989). In present world with highly advanced technologies, leading physical inactivity clearly visualize that for promoting optimal health, a balanced diet having low calories with diversified nutrition values is highly recommended (Chen et al., 2018).

Many consumers, especially women, seek nutrition supplement information from different sources like health professionals or friends but their most frequent source is media (Rowe & Toner, 2003). Nutrition information articles from newspapers, booklets and internet have positive influence towards adolescents' intake of food whereas radio commercials are the least successful (Freisling et al., 2009). It is revealed from last twenty years that print media and electronic media could play a pivotal role in health behavior (Goldberg, 2009)

Penetration of mobiles in developed and developing countries disseminated internet knowledge among people and increased usage of social media and mobile apps (Salehan & Negahban, 2013). mHealth is a primary factor of mobile technologies and hoped as one the best options for health communication and BCC (behavioral change communication) intervention to improve health system (Mildon & Sellen, 2019). Integration of smartphone apps is successful in improving nutrition knowledge and weight management (Coughlin et al., 2015).

In recent years, use of social media platforms like blogs, Wikipedia and different websites of social network by health professionals have increased substantially (Panahi et al., 2014). Social media is also accepted as a potential intervention in increasing healthy nutrition and introduction of new platforms comprising health information and would inspire to improve good healthy behaviours (Chau et al., 2018).

Health is a paramount factor for humans to lead a successful life. The basic feature for healthy life is food, particularly consumption of necessary nutritious food. Many articles emphasize the importance of nutrition literacy for people. Here, media is a paramount factor for fast and regular communication.

In this study, efforts have been made to systematically analyse the connection between media and nutrition literacy from the selected past studies (2010 – 2021) and find out missing factors and gaps in the topic's recent literature. This systematic literature review gives answers to two research questions: 1. Does media usage have an impact in increasing nutrition literacy? 2. What are the academic gaps identified in the selected literature?

LITERATURE FINDINGS AND GAPS

In table 1, conclusion, findings and gaps identified in each selected study are described. This would help to improve the quality of study in this domain.

Table 1:

Sr. No.	Author/ years	Findings and Gaps
1	Byrd-Bredbenner et al., 2010	Television played a promising role in increasing nutrition cognizant among young girls. From findings of the study, major point noticed was content consideration because perception differs for every viewer and very little could be identified about individuals filters and meaning about construction of the visuals. The limitation of this study was that participants were viewers of a single program with no distraction; therefore, the findings cannot be generalized. Further research is needed with prominent nutritious and health messages including characters played in the advertisements to find the potential of television to improve nutrition cognitions and intended behavior.
2	Abdullah & Mal-Allah, 2011	Websites were the most frequently used source by female athletes for nutrition followed by magazines, regional newspapers, television, radio than medical doctors and nutritionists. Free access was the main reason for the girls to approach traditional and digital media more than human resource. No theory was involved in the study.
3	Ali et al., 2012	Elderly people for developed digital nutritional package gave positive responses and preferences. Incorporating appropriate guidelines with proper design is imperative, as understanding the content by elderly people would educate them, regarding healthy diets and make them experience positive interactive feel with the system. Research should be done with larger samples of different community with different demographic background for more relevant finding to evaluate the impact on wellbeing of community and society. No theory was involved in the study.
4	Duncan et al., 2012	In this study, intervention of online media and nutrition app showed a positive influence compared to base line survey result. There were not much improvement in physical activity literacy, nutrition behavior but there is a subsequent increase in nutrition literacy among intervention group. This positive response was an added advantage for further intervention by websites and mobile apps to improve nutrition knowledge among men. Only 90 samples were used that limits the study.
5	Coughlin et al., 2015	Smartphones were accepted as useful and cost-effective interventions for enhancing dietary habits and nutrition

		measurements, and indicating obesity among common people. Further research is needed to know about components of smart phone platforms effectiveness. Appropriate culturally tailored smartphone apps with research test are needed for people lagging in health literacy and non-English speakers.
6	DiFilippo et al., 2015	There are many apps available for nutrition information but their focus is more on weight loss and nutrition behavior than to disseminate in-depth and holistic information on nutrition. A significant number of people are using mobile apps frequently for various purposes. Base of usage of mobile app is increasing exponentially in recent times. However, studies availability in this area is limited. Therefore, further research is recommended on mobile apps with intervention of behavioral theories and new strategies.
7	Vandelanotte et al., 2016	The eHealth and mHealth were welcoming factors among people in dietary intervention. Around the year 2014, accessibility of internet among people of ethnic minorities, socially and economically backward is low. In this study, the eHealth and mHealth played promising role in increasing dietary habits and physical activity, and were also widely accepted and used by people. However, gradually, there was a substantial growth in use of smartphone and its technology, social media, mobile application and different platforms of digital media. Authors suggest going for higher level of research in the domain by intervening various behavioral and communication theories, and novel strategies for health information to reach large number of people.
8	Nour et al., 2017	Smartphone platforms were frequently used and accepted by young adults for nutrition information. They desired to have mobile apps for nutrition information, self-monitoring and games for motivation purpose. The study suggested more research in the application of new theories and strategies by consulting nutritionists for developing content and behavioral researchers for choosing appropriate theories.
9	Rose et al., 2017	Digital intervention for dietary habits is considered successful among adolescents. It is inexpensive, therefore, extensively used by them. This study mostly shows website based interventions followed by mobile apps, social media and gaming. Smartphone based interventions are very much accessible and convenient for regular touch. Authors suggest further research in performing higher level of trails on existing mobile apps for health to find behavior change among users. No theory was involved in the study.
10	Chau et al., 2018	Integration of social media along with mobile apps and gaming intervention for nutrition information produced a positive effect on adults and adolescents. The available studies in this area and usage of obsolete and rudimentary features of social media again limit this study. However, social media is still becoming amenable and fascinating among people and its intervention would be a promising feature for enhancing nutrition literacy. Authors suggest more research to be conducted in this domain using new creative features and familiar platforms to explore the potential of social media for nutrition information.
12	Hsu et al., 2018	Social media is a promising platform to improve nutrition behavior of adolescents, as it is a widely used medium. However, authors observed that studies reviewed by them were scare and social media platforms used in those studies were out of date and not

		enough to prove the long term continued adoption of nutrition behavior. Further research should be done focusing on contemporary and highly used social media platforms for better assessment of this domain.
13	Khoury et al., 2018	Mobile dietary apps are effective and have enough potential to improve nutritional outcome and weight loss of adults. Authors suggest that incorporation of additional behavioral theories along with counselling would give better benefits. The limitations include that the studies covered are from developed countries, therefore, the samples could not be generalized. The authors advocate that more research is needed.
14	Klassen et al 2018	Wide and frequent use of internet by young adults helped them to accept nutrition information delivered through social media. However, authors recommend more research to know about different social media platforms used by young adults. How to focus on a particular platform more effectively for peer and social support for choosing healthy food? No theory was involved in the study.
15	Loehmer et al., 2018	Accessibility of internet by rural Illinois people irrespective of social profile; and low-income people irrespective of place of residence were almost same. The participants' internet use for nutrition information varied depending on age where. Young adults' usage frequency was found to be more than middle-aged people were Text message, Facebook and e-mail were the most used platforms for nutrition information. Limitation of this study was that only participant's data of SNAP was taken, therefore, the results could not be generalized. Authors suggest more research to find out credibility of the information available in SMA_(text messages, face book, twitter, and websites). No theory was involved in the study.
16	Maher et al., 2018	Ubiquitous use of internet made everyone to explore nutrition information available in all online sources including Australian women as well. However, online sites are doubted for information inaccuracy sometimes. In this study, authors suggested that health professionals' stamp/ recognition or contribution would guide the women about authenticity of the online nutrition information they explored. The authors also recommended further research by increasing the sample size to extend the study's findings.
17	Nour et al., 2018	Social media and gaming integration for nutrition behavior and knowledge were considered as a new dimension of intervention and had positive impact in young adults. Long-term success range for gaming should be explored well to find engagement timing of users. The authors found that there were less number of available studies on social media and gaming associated with nutrition outcomes and knowledge. Therefore, the authors recommended further research on evidence based novel strategies for diffusion of more nutrition education and intervention, and to get clarity about this domain. The authors also suggested exploring model with intervention of other theories other than behavioral theories.
18	Dunne et al., 2019	Sports nutritionists' usage of social media was high in prevalence and found benefits for providing service effectively. WhatsApp and Facebook were the most used platform. Authors suggested that good training to the nutritionists could be beneficial to communication process. Adding the network with innovative intervention and platforms with credible information would help the nutritionists to communicate with players during training/

		practice, on tour and during rest period.
19	Tallon et al., 2019	Technology intervention through websites, text messaging and gaming had good impact in gaining nutrition knowledge and is cost effective, practical and attractive for school students. Authors hypothesized developing tailored interventions and strategies with theoretical components and practical skills facilitate adolescent interaction more conveniently. Lesser studies with heterogenic intervention components including inclusion and exclusion criteria limit the study. No theory was involved in the study.
20	Vander Wyst et al., 2019	Access to social media by adolescent pregnant women was high and could not find much change in acquiring knowledge and diet. Larger studies are needed to be done in this domain as social media have potential to reduce health risk for women. Usage of sample from just single clinic was the drawback of this study because the results could not be generalized then. Authors recommend that further effective parameters for health and nutrition should be included in social media intervention.
21	Chow et al., 2020	Gaming approach for improving eating habits of children was highly effective with positive outcomes. However, gaming integration had good impact in diet habits in short-term but long-term results and underlying mechanisms should be explored because gaming is a temporary entertainment factor. Further research was recommended by authors in the intervention of health practitioners and game developers for more knowledge and clarity.
22	Froome et al, 2020	Intervention of mobile gaming apps had a positive impact in nutrition knowledge of children. Data in this study hypothesized that implementation of mobile gaming app with long-term assessment of diet and healthy habits would help to understand the effectiveness of game intervention better. The limitation of the study was that particular gaming apps were used for the research. Authors suggested that more digital tools should be explored with behavior change techniques to get more clarity in this domain.
23	Griauzde et al, 2020	Social media has well influenced Hispanic mothers in feeding their child. Mothers having high access to social media and mobile technologies also desired its intervention for health information. Authors suggested introduction of novel strategies to reduce obesity and adopt proper diet. In addition, the authors recommended targeting highly used platform by mothers to give better intervention for health related information. No theory was involved in the study. The limitations was that the sample included only mothers who attended a particular health centre, therefore, findings could not be generalized for all Hispanic mothers.
24	Kundu et al., 2020	School going adolescents of Bangladesh prioritized and trusted family members for nutrition information followed by health workers, traditional media and online source. The reasons for online media not being in the top list included more reliability for information in other sources and low access to online media. Authors mentioned that in many studies, online media was considered as a successful medium for nutrition information and to enrich nutrition knowledge. However, students with different demographic backgrounds have different circumstances, which could influence their information seeking behavior for nutrition knowledge. The authors suggested further research to get more clarity about sources of nutrition information. Critically analysis of this study found that no behavior theories, health models or

		strategies were applied.
22	Samoggia et al., 2020	This study concluded that nutrition mobile apps play a promising role in enhancing nutrition behavior and knowledge. Promotion of mobile nutrition information apps could help consumers comprehensibly to buy and consume nutritious food. Limitation in this study was that convenient sampling and only a particular app was explored. Authors recommend further research by incorporating more nutrition apps with heterogeneous people with the support of nutritionist, app developers, marketing researchers, and behavior scientists for long-term positive results from the consumers.
25	Choi et al., 2021	Diet and nutrition apps were widely used by Korean people. Content and quality of the apps should not be judged by star rate shown for that particular app. Mostly, people choose apps depending on ratings; however, it was found that an app with high star ratings could show poor quality of information and content. App developers and nutritionists should work together consistently with the help of host platforms to improve the quality of information and parameters in the app. This would help to increase the plausibility for app users to gain appropriate understanding and knowledge for nutrition and diet. Limitation of this study included that apps with low ratings and behavioral theories were not included, and there was no categorization of people. The unit of analysis in this study was individual apps only. Therefore, authors strongly recommended more research considering people from different sociodemographic background and their app usage.

Author's Own Table

METHODS AND PROCEDURE

Inclusion / Exclusion Criteria

In this systematic literature, each research article was selected by considering the following factors:

- Articles only published in English language.
- Only research and review studies published from January 2010 to February 2021 are included to find recent development in the phenomena investigated.
- Articles regarding media (traditional media, digital media, and mobile apps) associated with nutrition information, knowledge and behavior.
- Book reviews, thesis/ dissertations, articles from magazines, websites, conferences, and newspapers are excluded.

Development of Web Strategy

Key terms like "media usage", "media consumption", "nutrition literacy", "mobile app", "nutrition knowledge", "nutrition awareness", "and nutrition behavior" were used to choose articles related to the topic. The pertinent technique to be noted is considering title, keywords and abstract to focus on studies relevant to our topic (Tamilchelvan & Rashid, 2017). This kind of strategy clearly visualized full and partial content available regarding media connected with nutrition.

Observation Protocol

In this study, the keywords mentioned in the above paragraph have been used to select relevant articles (research articles and review articles) from the databases of publishers like Science Direct, PMC, Taylor and Francis, Wiley and Sage. PRISMA (Preferred Record Items for Systematic Review and Meta-Analysis) method was used to filter and choose final articles for the present research.

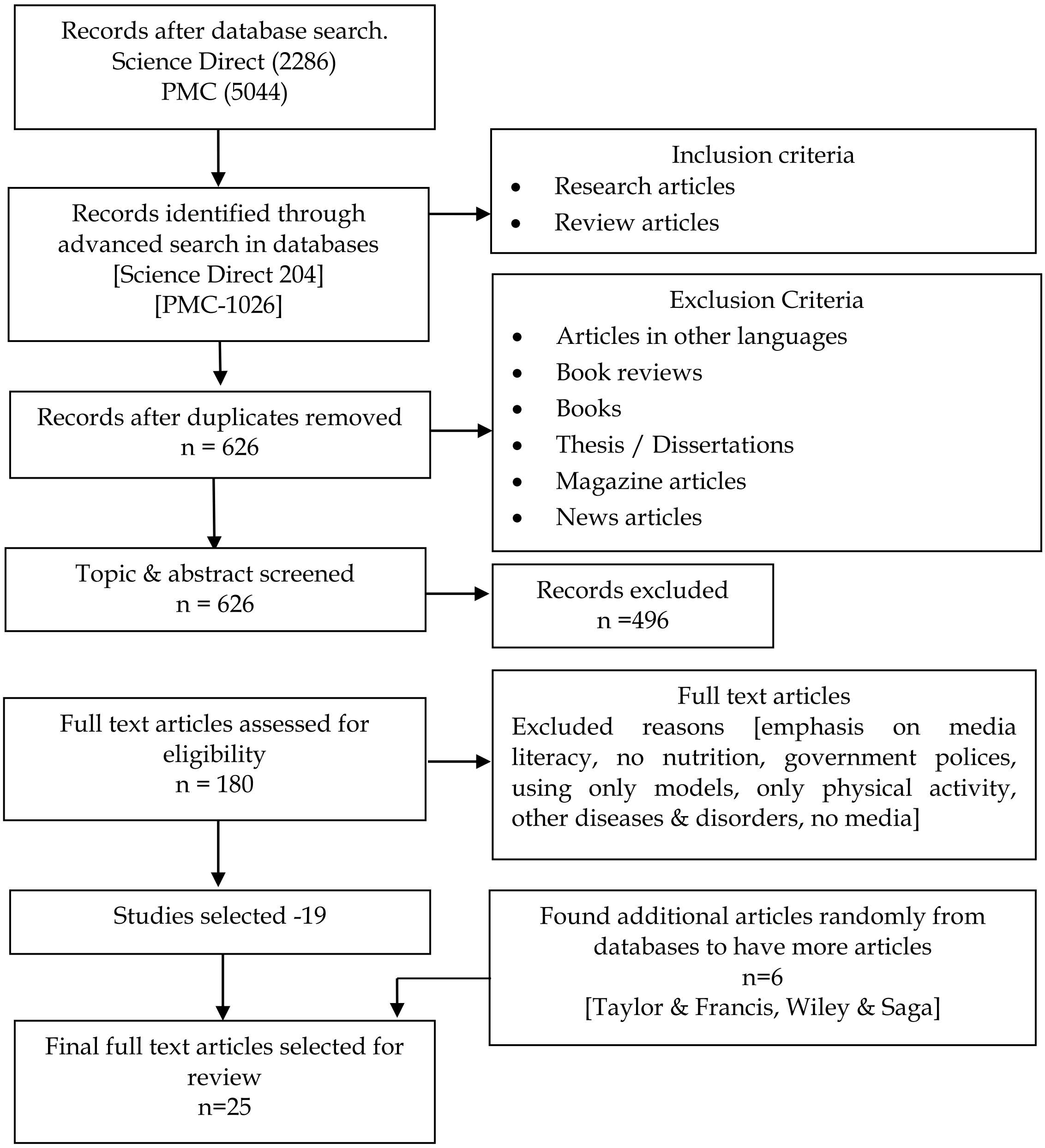
Steps followed for the systematic literature review are defined below:

- Keywords like 'media usage', 'media consumption', 'mobile app', 'nutrition literacy', 'nutrition knowledge', 'nutrition awareness', and 'nutrition behavior' were chosen.
- Following that, the search of studies was exclusively done in databases of Science

Direct, PMC, Taylor and Francis, Wiley and Sage to filter literature relevant to our study for analysis. To understand recent status of our topic, only relevant literature from 2010 to 2020 was selected. Considering the already mentioned inclusion and exclusion criteria, only 25 relevant articles were selected.

- After thorough analysis of the 25 articles, the quantitative part was classified with seven categories and 4 themes were extracted under qualitative part to analyse thematically.
- Results obtained from the analysed data of coding and classification visualized the strengths as well as weaknesses in the chosen studies.
- Finally, suggestions and recommendations were given by finding main academic gaps from the analysed results.

Following PRISMA flowchart explains the selection process of the 25 articles from the five databases:



Analytical Process

The two-step analytical process developed by Ahmed and Mathes (2017) was used in the present review. The two analytical processes used for analysis are Qualitative and Quantitative analysis. To understand the

recent trend of the topic and find gaps in the research conducted, quantitative analysis is the first step to be followed in this study, which answers research question no. 2. The second step is to answer research question no. 1 for which qualitative analysis is applied in which the extracted themes are investigated thematically from the analysed literature.
Main themes are identified from selected literature through qualitative analysis is role of different media in enhancing nutrition literacy

Quantitative Analysis Phase
In quantitative analysis, the first step was to code and categorize the studies as shown below:

- Journal and year of the article published
- Geographical region where the research was conducted
- Country of first author's affiliation during the publication time
- Research methods
- Data collection instrument: In this study subset, method by Abdullah & Osman (2017) for quantitative, qualitative and mixed methods have been chosen. The categories of quantitative methods are content based analysis, survey, mixed instrument (combines two or more instruments) etc. In addition, categories of qualitative phase are interviews, discourse or textual analysis, mixed instruments, etc. Studies with mixed methods were coded with quantitative and qualitative headings.
- Theoretical Lens: Studies selected for analysis has been examined for utility and usage of theory. Theories related to health, behavioral change and media consumption were elicited in the theoretical lens. Major theories found from selected studies were social cognitive theory, social network theory, ecological model of health behavior, trans-theoretical theory, self-efficacy model, model of persuasion, conceptual model, reinforcement theory, health belief model, entertainment education theory, theory of planned behavior, self-regulation theories, self-constructs of different theories, health behavioral theory, psychological model, theory of reasoned action, and theory of interactive technology. The code "theory employed" was used to represent the studies using one or more of the above mentioned theories. Similarly, the code "No theory employed" was used for studies using no theory.

Media usage categories in the selected studies:
The different media categories, Traditional Media (A), Online (B), Nutrition information app (C) and gaming (D) elicited for nutrition literacy enhancement in every study were mentioned. In the studies selected, either one of the media was used or studies having two or three media categories were jointly harnessed to find the positive association of media with nutrition literacy. Percentage of different media usage for the selected literature is analysed quantitatively.

Qualitative Analysis Phase
From the conclusion of each selected study, a theme were identified and thematically analysed.

FINDINGS AND DISCUSSIONS
In this systematic review, major objectives were to find the role of media usage in enhancing nutrition literacy, and to identify vital research gaps in the literature incorporated. In this section, results of the present study are explained and discussed.

Distribution (2010- 2020) & Journals
The average number of available studies is 2.08 per year for 12 years, which seems to be very low in rate. However, as seen in figure 1, the inclination is randomly increasing after 2015 (N= 2) and again shows a rise in 2017 (N = 2), 2018 (N = 7), 2019 (N= 3). The pandemic situation in 2020 (N = 5) and 2021 (N = 1) has taken a toll on research. There is a clear indication that limited number of research has been found on comprising media usage and nutrition knowledge in the last 2 years.

As people are becoming so much aware of chronic diseases, and idle and mundane lifestyle, they have started giving attention to their life style to change it to a healthy one. The list prioritizes consuming healthy and nutritious food. Therefore, more research should be conducted in upcoming years regarding the enhancement of nutrition literacy through different media. This kind of research will constantly bring improvement in nutrition knowledge and behavior among people for healthy population.

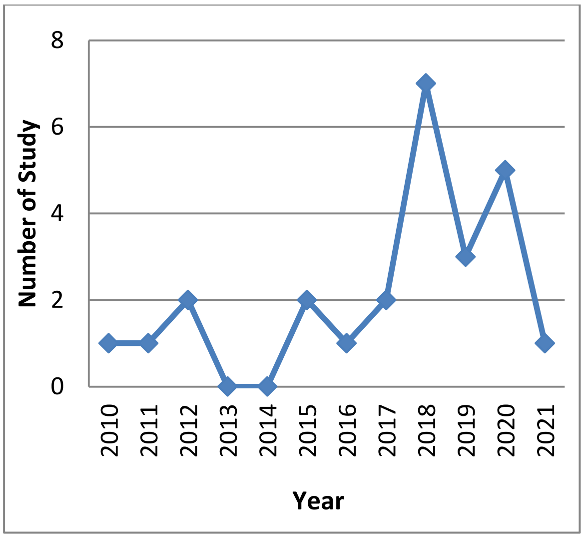


Figure 1. Research trends since 2010

The average no. of the studies available is 2.08 per year for 12 years, which seems to be very low in rate. However, as seen in figure 1 the inclination is randomly increasing after 2015 (N= 2) and again rise of study in 2017 (N = 2), 2018 (N = 7), 2019 (N= 3). The pandemic situation in 2020 and 2021 has taken toll on research. So in Year 2020 studies published (N = 5) and 2021(N = 1). There is a clear indication of limited number of research has been found in comprising media usage and nutrition knowledge in last 2 years.

As the people are becoming so much aware of chronic diseases and idle and mundane lifestyle, they started giving attention on their life style to change for healthy lifestyle. The lists prioritize consuming the healthy and nutritious food. Therefore, more research will be conducted in the upcoming years regarding the enhancement of nutrition literacy through different media. This kind of research will constantly bring improvement in nutrition knowledge and behavior among people for healthy population.

Geographical area focused on

In this research, the geographical areas focused on are categorized into nine regions: South East Asia, South Asia, Middle East, America, Australia, United Kingdom and Worldwide. As per figure 2, large number of studies focused Worldwide (N = 11, 44%). America (N = 5, 20%) holds next position in the list followed by Australia (N = 3, 12%), and Western Europe (N = 2, 8%). South East Asia (N = 1, 4%), South Asia (N = 1, 4%), Middle East (N = 1, 4%) and the United Kingdom (N = 1, 4%) share equal number of studies.

According to the amalgamated studies' geographical distribution, many have been perceived in understanding and gaining knowledge about media usage and its association with nutrition literacy in regions like Europe and far East. In countries like Africa and Nigeria where nutrition problems are high in prevalence, there are no studies available in the recent years (2010- 2021) to represent the current scenario of people's nutrition knowledge and behavior in addition to media usage. Similarly, very few studies were found in Asia where malnutrition is a serious problem. In many underdeveloped and developing countries of Asia, severe acute malnutrition (SAM) is considered as a crucial problem and internal resources were mob (Ahmed et al., 2014).

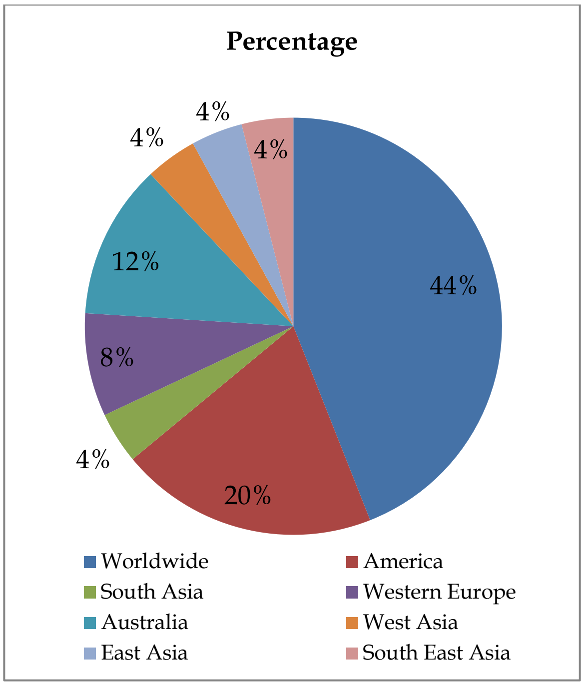


Figure 2. Geographical region focused in each paper

Country (First author's university affiliation)

In the present research, in case of two or more authors of a particular selected study, only the university affiliation of first author has been contemplated. Additionally, another factor to be clarified is that countries' inner geographical regions are excluded.

In terms of a country's research production related to the concerned topic, the US (N = 8, 32%) stood at first place following by Australia (N = 7, 28%), and the UK (N = 2, 8%). Countries like Bangladesh (N = 1, 4.1 %), Canada (N = 1, 4.1 %), Denmark (N = 1, 4.1 %), Kuwait (N = 1, 4.1 %), Malaysia (N = 1, 4 %), Netherland (N = 1, 4 %), and Portugal (N = 1, 4 %) covered equal number of research studies.

As shown in Figure 3, except Australia and the U.S, other countries produced very less number of studies on media usage and nutrition literacy. The imperative point to be noticed here is that there are no research studies found in developing countries like African countries and India where malnutrition is a challenging problem until date. As per the phrase "health is wealth", a nation's prosperity lies on its healthy people. Therefore, conducting research in this area in the above mentioned countries would give more idea and knowledge to improve the communication and attain sustainable development goals. Different media usage for nutrition information could be investigated to know about authenticity of media nutrition information among people.

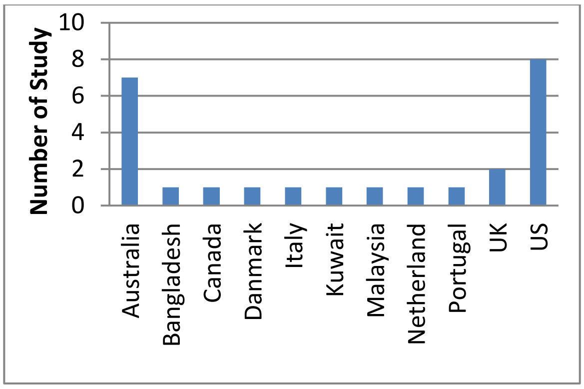


Figure3. Country of first author's research affiliation during the time of publication

Method used

Table 1 shows complete findings of quantitative analysis. Table 2 shows the three methods' prevalence and percentage used in the research. According to both tables, qualitative methods (N = 11, 44%) were used more than the other methods in the selected literatures for media usage and nutrition literacy usage. Quantitative methods (N = 7, 28%) and mixed method approach (N = 7, 28%) comprised similar number of studies.

Table1. Overview of the findings of quantitative screening

Sr. No	Authors/ Year	Focused Region	Affiliation	Method	Theoretical Perspective	Instruments used	Media usage: Traditional media (A), Online media (B), Nutrition apps (C), Gaming (D)
1	BYRD-BREDBENNER et al., 2010	US	US	Quantitative	Social cognitive theory, Cultivation Theory	Multiple	A
2	Abdullah & Mal-Allah, 2011	Kuwait	Kuwait	Quantitative	NA	Survey	A,B
3	Ali et al., 2012	Malaysia	Malaysia	Quantitative	NA	Survey	B
4	Duncan et al., 2012	Australia	Australia	Quantitative	Social Cognitive theory, self-regulation theory	Multiple	A,B
5	Coughlin et al., 2015	Worldwide	US	Qualitative	Social cognitive theory, self-regulation theories.	Content analysis	B,C
6	DiFilippo et al., 2015	Worldwide	US	Qualitative	Theory of planned behaviour, social cognitive theory	Content analysis	B,C
7	Vandelanotte et al., 2016	Worldwide	Australia	Qualitative	Model of persuasion, conceptual model, Persuasive system	Content analysis	B, C

Sr. No	Authors/ Year	Focused Region	Affiliation	Method	Theoretical Perspective	Instruments used	Media usage: Traditional media (A), Online media (B), Nutrition apps (C), Gaming (D)
					design model, Traditional behavior change theory		
8	Nour et al., 2017	Australia	Australia	Mixed	Psychological model, Behavioral change theory, Health behavioral theory	Other Survey	B,C,D
9	Rose et al., 2017	Worldwide	UK	Qualitative	NA	Content analysis	B,C
10	Chau et al., 2018	Worldwide	US	Qualitative	Trans-theoretical model of motivation, Theory of planned behavior, Attitude-Social Influence-Self-efficacy model, Theory of planned behavior, social cognitive theory, social network theory, ecological model of health behavior, Theory of interactive technology	Content analysis	B,C,D
11	Hsu et al., 2018	Worldwide	Australia	Qualitative	Social cognitive theory, Mentoring models, Attitude social influence and self-efficacy, Theory of interactive technology, Social learning theory, The public health promotion models.	Content analysis	B
12	Khoury et al., 2018	Worldwide	Netherland	Qualitative	Trans-theoretical theory, self-efficacy theory, self-constructs of different theories, theory of planned behavior	Content analysis	B,C
13	Klassen et al., 2018	Worldwide	Australia	Mixed	NA	Content analysis	B
14	Loehmer et al., 2018	US	US	Quantitative	NA	Survey	B
15	Maher et al., 2018	Australia	Australia	Qualitative	Grounded theory	Interview	B
16	Nour et al., 2018	Worldwide	Australia	Qualitative	Theory of planned behavior, Pender	Content analysis	B,D

Sr. No	Authors/ Year	Focused Region	Affiliation	Method	Theoretical Perspective	Instruments used	Media usage: Traditional media (A), Online media (B), Nutrition apps (C), Gaming (D)
					model of health, promotion that integrates expectancy, Value model of human motivation and Social Cognizant Theory, goal setting theory, social learning theory, Reinforcement theory, health belief model, theory of reasoned action, Entertainment education theory		
17	Dunne et al., 2019	UK Ireland	UK	Mixed	Behavioral change wheel	Interview, Survey	B
18	Tallon et al., 2019	Worldwide	Portugal	Qualitative	NA	Content analysis	B,D
19	Vander Wyst et al., 2019	US	US	Mixed	Social cognitive theory, Univariate general linear model	Multiple, Multiple	B
20	Chow et al., 2020	Worldwide	Denmark	Qualitative	Self-efficacy theory	Content analysis	D
21	Froome et al., 2020	Canada	Canada	Quantitative	Self-determination theory	Multiple	C,D
22	Griauzde et al., 2020`	US	US	Mixed	NA	Interview, Survey	B
23	Kundu et al., 2020	Bangladesh	Bangladesh	Quantitative	NA	Survey	A,B
24	Samoggia et al., 2020	Italy	Italy	Quantitative	Trans-theoretical model, Health belief model	Content analysis, other	B,C
25	Choi et al., 2021	Korea	US	Mixed	NA	Content analysis, Survey	C

Table2. Comparative analysis of research approaches taken

Approach	Number of studies	Percentage
Qualitative	11	44%
Quantitative	7	28%
Mixed	7	28%

Instruments used

In this category, the instruments/ tools used under the three methods in the literature discussed are identified. As shown in Table 4, studies that followed qualitative approach for analysis, mostly used content analysis (N = 11, 90.9%) followed by interview (N = 1, 9.1%). Most of the studies which used quantitative approach for analysis incorporated survey method (N = 4, 57.1%) followed by multiple instrument (N = 3, 42.9%). Multiple instrument represents using more than one tool for analysis.

In the studies using mixed methods, the qualitative portion used tools like content analysis (N = 3, 42.9), interview (N = 2, 28.5%), multiple tools (N = 1, 14.3%) and 'other' (N = 1, 14.3%) meaning focus group discussions.

Quantitative portion of mixed method studies used tools like survey (N = 5, 71.4%), multiple tools (N = 1, 14.3%), other (N = 1, 14.3%).

Table 3 and Table 4 laid out the understanding of gaps in the selected studies on media usage in enhancing nutrition literacy. The qualitative method was used in 11 studies (44%) where content analysis was mostly used (in 10 out of the 11 studies, 99.9%).

Table 4: Instruments used in the studies

Instruments	Frequency of studies	Percentage
Content analysis	Qualitative analysis 10	90.9%
Interview	1	9.1%
Total	11	100%
	Qualitative approach	
Survey	4	57.1%
Multiple	3	42.9%
Total	7	100%
	Mixed Method approach Qualitative Portion	
Content analysis	3	42.9%
Interview	2	28.5%
Multiple	1	14.3%
Other	1	14.3%
Total	7	100%
	Quantitative Portion	
Survey	5	71.4%
Multiple	1	14.3%
Other	1	14.3%
Total	7	100%

Theoretical Lens

More than half of the selected literature (64%) incorporated theories in it while 36% had no application of any theories. Around 11 selected literatures for analysis are review articles, therefore, multiple theories were found in most of those studies. The present topic comprised of nutrition awareness and knowledge, therefore, many selected studies used health behavioral change theories like social learning theory, social cognitive theory, self–efficacy theory, theory of planned behavior, theory of reasoned action, health belief model and trans-theoretical model. In addition, there were many self-motivation theories used, namely self-determination theory, self-regulation theory, behavioral change wheel, and self-constructs of different theories. Other theories found in the selected articles were attitude-social influence self-efficacy theory, ecological model of health behavior, model of persuasion, conceptual model, persuasive system design model, psychological model, Pender model of health, goal setting theory, social network theory, entertainment education theory, grounded model, univariate general linear model, mentoring models, and public health promotion models. Few media related theories were also used, namely, theory of interactive technology, cultivation theory and entertainment education.

Most of the theories employed comprised of behavioral and attitude change theories that show the gap in the selected studies. In addition, intervention of more media related theories is necessary because changes in everything using mobile platforms to large-scale technological ambiance involve technologies concern with media technologies (Giraud, 2018).

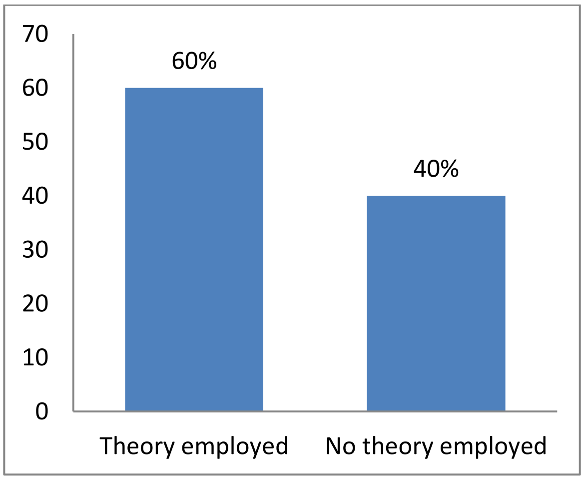


Figure4. Theoretical lens used in studies

Different Platforms of Media Usage (Traditional, online, nutrition app or gaming)

In figure 5, percentage and frequency of different media usage is represented from the conclusions of the selected studies. In certain selected studies, combination of different media approach was followed for testing the improvement in nutrition knowledge and behavior. For convenience and clarity, each media was given codes like traditional media (A), online media (B), nutrition apps (C) and gaming (D). According to table 5, the highest media usage platform in the selected literature was online media (N= 21, 80%) followed by nutrition app (N= 10, 40%), gaming (N= 6, 24%), and traditional media (N = 5, 20%).

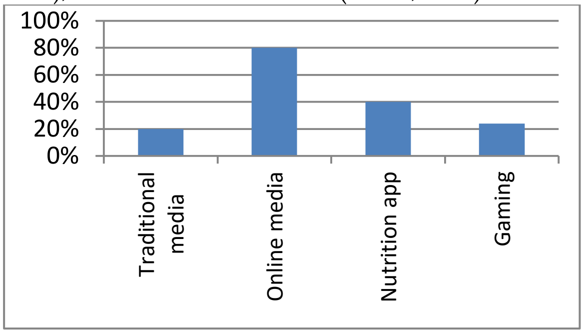


Figure5. Graphical representation of media category used in the studies

Thematic Analysis

Four themes were identified after in-depth analysis of literature to contribute to better technological methods and strategies to improve nutrition literacy globally using different media.

This section will answer research question no.1 and identify the exclusion factors be focused in the analysed literature.

Table5. Overview of findings of thematic analysis

S.No	Authors/ Year	Themes Drawn
1	Byrd-Bredbenner et al., 2010	Traditional media as a source of nutrition literacy
2	Abdullah & Mal-Allah, 2011	Online media as a source of nutrition literacy/ Traditional media as a source of nutrition literacy
3	Ali et al., 2012	Online media as a source of nutrition literacy
4	Duncan et al., 2012	Online media as a source of nutrition literacy/ Traditional media as a source of nutrition literacy
5	Coughlin et al., 2015	Online media as a source of nutrition literacy
6	DiFilippo et al., 2015	Online media as a source of nutrition literacy/ Intervention of nutrition app as a source of nutrition literacy
7	Vandelanotte et al., 2016	Online media as a source of nutrition literacy/ Traditional media as a source of nutrition literacy
8	Nour et al., 2017	Online media as a source of nutrition literacy/ Intervention of nutrition app as a source of nutrition literacy
9	Rose et al., 2017	Online media as a source of nutrition literacy/ Intervention of nutrition app as a source of nutrition literacy
10	Chau et al., 2018	Online media as a source of nutrition literacy/ Gaming intervention as a source of nutrition literacy
11	Hsu et al., 2018	Online media as a source of nutrition literacy
12	Khoury et al., 2018	Online media as a source of nutrition literacy/ Intervention of nutrition app as a source of nutrition literacy
13	Klassen et al., 2018	Online media as a source of nutrition literacy
14	Loehmer et al., 2018	Online media as a source of nutrition literacy
15	Maher et al., 2018	Online media as a source of nutrition literacy
16	Nour et al., 2018	Online media as a source of nutrition literacy/ Gaming intervention as a source of nutrition literacy
17	Chow et al., 2019	Gaming intervention as a source of nutrition literacy
18	Dunne et al., 2019	Online media as a source of nutrition literacy
19	Tallon et al., 2019	Online media as a source of nutrition literacy/ Gaming intervention as a source of nutrition literacy
20	Vander Wyst et al., 2019	Online media as a source of nutrition literacy
21	Froome et al., 2020	Intervention of nutrition app as a source of nutrition literacy/ Gaming intervention as a source of nutrition literacy
22	Griauzde et al., 2020	Online media as a source of nutrition literacy
23	Kundu et al., 2020	Online media as a source of nutrition literacy/ Traditional media as a source of nutrition literacy
24	Samoggia et al., 2020	Online media as a source of nutrition literacy
25	Choi et al., 2021	Intervention of nutrition app as a source of nutrition literacy

Theme 1: ***Traditional Media as a source of nutritional literacy***

Traditional media comprised of television, radio and print media in this study. Although there is a rapid growth of advanced digital media, it has not led to end to traditional media (Blech & Blech, 2014). In fact, traditional media exists as a main source of communication in many regions of the world and in developing countries like India; it still plays a pertinent role in disseminating message to large number of people (Catalan-Matamoros & Peñafiel-Saiz, 2017). The reason could be its easy, cheap, and effective accessibility, especially in rural areas.

The reach and power of traditional media could influence all facets of human life including health, and could be harnessed for health promotion of information, empowerment and motivation for behavioral changes of people (Maryon-Davis, 2012). Health and well-being of people are the most imperative factors to improve prosperity of a country. Nutrition literacy is important for all humans because lack of micro and macro nutrition intake, inadequate healthy food choices would adversely affect the health and nutrition condition (Kalkan, 2019).

Influence of individual's perception of media content regarding health promotion on others stimulates their own intention to follow healthy behaviours of diet and nutrition, skin and cancer prevention (Chapman et al., 2014). Television programs are a potential platform for delivering information related to nutrition affecting children's knowledge and behavior (Byrd-Bredbenner et al., 2010).

According to a study conducted by Ramadasmurthy et al. (1992), the exposure extent for communication media (television, radio, newspaper and magazine) having close association between media usage and dietary practices and knowledge were elucidated. They concluded that media played a greater role in generating credible health and dietary information.

In a longitudinal study conducted with the application of health belief model, it was found that self-efficacy and susceptibility increased through health motivation because viewing TV programs boosted viewers credence in their nutrition knowledge regardless of education and socio-demographic conditions (Chew et al., 1998). Mass media programs and commercials with endorsement of celebrities also play a substantial role in healthy food consumption and physical activity promotion (Maheswar et al., 2018).

According to Wakefield et al. (2010), campaigns using mass media promoting health and nutrition behaviours produce positive impact or ameliorate negative impact among large number of people. For better result of media exposure, community based programs along with long-term investment in campaigns are suggested by the researchers. Broadcast media (TV and radio) also has high potential in conveying health and nutrition information but such strategies need to be planned well for optimum results (Nuguid, 1985).

The intervention of traditional media as a source for improving nutrition mostly showed a positive response in large population. Incorporating new and innovative programs and advertisements comprising nutrition and health message with implication of appropriate communication theories and strategies would improve the reach and delivery of messages for better nutrition knowledge and behavior.

Theme 2: ***Online media as a source of nutrition literacy***

Online media is a new and rapid means of communication born out of rebel of conventional technology for wider reach and faster communication. The online media comprising social media, websites and blogs plays numerous but vital roles in disseminating health information to public and holds responsibility to report credible information. The quality of online media has brought substantial changes in various fields like academics, publishing, entertainment, journalism, and business. Hence, online media intervention in health field is not a surprising factor either (Smith, 2013).

In 2018, the WHO suggested to incorporate digital platforms in health promotion for better communication and to make people aware about the consequences of consuming unhealthy food (Saura et al., 2020). Social media has developed new and different avenues for nutrition and dietetics communication in many ways. It has also been considered as a potential tool for educating patients, supporting peers, nutritional counselling and public health campaigns. Nutrition and dietetics practitioners use and accept social media as a supporting tool to improve knowledge on diet and reach larger population (Helm & Jones, 2016).

According to Leak et al. (2014), the ubiquitous use of social media has made nutrition educators believe that it plays a promising role in disseminating message and adequate communication with good health outcomes. Facebook was a highly used platform by low-income people to access health information and cognizant. The nutrition educator exemplifies creditability and while posting content on social media should refer to scientific information.

There are numerous social media pages, websites, blogs, and digital books available for good health and diet information because nutrition has become a familiar topic among internet users. In addition, universal access of internet leading to wide social media usage and search engines has literally made people to explore various information including nutritional food and health (Adamski et al., 2020).

Social media sites like Facebook, Twitter, WhatsApp, blogs, and forums have been explored for many diet practices and public health. They are also used to expand nutrition programs for education. Although social media usages of diet practice are infancy, the inclination of consumption of information from social media is increasing. In parallel, many registered dieticians' usage of social media is increasing, as they believe that they play a prospective role in exchanging nutrition knowledge (Dumas et al., 2018).

Mobile platform integration is highly capable for increasing intake of healthy diet, nutritional behavior and knowledge. For producing adequate support for mHealth, there is need of understanding and cooperation among academies, industry and government organizations. In addition, intervention of health workers, social media advertisements, encouraging gifts with improved strategies are also required (Seyyedi et al., 2019).

From the above discussed analysis, it is clear that online media has a big advantage to disseminate nutrient information and develop knowledge for a healthy life. Health professionals' participation in creating content must be considered for increased credibility and authenticity of health related content provided on the sites. Online social media platforms with proper tools, new strategies, and credible content would reach to various socio-demographic populations, thereby, reducing health social inequalities

Theme 3: ***Intervention of nutrition apps as a source of nutrition literacy***

Nutrition apps promote the consumption of healthy food, enable people to purchase and follow healthy diet, and show the nutritious value of food for healthy life style. Nutrition apps motivate people to incorporate healthy lifestyle in their routine. Among frequent mobile users, health, nutrition and diet apps are the most familiar ones because awareness and concern for good health is maximizing. Nutrition information app could be more constructive for consumers in overcoming confusion about their limitations in perception of food and healthy food approach. In specific, nutrition information apps reduce the view about barriers for eating healthy food and enhance subjective and objective knowledge of wholesome food (Samoggia & Riedel, 2020).

According to Samoggia et al. (2020), consumers who consult these nutrition apps mostly expect suggestions for cooking, nutritional counselling, and to acquire knowledge about healthy diet. To improve the perception of consumers and break barriers for healthy eating, nutrition information apps play a positive role. In currently available fitness and health apps in Android/ Apple store, nutrition apps are very popular and comparatively considered low-cost approach to evaluate food intake to provide consumers benefits, nutritional advice, educational settings and research (Berens & Evenson, 2020).

Multiple elements play the hindrance role in fidelity and use of nutrition mobile apps.

Professionals could intervene and collaborate with app developers to improve the credibility of information and authenticity of the apps among consumers as nutrition apps are easily accessible apps for weight management and knowledge gaining (Lieffers et al., 2018). These apps can be able to streamline nutrition components and nutrition assessment from dietary record of patients and facilitates dieticians to utilize more time in nutrition counselling and education. To conclude, usage of apps increases the patient-provider communication and aid to monitor patient progress through apps itself (Chen et al., 2018). According to DiFilippo et al. (2014), many people are using nutrition apps in routine to explore different nutritious food and monitor themselves. There are numerous nutrition apps available, maximum of which focus on weight loss. Very few studies have been found on nutrition education and knowledge, leading to a need for more research. The usage of diet and nutrition apps influences people with action, awareness and self-education regarding physical activity, nutrition and social life. Such apps motivate users to do regular exercise and follow healthy diet. Tailoring the apps with personal needs will improve utility of these nutrition and physical activity apps (Wang et al., 2016). Installation of high number of apps for diet and nutrition clearly shows the opportunity that these apps have to make potential change in nutrition intake and knowledge (Franco et al., 2016).

The above mentioned studies talked about the availability of different diet and nutrition apps and their access by the people. Although these apps are considered helpful for promoting nutrition behavior and knowledge the app users must be reassured frequently about the platforms' credibility and the authenticity of dieticians involved in the platform.

Theme 4: ***Gaming intervention as a source of nutrition literacy***

Many other fields have incorporated gaming approach in their pool of activities to entertain, engage and educate customers. This game intervention mechanics are recently promoted by health sector to discourse bigger issues in health for behavioral changes. In digital game play, a lot of adolescents and children obtain nutritional information. In fact, games with target on high nutrition could play a significant tool for nutrition education, nutrition knowledge and healthy nutrition behavior (Holzmann et al., 2019). Playing 'Vita Village' (a nutrition game) provides opportunity for children of ages 9 to 12 years to enhance their knowledge in nutrition and become aware about the availability of different nutritious food (De Vlieger et al., 2020).

According to a study conducted by Yang et al. (2015), technology based game intervention fosters the intake of different micro and macro nutritious food like fruits, vegetables, milk products, meat, and proteins. It further aids adolescents to gain knowledge about the nutrition value of various food items. 'Common Bytes', an online game comprises of 12 games with three levels to improve, and cooking and nutritional cognizant had a positive impact in increasing nutritional knowledge and behavioral change and supported nutrition education (Mier et al., 2005).

According to Holzmann et al. (2019), 'FFF' (fit, food, fun) game for imparting knowledge about nutrition in a format of entertainment showed an optimum result in improving nutrition knowledge among targeted groups. Digital game play is familiar, and an earnest or consequential game play in entertainment layout would play as a sufficient tool to relay nutritional education. 'FoodRateMaster', another nutrition gaming app influences children interest positively in exploring and consuming many healthy foods resulting in improved nutritional knowledge outcomes (Espinosa-Curiel et al., 2020).

According to Hermans et al. (2018), playing games like 'Feed the Alien' (nutrition game), is capable of enhancing short-term nutritional knowledge and healthy behavior. However, to know about the long term effects among children, further investigation with application of different game apps is warranted. Hassanzadeh-Rostami et al. (2018) developed a computer game for nutritional messages based on the snake-ladder and found it simplified the understanding of nutrition wellness and aided in lifting the nutritional knowledge among pre-school students.

Gaming intervention for improving nutrition knowledge is still an emerging field. Therefore, to strengthen the usage of apps, necessary teamwork of academic researchers along with game developers is required to create reusable and innovative games. It can cover larger audience for longer term to obtain constructive impact on nutritional knowledge (Froome et al., 2020). Game approach has been accepted as a better and helpful factor to find content requirement and recommendation to increase nutritional wellness and knowledge. The contemporary strategy for nutritional education in games can be designed to improve knowledge, attitude and behavior for consumption of healthy diet in routine. Amusing and innovative strategies should be included to reinforce the gaming app.

CONCLUSION

Quantitative and thematic analyses are conducted in this systematic literature to explore the association between media usage and nutrition literacy, which answered research question no. 1. Four themes were extracted via thematic analysis for media usage as a source of nutrition literacy. According to the first theme, despite the fact that there is an exponential growth of digital media in present world, traditional media is still widely used. To harness the energy of traditional media, new strategies, creative programs and innovative advertisements should be made. This would help them play a positive role in improving nutrition literacy. Only five studies were related to traditional media, which could not be an enough proof to make conclusions. In the second theme, online media was considered as an upcoming field for disseminating health and nutrition messages rapidly but there were maximum chances for misinformation on these sites. As per the third theme, numerous nutrition apps are used and accepted by many people positively to gain nutrition knowledge. However, there is big concern in the reliability of the apps and the credibility of the content including its long term-effects. In addition, the fourth and final theme conveyed imparting knowledge through gaming as an avenue of entertainment to raise interest among people. However, this might not work out for all categories of people except for children and adolescents. No such proof has come to show its compatibility and need for advanced design and strategy to reach large number of people along with long duration engagement. The quantitative analysis answered research question no. 2. Despite high prevalence of malnutrition in all developing countries, there were not many studies available in connection to media usage and nutrition literacy in these countries. Highest number of studies found in the year 2018. The US conducted many studies in this domain followed by Australia. Asian and African countries lacked research studies in this research area despite the fact that many developing countries located in this region are suffering with severe malnutrition problems. Most of the discussed literature used qualitative analysis comprising content analysis as an instrument resulting in another major gap in the domain because primary data and hands-on information is more authentic for analysing improved nutrition literacy from media usage. At last, from the conclusion of the selected literature, it was found that all media are highly capable to increase nutrition literacy but they lag in contributing strategies to make people adapt to them for gaining nutrition knowledge.

REFERENCES

Abdullah, A. T., & Mal-Allah, Y. (2011, February 11). *Nutrition information sources of female athletes at a girls' sports club in Kuwait: An exploratory study of sources, usefulness, accessibility, and obstacles*. The International Information & Library Review. https://www.sciencedirect.com/science/article/abs/pii/S1057231711000038.

Adamski, M., Truby, H., M. Klassen, K., Cowan, S., & Gibson, S. (2020). Using the Internet: Nutrition Information-Seeking Behaviours of Lay People Enrolled in a Massive Online Nutrition Course. *Nutrients*, *12*(3), 750. https://doi.org/10.3390/nu12030750

Ahmed, T., Hossain, M., Mahfuz, M., Choudhury, N., Hossain, M. M., Bhandari, N. … Bhutta, Z. (2014). Severe Acute Malnutrition in Asia. *Food and Nutrition Bulletin*, *35*(2_suppl1). https://doi.org/10.1177/15648265140352s103

Ali, N. M., Shahar, S., Kee, Y. L., Norizan, A. R., & Noah, S. A. (2012). Design of an interactive digital nutritional education package for elderly people. *Informatics for Health and Social Care*, *37*(4), 217–229. https://doi.org/10.3109/17538157.2012.654843

Belch, G., & Belch, M. (2114). The role of New and Traditional Media in the Rapidly Changing Marketing Communications Environment. *International Journal of Strategic Innovative Marketing*. https://doi.org/10.15556/ijsim.01.03.001

Berens, B., & Evenson, A. (2020). Assessment of the Accuracy of Nutrient Intake Calculations from Popular Nutrition Tracking Apps. *Journal of the Academy of Nutrition and Dietetics*, *120*(10). https://doi.org/10.1016/j.jand.2020.09.002

BYRD-BREDBENNER, C., GRENCI, A., & QUICK, V. (2010). Effect of a television programme on nutrition cognitions and intended behaviours. *Nutrition & Dietetics*, *67*(3), 143–149. https://doi.org/10.1111/j.1747-0080.2010.01446.x

BYRD-BREDBENNER, C., GRENCI, A., & QUICK, V. (2010). Effect of a television programme on nutrition cognitions and intended behaviours. *Nutrition & Dietetics*, *67*(3), 143–149. https://doi.org/10.1111/j.1747-0080.2010.01446.x

Catalan-Matamoros, D., & Peñafiel-Saiz, C. (2017). The Use of Traditional Media for Public Communication about Medicines: A Systematic Review of Characteristics and Outcomes. *Health Communication*, *34*(4), 415–423. https://doi.org/10.1080/10410236.2017.1405485

Chapman, C. D., Nilsson, V. C., Thune, H. Å., Cedernaes, J., Le Grevès, M., Hogenkamp, P. S., … Schiöth, H. B. (2014). Watching TV and Food Intake: The Role of Content. *PLoS ONE*, *9*(7). https://doi.org/10.1371/journal.pone.0100602

Chau, M. M., Burgermaster, M., & Mamykina, L. (2018). The use of social media in nutrition interventions for adolescents and young adults—A systematic review. *International Journal of Medical Informatics*, *120*, 77–91. https://doi.org/10.1016/j.ijmedinf.2018.10.001

Chau, M. M., Burgermaster, M., & Mamykina, L. (2018, October 6). *The use of social media in nutrition interventions for adolescents and young adults-A systematic review*. International Journal of Medical Informatics. https://www.sciencedirect.com/science/article/abs/pii/S138650561830039X?via%3Dihub.

Chen, J., Gemming, L., Hanning, R., & Allman-Farinelli, M. (2018). Smartphone apps and the nutrition care process: Current perspectives and future considerations. *Patient Education and Counseling*, *101*(4), 750–757. https://doi.org/10.1016/j.pec.2017.11.011

Chen, Y., Michalak, M., & Agellon, L. B. (2018, June 28). *Importance of Nutrients and Nutrient Metabolism on Human Health*. The Yale journal of biology and medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6020734/.

Chew, F., Palmer, S., & Kim, S. (1998). Testing the Influence of the Health Belief Model and a Television Program on Nutrition Behavior. *Health Communication*, *10*(3), 227–245. https://doi.org/10.1207/s15327027hc1003_3

Choi, J., Chung, C., & Woo, H. (2021). Diet-Related Mobile Apps to Promote Healthy Eating and Proper Nutrition: A Content Analysis and Quality Assessment. *International Journal of Environmental Research and Public Health*, *18*(7), 3496. https://doi.org/10.3390/ijerph18073496

Chow, C. Y., Riantiningtyas, R. R., Kanstrup, M. B., Papavasileiou, M., Liem, G. D., & Olsen, A. (2020). Can games change children's eating behaviour? A review of gamification and serious games. *Food Quality and Preference*, *80*, 103823. https://doi.org/10.1016/j.foodqual.2019.103823

Coughlin, S. S., Whitehead, M., Sheats, J. Q., Mastromonico, J., Hardy, D., & Smith, S. A. (2015). *Smartphone Applications for Promoting Healthy Diet and Nutrition: A Literature Review*. Jacobs journal of food and nutrition. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4725321/.

de Vlieger, N., Sainsbury, L., Smith, S., Riley, N., Miller, A., & Collins, C. (2020). O30 Development and Preliminary Testing of VitaVillage: A Serious Game Used for Nutrition Education. *Journal of Nutrition Education and Behavior*, *52*(7). https://doi.org/10.1016/j.jneb.2020.04.042

DiFilippo, K. N., Huang, W.-H., Andrade, J. E., & Chapman-Novakofski, K. M. (2015). The use of mobile apps to improve nutrition outcomes: A systematic literature review. *Journal of Telemedicine and Telecare*, *21*(5), 243–253. https://doi.org/10.1177/1357633x15572203

DiFilippo, K., Chapman-Novakofski, K., Andrade, J., & Huang, W. H. (2014). A Systematic Literature Review of Nutrition-related Mobile Apps. *Journal of Nutrition Education and Behavior*, *46*(4). https://doi.org/10.1016/j.jneb.2014.04.287

Dumas, A.-A., Lapointe, A., & Desroches, S. (2018). Users, Uses, and Effects of Social Media in Dietetic Practice: Scoping Review of the Quantitative and Qualitative Evidence. *Journal of Medical Internet Research*, *20*(2). https://doi.org/10.2196/jmir.9230

Duncan, M., Vandelanotte, C., Kolt, G. S., Rosenkranz, R. R., Caperchione, C. M., George, E. S., … Mummery, W. K. (2014). Effectiveness of a Web- and Mobile Phone-Based Intervention to Promote Physical Activity and Healthy Eating in Middle-Aged Males: Randomized Controlled Trial of the Man Up Study. *Journal of Medical Internet Research*, *16*(6). https://doi.org/10.2196/jmir.3107

Dunne, D. M., Lefevre, C., Cunniffe, B., Tod, D., Close, G. L., Morton, J. P., & Murphy, R. (2019). Performance Nutrition in the digital era – An exploratory study into the use of social media by sports nutritionists. *Journal of Sports Sciences*, *37*(21), 2467–2474. https://doi.org/10.1080/02640414.2019.1642052

Espinosa-Curiel, I. E., Pozas-Bogarin, E. E., Lozano-Salas, J. L., Martínez-Miranda, J., Delgado-Pérez, E. E., & Estrada-Zamarron, L. S. (2020). Nutritional Education and Promotion of Healthy Eating Behaviors Among Mexican Children Through Video Games: Design and Pilot Test of FoodRateMaster. *JMIR Serious Games*, *8*(2). https://doi.org/10.2196/16431

Fakih El Khoury, C., Karavetian, M., Halfens, R. J. G., Crutzen, R., Khoja, L., & Schols, J. M. G. A. (2019). The Effects of Dietary Mobile Apps on Nutritional Outcomes in Adults with Chronic Diseases: A Systematic Review and Meta-Analysis. *Journal of the Academy of Nutrition and Dietetics*, *119*(4), 626–651. https://doi.org/10.1016/j.jand.2018.11.010

Flora, J. A., Maibach, E. W., & Maccoby, N. (1989). The Role of Media Across Four Levels of Health Promotion Intervention. *Annual Review of Public Health*, *10*(1), 181–201. https://doi.org/10.1146/annurev.pu.10.050189.001145

Franco, R. Z., Fallaize, R., Lovegrove, J. A., & Hwang, F. (2016). Popular Nutrition-Related Mobile Apps: A Feature Assessment. *JMIR MHealth and UHealth*, *4*(3). https://doi.org/10.2196/mhealth.5846

Freisling, H., Haas, K., & Elmadfa, I. (2009). Mass media nutrition information sources and associations with fruit and vegetable consumption among adolescents. *Public Health Nutrition*, *13*(2), 269–275. https://doi.org/10.1017/s1368980009991297

Froome, H. M., Townson, C., Rhodes, S., Franco-Arellano, B., LeSage, A., Savaglio, R., … Arcand, J. A. (2020). The Effectiveness of the Foodbot Factory Mobile Serious Game on Increasing Nutrition Knowledge in Children. *Nutrients*, *12*(11), 3413. https://doi.org/10.3390/nu12113413

Froome, H. M., Townson, C., Rhodes, S., Franco-Arellano, B., LeSage, A., Savaglio, R., … Arcand, J. A. (2020). The Effectiveness of the Foodbot Factory Mobile Serious Game on Increasing Nutrition Knowledge in Children. *Nutrients*, *12*(11), 3413. https://doi.org/10.3390/nu12113413

Giraud, E. (2018). New Media Theory. *Oxford Bibliographies Online Datasets*. https://doi.org/10.1093/obo/9780199791286-0307

Goldberg, J. P. (2009). Nutrition and Health Communication: The Message and the Media Over Half a Century. *Nutrition Reviews*, *50*(3), 71–77. https://doi.org/10.1111/j.1753-4887.1992.tb01272.x

Griauzde, D. H., Kieffer, E. C., Domoff, S. E., Hess, K., Feinstein, S., Frank, A., … Pesch, M. H. (2020). The influence of social media on child feeding practices and beliefs among Hispanic mothers: A mixed methods study. *Eating Behaviors*, *36*, 101361. https://doi.org/10.1016/j.eatbeh.2019.101361

Hassanzadeh-Rostami, Z., Mirshekari, M., Ranjbaran, H., Khosravi, S., & Faghih, S. (2018, March 1). *Effect of Game-Based Nutrition Education on Nutritional Knowledge of Preschool Children*. International Journal of Nutrition Sciences. https://ijns.sums.ac.ir/article_43435.html.

Helm, J., & Jones, R. M. (2016). Practice Paper of the Academy of Nutrition and Dietetics: Social Media and the Dietetics Practitioner: Opportunities, Challenges, and Best Practices. *Journal of the Academy of Nutrition and Dietetics*, *116*(11), 1825–1835. https://doi.org/10.1016/j.jand.2016.09.003

Hermans, R. C. J., van den Broek, N., Nederkoorn, C., Otten, R., Ruiter, E. L. M., & Johnson-Glenberg, M. C. (2018). Feed the Alien! The Effects of a Nutrition Instruction Game on Children's Nutritional Knowledge and Food Intake. *Games for Health Journal*, *7*(3), 164–174. https://doi.org/10.1089/g4h.2017.0055

Holzmann, S. L., Dischl, F., Schäfer, H., Groh, G., Hauner, H., & Holzapfel, C. (2019). Digital Gaming for Nutritional Education: A Survey on Preferences, Motives, and Needs of Children and Adolescents. *JMIR Formative Research*, *3*(1). https://doi.org/10.2196/10284

Holzmann, S. L., Schäfer, H., Groh, G., Plecher, D. A., Klinker, G., Schauberger, G., … Holzapfel, C. (2019). Short-Term Effects of the Serious Game "Fit, Food, Fun" on Nutritional Knowledge: A Pilot Study among Children and Adolescents. *Nutrients*, *11*(9), 2031. https://doi.org/10.3390/nu11092031

Hsu, M. S. H., Rouf, A., & Allman-Farinelli, M. (2018). Effectiveness and Behavioral Mechanisms of Social Media Interventions for Positive Nutrition Behaviors in Adolescents: A Systematic Review. *Journal of Adolescent Health*, *63*(5), 531–545. https://doi.org/10.1016/j.jadohealth.2018.06.009

Kalkan, I. (2019, August). *The impact of nutrition literacy on the food habits among young adults in Turkey*. Nutrition research and practice. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6669071/.

Klassen, K. M., Douglass, C. H., Brennan, L., Truby, H., & Lim, M. S. (2018). Social media use for nutrition outcomes in young adults: a mixed-methods systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, *15*(1). https://doi.org/10.1186/s12966-018-0696-y

Kundu, S., Khan, M. S., Bakchi, J., Sayeed, A., Banna, M. H., Begum, M. R., & Hassan, M. N. (2020). Sources of nutrition information and nutritional knowledge among school-going adolescents in Bangladesh. *Public Health in Practice*, *1*, 100030. https://doi.org/10.1016/j.puhip.2020.100030

Leak, T. M., Benavente, L., Goodell, L. S., Lassiter, A., Jones, L., & Bowen, S. (2014). EFNEP Graduates' Perspectives on Social Media to Supplement Nutrition Education: Focus Group Findings From Active Users. *Journal of Nutrition Education and Behavior*, *46*(3), 203–208. https://doi.org/10.1016/j.jneb.2014.01.006

Lieffers, J. R. L., Arocha, J. F., Grindrod, K., & Hanning, R. M. (2018). Experiences and Perceptions of Adults Accessing Publicly Available Nutrition Behavior-Change

Mobile Apps for Weight Management. *Journal of the Academy of Nutrition and Dietetics*, *118*(2). https://doi.org/10.1016/j.jand.2017.04.015

Loehmer, E., Smith, S., McCaffrey, J., & Davis, J. (2018). Examining Internet Access and Social Media Application Use for Online Nutrition Education in SNAP-Ed Participants in Rural Illinois. *Journal of Nutrition Education and Behavior*, *50*(1). https://doi.org/10.1016/j.jneb.2017.03.010

Maher, J., Robichaud, C., & Swanepoel, E. (2018). Online nutrition information seeking among Australian primigravid women. *Midwifery*, *58*, 37–43. https://doi.org/10.1016/j.midw.2017.12.005

Maheswar, M., Narender, K., Balakrishna, N., & Rao, D. (2018). Teenagers Understanding and Influence of Media Content on their Diet and Health- Related Behaviour. *Journal of Clinical Nutrition & Dietetics*, *04*(02). https://doi.org/10.4172/2472-1921.100071

Maryon-Davis, A. (2012). Using the Mass Media to Promote Health. *InnovAiT: Education and Inspiration for General Practice*, *5*(12), 767–773. https://doi.org/10.1093/innovait/ins191

Mier, N., Piziak, V., & Valdez, L. (2005). Ultimate Nutrition Game for Mexican American Preschoolers. *Journal of Nutrition Education and Behavior*, *37*(6), 325–326. https://doi.org/10.1016/s1499-4046(06)60165-6

Mildon, A., & Sellen, D. (2019). Use of mobile phones for behavior change communication to improve maternal, newborn and child health: a scoping review. *Journal of Global Health*, *9*(2). https://doi.org/10.7189/jogh.09.020425

Nour, M. M., Rouf, A. S., & Allman-Farinelli, M. (2018). Exploring young adult perspectives on the use of gamification and social media in a smartphone platform for improving vegetable intake. *Appetite*, *120*, 547–556. https://doi.org/10.1016/j.appet.2017.10.016

Nour, M., Yeung, S. H., Partridge, S., & Allman-Farinelli, M. (2017). A Narrative Review of Social Media and Game-Based Nutrition Interventions Targeted at Young Adults. *Journal of the Academy of Nutrition and Dietetics*, *117*(5). https://doi.org/10.1016/j.jand.2016.12.014

Nuguid, N. A. (1985). Role of Broadcast Media in Promoting Health and Nutrition in the Philippines. *Media Asia*, *12*(4), 205–209. https://doi.org/10.1080/01296612.1985.11726196

Panahi, S., Watson, J., & Partridge, H. (2014). Social media and physicians: Exploring the benefits and challenges. *Health Informatics Journal*, *22*(2), 99–112. https://doi.org/10.1177/1460458214540907

Ramadasmurthy, V., Mohanram, M., Rao, K. V., & Balakrishna, N. (1992). Role of communication media in nutrition knowledge and awareness. An Indian urban study. *International Journal of Food Sciences and Nutrition*, *43*(3), 121–128. https://doi.org/10.3109/09637489209028363

Rose, T., Barker, M., Maria Jacob, C., Morrison, L., Lawrence, W., Strömmer, S., … Baird, J. (2017). A Systematic Review of Digital Interventions for Improving the Diet and Physical Activity Behaviors of Adolescents. *Journal of Adolescent Health*, *61*(6), 669–677. https://doi.org/10.1016/j.jadohealth.2017.05.024

Rowe, S., & Toner, C. (2003). Dietary Supplement Use in Women: The Role of the Media. *The Journal of Nutrition*, *133*(6). https://doi.org/10.1093/jn/133.6.2008s

Salehan, M., & Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, *29*(6), 2632–2639. https://doi.org/10.1016/j.chb.2013.07.003

Samoggia, A., & Riedel, B. (2020). Assessment of nutrition-focused mobile apps' influence on consumers' healthy food behaviour and nutrition knowledge. *Food Research International*, *128*, 108766.

https://doi.org/10.1016/j.foodres.2019.108766

Samoggia, A., & Riedel, B. (2020). Assessment of nutrition-focused mobile apps' influence on consumers' healthy food behaviour and nutrition knowledge. *Food Research International*, *128*, 108766. https://doi.org/10.1016/j.foodres.2019.108766

Samoggia, A., Bordoni, A., & Monticone, F. (2020). Data on the potential of nutrition-information apps from a consumer behaviour perspective. *Data in Brief*, *30*, 105558. https://doi.org/10.1016/j.dib.2020.105558

Saura, J. R., Reyes-Menendez, A., & Thomas, S. B. (2020). Gaining a deeper understanding of nutrition using social networks and user-generated content. *Internet Interventions*, *20*, 100312. https://doi.org/10.1016/j.invent.2020.100312

Seyyedi, N., Rahimi, B., Farrokh Eslamlou, H. R., Timpka, T., & Lotfnezhad Afshar, H. (2019). Mobile phone applications to overcome malnutrition among preschoolers: a systematic review. *BMC Medical Informatics and Decision Making*, *19*(1). https://doi.org/10.1186/s12911-019-0803-2

Smith, M. (2013, May 10). *Engaging Patients, Families, and Communities*. Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. https://www.ncbi.nlm.nih.gov/books/NBK207234/.

Unite For Sight. Health Communication Course: Module 5 - The Role of Media in Health Promotion. (n.d.). https://www.uniteforsight.org/health-communication-course/module5.

Vandelanotte, C., Müller, A. M., Short, C. E., Hingle, M., Nathan, N., Williams, S. L., … Maher, C. A. (2016). Past, Present, and Future of eHealth and mHealth Research to Improve Physical Activity and Dietary Behaviors. *Journal of Nutrition Education and Behavior*, *48*(3). https://doi.org/10.1016/j.jneb.2015.12.006

Vander Wyst, K. B., Vercelli, M. E., O'Brien, K. O., Cooper, E. M., Pressman, E. K., & Whisner, C. M. (2019). A social media intervention to improve nutrition knowledge and behaviours of low income, pregnant adolescents and adult women. *PLOS ONE*, *14*(10). https://doi.org/10.1371/journal.pone.0223120

Wakefield, M. A., Loken, B., & Hornik, R. C. (2010). Use of mass media campaigns to change health behaviour. *The Lancet*, *376*(9748), 1261–1271. https://doi.org/10.1016/s0140-6736(10)60809-4

Wang, D., Stewart, D., Chang, C., & Shi, Y. (2015). Effect of a school-based nutrition education program on adolescents' nutrition-related knowledge, attitudes and behaviour in rural areas of China. *Environmental Health and Preventive Medicine*, *20*(4), 271–278. https://doi.org/10.1007/s12199-015-0456-4

Wang, Q., Egelandsdal, B., Amdam, G. V., Almli, V. L., & Oostindjer, M. (2016). Diet and Physical Activity Apps: Perceived Effectiveness by App Users. *JMIR MHealth and UHealth*, *4*(2). https://doi.org/10.2196/mhealth.5114

What Are the Different Types of Media?: Blog. Whatagraph. (n.d.). https://whatagraph.com/blog/articles/different-types-of-media.

Yang, Y.-T. C., Wang, C.-J., Tsai, M.-F., & Wang, J.-S. (2015). Technology-enhanced game-based team learning for improving intake of food groups and nutritional elements. *Computers & Education*, *88*, 143–159. https://doi.org/10.1016/j.compedu.2015.04.008

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Effectiveness of social media promotion for online shopping sites: A study on buying behavior of consumer

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ABSTRACT

Developing ubiquity of web-based media constrained the advertisers to consider this media alongside conventional utilitarian spaces of promoting. Web-based media depends essentially on web or mobile phone-based applications and apparatuses to divide data between individuals. The quantity of online media utilized is more than the number of inhabitants in a portion of the nation today. Adjusting some type of promotion on the web through web-based platforms is a vital hub for all the organizations, particularly in business organizations where the drifts continually change like style and painstaking work. The aim of this research paper is to understand the effectiveness of web-based media for the promotion of online shopping websites which influence the customer buying behavior. This research paper is based on the data that was obtained through a survey study. Different measurable instruments have been applied to support the examination theory.

Keywords: Digital Media, Online Marketing, Consumer Behavior, Globalization, Promotion

INTRODUCTION

With the rise of globalization and digitization, individuals, spots, and items have begun approaching, receptive just as moderate (Fouberg and Murphy, 2020). In today's world, the web plays a really necessary role in everyone's life. Social media is an internet-based tool that discovers new items of data, shares ideas, helps in gaining information, and interacts with new folks and organizations (Sajid, 2016). These days it's modified the manner of communication and creates totally different platforms for the folks to try to do communication processes in a much easier manner (Stelzner, 2018). This has totally different platforms that are available in several forms like photos sharing, videos postings, weblogs, blogs, podcasts etc. (Hajli, 2014). The relevance of social media are often seen in several fields like lifestyles, foods, business, recreation and plenty of others. Several of the marketers have with success used this media in reaching their potential customers (Liang & Turban, 2011).

Today, as we will realize, variant users on social networking sites like Facebook, Instagram, WhatsApp, Twitter have created an enormous impact on the person's life. It conjointly helps in flourishing not solely in sharing photos and knowledge however conjointly trade and business to realize a better success on an enormous platform (Jara, Parra, & Skarmeta, 2013). It is conceivable to utilize various kinds of paid publicizing on the web so promoting can be focused on actually explicitly to potential clients (Castronovo & Huang, 2012). Taha , Pencarelli, Skerhakova, Fedorko and Kosikova (2021), endeavoured to dissect the effect of online media on customer conduct, as it looks at the impact of web-based platforms on the inclination of particular online shopping stores during the wave of the covid'19 pandemic. The study based on the impact of web-based media that are more arranged towards social business, guiding web surfers to online business destinations, while some web-based media are predominantly pointed toward encouraging agreeable and personal connections (WhatsApp) or expert connections (LinkedIn). The exploration discoveries uncovered the presence of genuinely significant contrasts in the utilization of web-based medium at the time of covid'19 pandemic as far as different segment factors just as a generally frail connection at the online platforms utilized and the buy in the online stores advanced on the social media (Barr, 2020).

Linda & LAI (2010) has addressed the new pattern of digital business as electronic trade influences Web 2.0 technologies and on-line digital media. The impregnation of recent technologies on the planet wide internet has connected the users in their accommodations and workplaces, therefore remodelling digital formations and business organization transactions (Sharma & Jhamb, 2020). There are mainly three ideas that work collectively to create a world community or group that has already begun to take the place of ancient buying and selling and socialization: internet, a pair of web 2.0 technology, electronic commerce, and on-line digital media (LEE, 2014). Scientists have demonstrated that social business systems are property as a result of the varied incentives given to clients as they work together with others despite their identity and placement (Zhang, 2019). There has however to be analysis within the digital commerce field which will totally appraise and confirm these changes (Musa, 2016). Within the future, the most effective e-commerce firms of businesses will produce ground-breaking ways in which to make possible collaborations between the many lots of users within the internet technology (Saxena & Verma, 2019). The massive winners are going to be people who permit and inspire customers to require management, play a district and direct the styles of product and services that will be consumed (Manneh, 2017).

As additional systems emerge, there'll be bigger capability for teams to arrange and participate in collective action, a trademark of civil society. Web based media are often effective for building social authority; people or organizations will establish themselves as consultants in their fields, and so they'll begin to influence these fields (Éva & Mirkó, 2012). Thus, one in every of the foundational ideas in social media is that, with social media, one cannot manage one's message fully, however one will contribute to discourses. Social media technologies are capable of reaching audiences everywhere on the planet. A good social media strategy ought to clearly outline the promoting objectives, evaluate the opportunities and choose the appropriate type of social media to speak about (Fan & Gordon 2014). Today's social networking sites are mobilizing themselves with analytical capabilities to investigate the reach, unfold and impact of a social media message regarding promotion of online shopping sites. The web promoting surroundings raises a series of opportunities and additional challenges for social media promoting practitioners (Chincholkar & Sonwaney 2017). The audiences become additional fragmented and proactive, but, on the opposite hand, the corporate has the likelihood to mix varied modes and classes of knowledge in an exceedingly complicated message (Aghdaie, Piraman, & Fathi, 2011). Social media additionally allow the enterprises to gather, register, analyse and use client knowledge and feedback for higher targeting on-line audiences and customizing its messages (Jothi & Gaffoor, 2017). In fact, the particular characteristics of the web and social media applications square measure creating the implementation of integrated on-line promoting each inevitable and economical for an internet approach.

The cost-related factors, social interactions, interactivity, targeted market opportunities, and client services square measure the glorious options for organizations to adopt a proactive-reactive angle and to achieve social media promotion (Alves, Fernandes & Raposo 2016). On the other hand, the drawbacks of digital media promotion like time intensive, trademark and copyright problems, trust, privacy and security problems, user-generated content and negative feedback from customers square measure major barriers facing by social media marketers per coming up with and implementing a particular model of integrated social media promoting will integrate these characteristics (Kaplan and Haenlein, 2010). The message communicated on-line ought to be 1st infused with the core company values, then custom-made to the web strategy and ways of the organization, and eventually made-to-order for a particular combination of targeted audience and on-line channel (Alireza, Taher, Tahmoures, Fereshteh & Shadi, 2014).

Chandrasekar and Vethirajan (2020), has dissected how Amazon has made their business at large scale with the use of computerized technique and web-based advertisement techniques to achieve success and become famous in the promotion of advanced areas. Jindoliya (2017) has also talked about how Amazon has gigantic accomplishments in the online showcasing extent while they acquired latest experiences in the advanced advertising area. Online Media offers affordable opportunities that can reach a large number of people (Fan & Gordon, 2014). Digital media campaigns can also harness the persuasive power of interactive multimedia systems (Koch, Frommeyer & Schewe, 2020). Many researchers and advertising tycoons have considered digital media as a powerful advertising tool (Rudkova, 2015). It has become a key element of the advertising mix, rising the way organizations interconnect with their customers. The proposed study aims to understand the importance and effectiveness of web-based media for the promotion of online shopping websites which influence the customer buying behavior. Social networking sites became associated avenues where retailers have extended their promoting campaigns to a wider form of shoppers (Nadaraja & Yazdanifard, 2013). Online networking space, including Facebook, Twitter, Snapchat, Instagram, and so on has just about billions records of individuals (Koivulehto & Ilona, 2017).

OBJECTIVE

To examine the effectiveness of social media promotion for influencing customer buying behavior which means the objective will try to understand how promotion through social media is influencing the buying behavior of customers. To achieve the objective the following hypothesis has been formulated.

Methodology of the study:

This research paper has been conducted through exploratory and descriptive research methods to know the impact of social media promotion for virtual shopping. An online survey was collected through Google forms to study the growing impact of online shopping website promotions through social media platforms on buying behavior of customers. Information has been accumulated from both the primary and secondary source. Primary research methods have been applied to test hypotheses. The age group of the target audience is to 18 and above from Jaipur associating to multiple demographic profiles. Secondary data have been collected from internet, books and journals to study the effectiveness of web-based media promotion for online shopping sites which influence customer buying behavior

Data Analysis

The data had been analysed by utilizing various statistical analytic tools and techniques. We have used descriptive statistics, graphs, pie-charts and various statistical tools using MS- excel and other statistical processes. Primarily we have used frequency tables with percentages and Chi-Square Test to test the hypothesis.

Hypothesis:

H0: There is no relation between effectiveness of social media promotion and buying behavior of customers.

H1: There is a relation between effectiveness of social media promotion and buying behavior of customers.

We break the hypothesis further into sub hypotheses to be more clear and precise. The sub-hypothesis is as follows:

H0.1 Time spent online, and purchase intentions are independent of each other.

Out of inventory the following questions have been taken into consideration

On applying Chi square test for both the variables the output of the test is as follows:

Fig 1. Pie chart showing number of customers as per time spend in a typical day on online networking sites (Own Analysis)

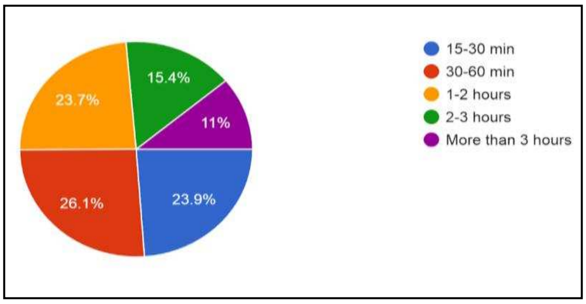


Table 1: Chi-Square Tests to analyse the relationship between time spent in a typical day on online networking sites and the use of the internet for researching a product with the intention of buying it in store.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.130a	4	.536
Likelihood Ratio	3.135	4	.536
Linear-by-Linear Association	1.630	1	.202
N of Valid Cases	591		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 29.92.			

Table 2: Chi-Square Test for relationship between respondents have visited pages/accounts of retail brands on their social

sites and **usage of internet for searching a product with the intention of purchasing it in online shop**

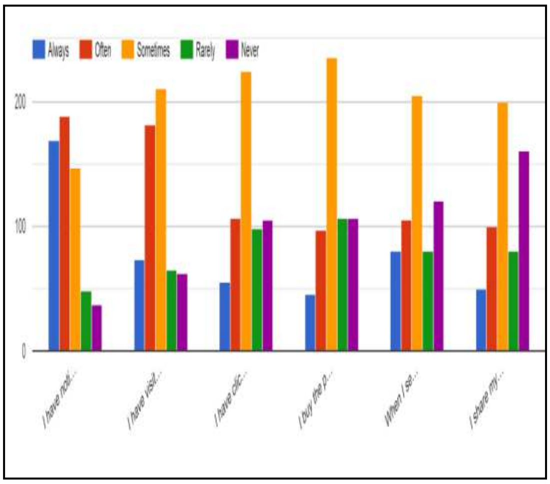
Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.168a	4	.127
Likelihood Ratio	7.181	4	.127
Linear-by-Linear Association	.299	1	.585
N of Valid Cases	591		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.53.

Interpretation:
It is seen that the Asymptotic value is 0.127 which is greater than 0.05 thus we may accept the null hypothesis that online social media page of retail brands and use of internet for researching a products with purchase intentions are independent of each other

Fig. 2. Bar graph for no. of respondents as per their behavior regarding online shopping sites



Interpretation: It is seen that the Asymptotic value is 0.536 which is greater than 0.05 thus we may accept the null hypothesis that Time spent online, and purchase intentions are independent of each other.

Table 3: Chi-Square Test for analysing the relationship between respondents have clicked display ads shown on their social sites and **usage of internet for searching a product with the intention of purchasing it in online shop**

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.458a	4	.114
Likelihood Ratio	7.467	4	.113
Linear-by-Linear Association	.808	1	.369
N of Valid Cases	591		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.77.

Interpretation:
It is seen that the Asymptotic value is 0.114 which is greater than 0.05 thus we may accept the null hypothesis that online advertisements and the use of the internet for researching products with purchase intentions are independent of each other.

Table 4: Chi-Square Test for analysing the relationship between respondents buy the products by seeing ads on social media and usage of internet for searching a product with the intention of purchasing it in online shop
Chi-Square Tests

	Value	Df	Asymptotic Significance (2- sided)
Pearson Chi-Square	6.876^a	4	.143
Likelihood Ratio	6.884	4	.142
Linear-by-Linear Association	.239	1	.625
N of Valid Cases	591		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.17.

INTERPRETATION
It is seen that the Asymptotic value is 0.143 which is greater than 0.05 thus we may accept the null hypothesis that products by seeing advertisements on social media and the use of the internet for researching products with purchase intentions are independent of each other.

Table 5: Chi-Square Test for analysing the relationship between respondents have visited pages/accounts of retail brands on their social sites and usage of internet for searching a

product with the intention of purchasing it in online shop

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.633a	4	.458
Likelihood Ratio	3.628	4	.459
Linear-by-Linear Association	1.602	1	.206
N of Valid Cases	591		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 36.82.

Interpretation:
It is seen that the Asymptotic value is 0.458 which is greater than 0.05 thus we may accept the null hypothesis that online social media pages of retail brands and use of the internet for researching products with purchase intentions are independent of each other.

Table 6: Thus, to summarize

	Usage of internet for searching a product with the intention of purchasing it in online shop	
Statements	Pearson Chi-Square (Asymptotic Significance (2-sided))	Remarks
I have noticed display ads on your social sites;	0.726	Ho accepted
I have clicked display ads shown on your social sites	0.114	Ho accepted
I buy the products by seeing ads on social media	0.143	Ho accepted
The pattern and design of advertisements for product through social media draws my attention	0.954	Ho accepted

All the values indicate that Ho is accepted which means the behavior parameters are independent of intention of purchase. Further another hypothesis developed that whether social media account presence affects the intention or not.

H0.1: the social media parameters and presence of social media account are independent of each other.

Fig. 3. Pie chart for number of respondents as per their account on social networking website?

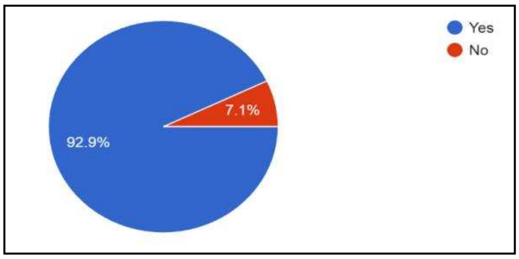


Table 7: Chi-Square Test for analysing the relationship between respondents who have noticed display ads on their social sites and does a respondents have an account on a social networking website?

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.118a	4	.538
Likelihood Ratio	2.984	4	.561
Linear-by-Linear Association	1.815	1	.178
N of Valid Cases	591		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.63.

Interpretation:
It is seen that the Asymptotic value is 0.538 which is greater than 0.05 thus we may accept the null hypothesis that display ads on social sites and the customer's account on social networking websites are independent of each other.

Table 8: Chi-Square Test for analysing the relationship between respondents who have visited pages/accounts of retail brands on their social sites and whether respondents have an account on a social networking website?

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.420a	4	.247
Likelihood Ratio	5.579	4	.233
Linear-by-Linear Association	1.223	1	.269
N of Valid Cases	591		
a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 4.41.			

Interpretation:
It is seen that the Asymptotic value is 0.247 which is greater than 0.05 thus we may accept the null hypothesis that the official accounts of retail brands on social sites and the clients account on social networking websites are independent of each other.

Table 9: Chi-Square Test for analysing the relationship between respondents who have clicked display ads shown on their social sites and do respondents have an account on a social networking website?

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.130a	4	.274
Likelihood Ratio	5.137	4	.274
Linear-by-Linear Association	3.213	1	.073
N of Valid Cases	591		
a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.98.			

Interpretation:
It is seen that the Asymptotic value is 0.274 which is greater than 0.05 thus we may accept the null hypothesis that display ads shown on social sites and the customer's account on social networking websites are independent of each other.

Table 10: Chi-Square Test for analysing the relationship between respondents who have noticed display ads on their social sites buy the products by seeing ads on social media and do respondents have an account on a social networking website?

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.884a	4	.299
Likelihood Ratio	5.678	4	.224
Linear-by-Linear Association	1.310	1	.252
N of Valid Cases	591		
a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.27.			

Interpretation:
It is seen that the Asymptotic value is 0.299 which is greater than 0.05 thus we may accept the null hypothesis that buy the products after seeing ads on social media and the customer's account on social networking website are independent of each other.

Table 11: Chi-Square Test for analysing the relationship between the pattern and design of advertisements for particular product through social media draws respondent's attention and does a respondent have an account on social networking website?

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.218a	4	.994
Likelihood Ratio	.218	4	.994
N of Valid Cases	591		
a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.21.			

Interpretation:
It is seen that the Asymptotic value is 0.994 which is greater than 0.05 thus we may accept the null hypothesis that the pattern and design of advertisements for particular products through social media draws customer's attention and the customer's account on social networking websites are independent of each other.

CONCLUSION

Table 12: After applying the test the following data as summarized indicates that all the Ho are accepted leading to conclusion that presence of social media account and social media parameters are independent.

	Do you have an account on social networking website?	
Statements	Pearson Chi-Square (Asymptotic Significance (2-sided))	Remarks
I have noticed display ads on your social sites	0.538	Ho accepted
I have clicked display ads shown on your social sites	0.274	Ho accepted
I buy the products by seeing ads on social media	0.299	Ho accepted
The pattern and design of advertisements for product through social media draws my attention	0.994	Ho accepted

The result shows that the display ads on social networking sites and purchase intentions are independent of each other. It is seen that the asymptotic value is 0.538 which is greater than 0.05 thus we may accept the null hypothesis that time spent online, and purchase intentions are independent of each other. Further on comparing the responses of statements with usage of the internet for searching a product with the intention of purchasing it in an online shop. All the values indicated in the summary table above indicates that Ho is accepted which means the behavior parameters are independent of intention of purchase. Further another hypothesis developed that whether social media account presence affects the intention or not. After applying the test, the following data as summarized indicates that all the Ho are accepted leading to conclusion that presence of social media account and social media parameters are independent. Thus, from the above statistical tests and asymptotic values it can be easily concluded that there is there is no relation between effectiveness of social media promotion and buying behavior of customers. Therefore, the study has closely investigated the impact of digital media promotion on influencing consumer buying behavior. It is also proved that there is no relation between promoting products and services via digital media platforms significantly affecting the customers buying behavior. The study has provided evidence that social media enables powerful verbal exchanges between buyers and e-commerce merchants. The result showed that the profitability or extreme popularity of online products through web-based media platforms can create a lasting impact on buying behavior of customers. By agreeing to a purchase after most respondents click on an ad festival on social networks, the online consent step is built up step by step, affecting the customer's buying behavior. According to the results, it can be said that product reviews on online shopping websites are an important factor for influencing customers to buy from e-retailing sites. The findings also showed the availability of advertisements of products through social media has not created consumers a lot of up on regarding brands for making buying decisions. Finally, our results show that more significant components inspire the consumers to buy the products online with the availability of discount offers, customer feedback and product rating information.

REFERENCES

Kaplan and M. Haenlein, "Users of the world, unite! The challenges and opportunities of Social Media", *Business Horizons*, vol. 53, no. 1, pp. 59-68, 2010. Available: https://www.sciencedirect.com/science/article/abs/pii/S0007681309001232

Aghdaie, S. F., Piraman, A., & Fathi, S. (2011, December). An Analysis of Factors Affecting the Consumer's Attitude ... Retrieved from http://www.ijbssnet.com/journals/Vol_2_No_23_Special_Issue_December_2011/16.pdf

Ali Taha, V., Pencarelli, T., Škerháková, V., Fedorko, R. and Košíková, M., 2021. The Use of Social Media and Its Impact on Shopping Behavior of Slovak and Italian Consumers during COVID-19 Pandemic. *Sustainability*, [online] 13(4), p.1710. Available at: <https://www.mdpi.com/2071-1050/13/4/1710>.

AlirezaMohammadpour, TaherRoshandelArbatani, Tahmoures Hassan Gholipour,FereshtehFarzianpour, ShadiHosseini (2014). *Journal of Service Science and Management.* Available at:https://www.researchgate.net/publication/267630117_A_Survey_of_the_Effect_of_Social_Media_Marketing_on_Online_Shopping_of_Customers_by_Mediating_Variables

Alves, H., Fernandes, C., & Raposo, M. (2016). Social Media Marketing: A Literature Review and Implications. *Psychology & Marketing, 33*(12), 1029-1038. doi:10.1002/mar.20936

Barr, S. (2020). Should Customers Be Stockpiling amid Coronavirus Outbreak?, Independent Digital News and Media,.independent.co.uk/life-style/food-and-drink/coronavirus-stockpile-emergency-list-food-hand-sanitiser-panic-buying-a9373061.html.

Jothi, A., & Gaffoor, M. (2017*). ICTACT Journal of Management Studies.* Available at https://www.researchgate.net/publication/322571901_IMPACT_OF_SOCIAL_MEDIA_IN_ONLINE_SHOPPING https://skemman.is/bitstream/1946/22505/1/Daria%20Rudkova.%20Bsc.%20Tilbuid1.pdf

Castronovo, C., & Huang, L. (2012). Social media in an alternative marketing communication model. *6*(1). Retrieved from https://www.researchgate.net/publication/290451247.

Chincholkar, S., & Sonwaney, V. (2017). Website Attributes and its Impact on Online Consumer Buying Behaviour: An Empirical Study of Online Consumers in Mumbai Region. *Indian Journal of Science and Technology, 10*(47), 1-9. doi:10.17485/ijst/2017/v10i47/119973

Dr. S. Chandrasekar, & Dr. C. Vethirajan. (n.d.). A study on digital marketing- A case study with special reference to amazon.com, *40* (12 February 2020).

Éva, M., & Mirkó, G. (2012). Social Media's New Role in Marketing Communication and its Opportunities in Online Strategy Building. *European Communication Conference*. Retrieved from https://www.researchgate.net/publication/270958563.

Fan, W., & Gordon, M. D. (2014, May 19). The Power of Social Media Analytics Unveiling the Power of Social Media Analytics. Retrieved from https://www.academia.edu/22519028/The_Power_of_Social_Media_Analytics_Unveiling_the_Power_of_Social_Media_Analytics

Fouberg, E.H., & Murphy, A.B. (2020). Human geography: people, place, and culture. John Wiley & Sons.

Hajli, M. (2014). A study of the impact of social media on consumers. *International Journal of Market Research*, [online] 56(3), pp.387-404. Available at: https://www.lyfemarketing.com/wp-content/uploads/2015/05/Compressed-PDF.pdf.

Jara, A. J., Parra, M. C., & Skarmeta, A. F. (2013, August 25). Participative marketing: Extending social media marketing through the identification and interaction capabilities from the Internet of things. Retrieved from https://link.springer.com/article/10.1007/s00779-013-0714-7

Jindoliya, D. (2017). The impact of social media marketing of e-retailing companies on the buying behavior of consumers with reference to age group of 18-40 years in Navi Mumbai. (Doctoral dissertation, D.Y. Patil University, 2017) (pp. 1-234). Navi, Mumbai, Maharashtra.

Koch, J., Frommeyer, B., & Schewe, G. (2020). Online Shopping Motives during the COVID-19 Pandemic—Lessons from the Crisis. *Sustainability*, *12*(24), 10247. https://doi.org/10.3390/su122410247

Koivulehto, & Ilona, E. (2017, April 13). Do social media marketing activities enhance customer equity? A case study of fast-fashion brand Zara. Retrieved from https://aaltodoc.aalto.fi/handle/123456789/26042

LAI, L. (2010). *Social Commerce – Ecommerce in Social Media Context*(Master's thesis, World Academy of Science, Engineering and Technology, 2010) (pp. 1-6). International Journal of Economics and Management Engineering Vol:4, No:12. Available at https://waset.org/publications/2123/social-commerce-e-commerce-in-social-media-context

LEE, P. Y. (2014). Social Media Challenges for Advertising Business and Creatives Management in the Social Media Era. *International Journal of Research in Business Studies and Management, Vol. 1*(1), pp 1-11.

Liang, T., & Turban, E. (2011). Introduction to the Special Issue Social Commerce: A Research Framework for Social Commerce. *International Journal of Electronic Commerce, 16*(2), 5-14. doi:10.2753/jec1086-4415160201

Manneh, M. (2017). *The Influence of Social Media on E-commerce: Fast Fashion Multinational Companies* (Doctoral dissertation). Available at http://www.diva-portal.org/smash/get/diva2:1087022/FULLTEXT01.pdf

Musa, H. (2016). Analysing the Effectiveness of Social Media Marketing Original Research Article. *ISSC 2016 : International Soft Science Conference*, . https://doi.org/10.15405/epsbs.2016.08.2

Nadaraja, R., & Yazdanifard, R. (2013). Social Media Marketing: Advantages and disadvantages. Retrieved from https://www.researchgate.net/publication/256296291.

Rudkova, D. (2015). Importance of Social Media in Online Marketing and Use of Eye-Tracking Methods in Online Shopping (Unpublished doctoral dissertation, 2015). Haskolinn Reykjavik University.Available at

Sajid. (2016, February 01). Social Media and Its Role in Marketing. Retrieved from http://repository.embuni.ac.ke/handle/123456789/810

Saxena, Palak & Verma, Manish. (2019). Analysis of Studies on Social Media Marketing. Retrieved from https://www.researchgate.net/publication/336134408_Analysis_of_Studies_on_Social_Media_Marketing

Sharma, A., & Jhamb, D. (2020). Changing consumer behaviours towards online shopping- an impact of covid 19. Retrieved from https://www.abacademies.org/articles/changing-consumer-behaviours-towards-online-shopping--an-impact-of-covid-19-9298.html

Stelzner, M. A. (2018). Social Media Marketing Industry Report How Marketers Are Using Social Media to Grow Their Businesses.

Zhang, J. X. (2019). E-commerce advertising in social networking sites and implications for social commerce. 1-10. Retrieved from https://www.researchgate.net/publication/279177353_E-COMMERCE_ADVERTISING_IN_SOCIAL_NETWORKING_SITES_AND_IMPLICATIONS_FOR_SOCIAL_COMMERCE

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SELFIE CREATING DUAL PERSONALITIES: A STUDY OF SELFIE, NARCISSISM AND SOCIAL MEDIA

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ABSTRACT

Selfie is a very powerful medium to communicate the self especially when it comes to social media platforms likes Facebook, Instagram etc. Extensive use of Selfie's are causing dual personalities i.e. one real personality that one has and one is the internet personality. The following study is a socio-psychological study where narcissism level of the respondent are measured and a correlation it has with selfie causing dual personalities is studies. The study was conducted on women form entire India (n=400) as Selfie's are clicked more by women in comparison to men which was deduced based on researches conducted in the past. For the following a survey was conducted and experts interview were also conducted to have proper understanding of the subject. The following research ended with a conclusion that the Selfie's are causing dual personalities in these women. The research also found that it is also correlated to the high level of narcissism and selfie used for social image construction. The present finding suggests that the following could be further research to understand and measure the other psychological impact selfie could have on social media users.

Background: Subject and methods: Results: Conclusions:

Keywords: Narcissism, Selfie, Narcissistic personality disorder (NPD), The Narcissistic Personality Inventory (NPI), Diagnostic and statistical manual (DSM)

INTRODUCTION

Selfie have become an integral part of our lifestyle. Anybody or everybody who have a mobile phone with a camera has taken selfie at least once in his lifetime. The interesting factor which is noted and studies by many researchers is that people now a day's specially the ones using social media are not stopping by posting just one selfie. The kind of selfie one clicks and likes can tell a lot about the person's personality and character traits (Qiu, Lu, Yang, Qu, & Zhu, 2015). The selfie mania is increasing day by day which has positive as well as negative factors behind it (Bruno, Pisanski, Sorokowska, & Sorokowski). Google in 2015 reported that an estimate of 24 billion Selfie's was uploaded that year (GooglePhotos).

According to an article published in Economic times named 'Global addiction: Selfie's facts and moments from around the world.' (economictimes)States that millennia's age 18-34, 82% of them are selfie takers (2018 fact), 259 ***selficide*** i.e. deaths caused while taking Selfie's (Bureau, 2019)reported by All India institute of medical sciences in the year 2011-2017, half of which were reported from India followed by Russia, United States and Pakistan, The following fact was alarming as India the country we live in was the highest and attention has to be paid to this epidemic situation caused. ***Selfitis*** is proven psychological disorders where the compulsive need to take selfies are faced by individuals. ***Selfiecities*** *according to an* article published in readers digest; there are few cities in the world that takes more Selfie's than the others. Makati city is the number one when it comes to taking Selfie's and hence it is called the selfie city of the world followed by second in number Manhattan and third Miami. All the following proves Selfie's taking and using them on social media is increasing day by day. The popularity of Selfie's and self-photographs has also lead to the development of facial detection applications and software's that are using emotional intelligence for various purposes itself proves the intensity which people are using Selfie's and its impact on out life's (nordicapis.com).

It is believed and proven by many researches that digital media has distant humans from each other. Specially after smart phone came into the scenario and social media platform like Facebook, Instagram, Snapchat etc became need of the hour by human begins to express emotions and to become social. It is astonishing to note how many samples have stated while having informal interactions by the researcher that they communicate better to their friend over Facebook and WhatsApp rather than in person. One of the samples expressed his/her worry by stating that people over Facebook think I am a very extrovert person where as I fail to talk to people in person. Many astonishing studies have being conducted regarding selfies amongst which the psychological phenomena associated with selfie is narcissism and which was somewhere down the line is the root cause of the stated problems above.

Many studies are conducted about narcissism and these studies can be broken down into two 1) clinical studies and 2) socio-psychological studies. In a paper written by (Bansal A, Medknow) titled *'Selfies: A boon or bane?'* researched about the deaths caused because of selfie across the globe. According to the research conducted by the researchers from the year 2011 October to 2017 November that there has been 267 number of selfie death reported officially out of 127 incidences came in notice. According to the research *males tend to take extreme selfies* more than females that is 72.5% of the total deaths occurred in males and 27.5% in females. There were several reason and cause of deaths but the deaths took place mostly in India followed by Russia, United States and Pakistan which clearly states the craze of taking selfies according to the geography also matters. Many researches states that selfie is more craze amongst women but the following research clearly states that 'extreme selfies' are three times more influencing men than women. This socio psychological study pokes us further to understand that selfie craze is gender biased as reasons could be different but selfie is a craze in today's society with different reasons.

Selfie's has created many issues related to body and body image and there are many factors causing problem associated with it (RhodesLonergan, et al., 2019). But the question that raises here is why? Why selfie has become such an integral part of our culture especially social life that attention seeking behavior is causing us to risk our lives. Is this the heights of narcissism traced in the history of human race?

The following study is an attempt to find out the disturbance as well as the positive effect selfie has created in the personalities of people taking them. Selfie have created dual personalities, a personality that a person is having and a personality that he or she has created on social media platform from projecting a personality through selfie. The study has further measured the level of narcissism and tried to find a co-relation that these two factors are having.

THEORETICAL FRAMEWORK FOR THE STUDY

Narcissism a brief

The history of narcissism could be traced back in history where the son of river and nype called Narcissus was told to not to look himself if he wanted to live long. But narcissus fell in love with his own reflection in spring water and how killed himself. The following is the first example from the history shown self-obsession and self-love which was destructive.

Narcissism is considered as a socio-cultural problem. The word narcissism is considered in itself negative as it is related to a person's behaviours problem with self or with the group he/she is associated with (Campbell & Joshua). Narcissism is considered as a factor in psychological trait theory to study human personality. With the help of trait theory different human behaviours could be measured and studies like the habitual patterns, emotions and thoughts. Narcissism could be seen as a factor used in various self-report inventories of personality test for example Million Clinical Multiaxial inventory. (Paul Nacke, 1899) firstly use the term 'Narcssicm in his study about sexual perversion followed by (Sigmund Freud, 1914) who published a paper called "On narcissism: An Introduction" (Zuern, 1988). **Narcissistic personality disorder (NPD):** Dr Sam Vaknin in this book *'Narcissistic and psychopathic* *leaders'* wrote Narcissistic personality disorder (NPD) earlier known as megalomania, egotism or colloquially is a type of pathological narcissism. It is a cluster B i.e. Dramatic, emotional or erratic personality disorder. Dr Sam Vaknin in his book states Pathological narcissism as a "lifelong pattern of traits and behavior which signify infatuation and obsession with one's self to the exclusion of all others and the egoistic and ruthless pursuit of one's gratification, dominance and ambition." Pathological Narcissism id considered negative as it is considered maladaptive, rigid, persisting, and is believed to cause major distress and functional impairment. Freud in this easy "On Narcissism" [1915] for the first time described Pathological Narcissism in great detail.

The American Psychiatric Association, Located in USA, Washington DC, Has a manual called the *Diagnostic and statistical manual* (DSM), which has published in its fourth edition, text revision (DSM-IV-TR)[2000], where it provide the diagnostic criteria for Narcissistic personality disorder (NPD) (301.8, P,717) . NPD first come into insight as mental health diagnosis in the DSM-IV-TR in 1980. The DSM-IV-TR defines Narcissistic personality disorder (NPD) as "an all-pervasive pattern of grandiosity (in fantasy or behavior), need for administration or adulation and lack of empathy, usually beginning by early adulthood, and present in various context." Could be seen in personal life including family, work, and social life and now in social media portrayal of self.

Nine criteria's listed by (DSMN-5, 2013): Diagnostic criteria for 301.81 Narcissistic Personality Disorder the following is a prevalent pattern of grandiosity (in imagination or behavior), need for approval and validation , and lack of sensitivity towards people and situations, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

(1) Individual give himself or herself a lot of self-importance i.e. they are always involved in bloating their achievements etc.
(2) They are always dreaming and fantasizing about achieving lots of power and success, consider themselves as very intelligent, they find themselves as very beautiful and blinded by self-love
(3) These people believes that they are different from other they are very special and unique Believes that he or she is "special" and unique and can only be understood by, or should associate with, other special or high-status people (or institutions)
(4) They are always in need of validation from other that they are best and always want to be admired.
(5) These people always wanted to be treated with especial favours and they think themselves as special. They think that they always deserves the best treatment i.e. they have unrealistic expectation from people they are surrounded.
(6) One can always find them taking advantage of their friends, families etc they exploit people for their comforts and image building etc.
(7) These people even don't realize the exploitation that they do of their friends and family and the biggest reason is they have lack of empathy. They never give importance to other people need, in-fact due to lack of empathy they fail to identify other peoples need and empathy.
(8) These people are very insecure and show the characteristic of jealousy towards others.
(9) They are knows to be arrogant, they have attitude issues and get angry very easily

Narcissistic personality disorder and Selfies: (Panel, et al., 2015) According to the following research done by few German researchers (N=1296) it was found out that selfie posting behavior are more fund in men, though women posted more selfies compared to men. The following study clearly stated that online or social media behavior when it comes to posting selfie is displayed differently by men and differently by women. Women posted more selfies of every category that was studies clearly showed that women were more self-expressive compared to men on social media.

A study on empirical literature on narcissism and selfie posting behavior (Weiser, 2018) with interesting title "Shameless Selfie- Promotion: Narcissism and Its Association With Selfie-Posting Behavior" founded that narcissism and selfie posting behaviours are associated with each other. Social media has prompted the growth of self-disclosure among people. People are sharing facts about themselves like, where they have been, sharing personnel photographs and information about themselves. All this point out towards the opportunity people have gained for self-promotion and attention seeking behavior. Few studies also show that low-self-esteem on social media platforms also lead to collective narcissism (Zavala, et al., 2019).

Measuring Narcissism

The Narcissistic Personality Inventory (NPI): Ruskin and Hall [1979] developed the narcissistic personality Inventory (NPI) the following inventory is the frequently used to test narcissism as a part of non-clinical studies. NPI is widely used in socio-psychological researches and in professional world the following test is used a lot in Human resource hiring processes.

NPI is not used to in the diagnostic Process of a disorder called Narcissistic personality disorder which comes under few critical personality disorders. NPI are generally used to detect general or subclinical narcissist i.e. the case that fell under borderline narcissist cases. NPI is used commonly for Human Resources for hiring. NPI used as psychometric test is highly effect in studying personality traits and behavior analysis as these test are generally as these are correlated with expert-rated and meta-analytic studies ex Five Factor Model (FFM) uses to study NPI profiles as per studies conducted by Ruskin and Hall [1979] .

NPI as a tool to measure Narcissism is often critiqued. NPI is often correlated to measure self-esteem studies yet its validity is often questioned. Researchers argue that the NPI scoring positive on the individuals with high self-esteem can be absolutely healthy self-esteem (Ackerman, 2011)

Self-Disclosure theory

Communication is of many types but the intimacy of a communication is measured according to the amount of self-disclosure the receiver and a sender is sharing with each other (Ignatius & Kokkonen, 2012). Self-disclosure can also different according to the platform of the communication i.e. interpersonal level to amount of one does the self-disclosure on a social media platform will also differ (M.Walsh, Forest, & Orehek, 2020). The following research states that people are practicing open self-disclosure on Facebook. Updates, Selfie's, Photo-tags, Location tags etc all are the way through which people are self-disclosing themselves about their lives, likes etc on social media platforms.

When it comes to social media/ Internet, the self-disclosure and the behavior related to it also changes. Internet users have four features that majorly difference from any other face-to face communication as the users are not physically present while communicating. The users can chose to be *anonymous* i.e. they may and may not display real facts and information (McKenna & Bargh, 2000). Whereas it is also said that anonymity also brings true self in domains like internet and social media where the person is anonymous and sometimes internet relations and self-disclosure can create emphatic bonds and close relationships (Bargh, McKenna, & Fitzsimons, 2002).

The willingness on people to disclosure their self on social media depends on many factors. (Loiacono, 2014) In the following research testing the big five personality traits based on social media exchange theory it was founded that people disclose themselves based on perceived risks and perceived benefits. Apart from these reasons extraversion, neuroticism and agreeableness also impact on the decision of self-disclosure. In another research it was found that people are disclosing themselves on social media to fulfill information storage and entertainment like goals (Williamson, Stohlman, & Polinsky, 2017). Relational development was another goal with was found positive for Facebook and negative in terms of twitter.

OBJECTIVE

The following study is a socio-psychological study which aimed to find out the dual personalities caused by posting of selfie on social networking sites (SNS) on Facebook and Instagram i.e. The E-personality that is different from the real self-personality of a person living in real world. The study will further analyses whether the samples showing e-personality portray any characteristic similar to that of the Narcissistic personality Disorder (NSD). The following hypothesis is formulated by the researcher and tested the same.

H1: Selfie posting behavior is causing narcissistic personality disorders.
H2: Selfie posting behavior is causing dual personality one real and one projected over social media.

METHODOLOGY

Participants

A survey is conducted with (N=400) females using social media platforms (Facebook) and clicking Selfie's/posting them on social media. Questions related to selfie, self-disclosure and selfie creating dual personalities were asked. 15 questions were asked related to selfie in which 8 questions were related to Social Image Construction and 7 questions were related to Selfie Creating Dual personality. These two Factors were selected from a larger study where Six Factors were formulated Using Factor analysis and Confirmatory factor analysis test. Table 1 shows the demographic profile of the samples.

Snowball sampling method was used use to collect the data during Covid pandemic, an online survey was conducted where the survey was shared on Facebook and what's app with 100 participants where it was requested to share the questionnaire further (Surhone, Tennoe, & Henssonow, 2010). The data was collected from August 2020 to December 2020 and after that the results were analysed.

Narcissism scale

NPI-16 Scale was used to measure the level Narcissism in the responded. In the following scale a pair of 16 optional questions was asked by the responded (Ames, Paul, & Cameron, 2006). In each pair one option is given weightage of 1 mark the other 0. More the score the individual of supposed to be having more narcissistic behavior. The following scale is used in the study and it is tried to find out whether a correlation exist between narcissism and selfie creating dual personalities.

RESULT AND FINDINGS

The Statistical analysis of the study is computed by using SPPSS Version 20 and AMOS version 24. Table 1 represents the frequency table of the demographic of the responded of the study.

Demographics of the responde

Studying the demographic of the following study Table 1 one can find out that the majority of the responded participated in the survey were young as women <=20 were 95 (23.5%) and between 21 to 30 were (49.0%) and these two constitute around (72.5%) of the total respondents. So the finding of the study could be majorly could be applied the people till 30 years. The rest samples were from the age group 31- 40 i.e. 84(21.0%) and >40 around 26 (6.5%). And observing the Occupation of these responded the study tell more about students as 177 (44.3%) students participated in the survey after that it was service class that was 119 (29.8%) , the rest of the respondents were 42(10.5%) Homemaker, business 21(5.3%) and 41(10.3%) not employed which constitute (26.1%) of the study.

Table 1: Demographic Profile

		Frequency	Percent
Age	<=20	94	23.5%
	21-30	196	49.0%
	31-40	84	21.0%
	>40	26	6.5%
Occupation	Home Maker	42	10.5%
	Service	119	29.8%
	Business	21	5.3%
	Student	177	44.3%
	Not Employed	41	10.3%
Family Type	Nuclear	275	68.8%
	Joint	109	27.3%
	Living alone	16	4.0%
Total		400	100.0%

Table 2 shows the question asked in the two factors i.e. factor 1 : social image construction eight questions and Factor 2 : selfie creating dual personalities that had seven questions and the data of these were shown in Table 3 and Table 4 given below. Looking into the data of Table 3 about factor 1 selfie and social image construction the data of slightly agree to strongly agree is combines to have a proper understanding. So (37.6%) respondents believe that selfie helps them control their social image whereas (15.3%) gave neutral response.

Similarly when asked whether anyone deleted a selfie because of a negative response (30.3%) agreed to the fact and (18.3%) were neutral. (30.5%) believes that they have built a social media image through selfie and (18.1%) gave neutral response. (27.1%) respondents judge other based on their selfie (17.1%) gave neutral response. Percentage of people who un-tag themselves from a group selfie if they are not looking good was (37.8%) and (15.3%)

responses were neutral. (42.4%) were once worried that people will judge them based on their selfie now they are not. (18%) gave neutral response for this question. (35.6%) respondents believe that they can make people believe anything by their selfie and (18%) responded neutral. And lastly in this category of question (35.6%) agreed to the fact that based on comparison to others Selfie's they post their own Selfie's, (16%) opted neutral to this question). Overall if the statistics is observed 30% of the respondents believe and use selfie for social image construction and this number is large as 15% to 18% people opted for neutral responses.

Observing the data of table 4 one can find out that (36.1 %) of the respondents come under the category of slightly agree to strongly agree who believes that people think of them as different from real selfie because of their Selfie's and (17.8%) gave neutral response. (33.4%) receives negative response on their selfie here (20.8%) gave neutral response. (30.6%) agreed that the negative response they received lowered their self-confidence level (20.3%) gave a neutral response. And another alarming statistics is (40.6%) respondents also believes that people over social media have started liking them more after they have started posting their Selfie's (18.5%) gave a neutral response. (27.8%) people believe that they are introvert but they post a lot of Selfie's, (20.8%) here opted for neutral response. looking into the statistics of question number 30 one can find out that (48.1%) people come into this category who agree that selfie is acting as a mood elevator(16%) opted neutral. Even (28%) agree to the fact that if they don't get enough likes and comments on their Selfie's it affects their mood here (17.5%) opted neutral response. So in this category where questions related to selfie and dual personalities are asked majority of the people who agreed to various question were in the range of 30 to 48%) which is quite high as the people in neutral category were also in the range of 16% to 20%.

Table 2

Factor-1 Social Image Construction		Factor-2 Selfie Creating Dual Personality	
B42	Selfie help me control my social image/ social reputation	B25	I am a different person of what people think of me after seeing my selfie
B43	I have deleted a selfie as because it did not get any likes	B26	Have you had a negative reaction on posting a selfie
B44	I have built a image with the help of selfie that I want to project	B27	That negative comment lowered my self-confidence (or worried you)
B45	I judge people on the basis of their Selfie	B28	People have started liking me more after I started posting selfies
B46	Do you untag yourself you're a group selfie if you are not looking good	B29	I am an introvert person but I post a lot of selfie
B47	I was once worried that people will judge me if I post Selfie but now I am not	B30	My mood is elevated by more number of likes and comments on my selfie
B48	I can make people believe anything I want to through my Selfie	B31	If I receive less number of likes and comments it effects my mood badly
B49	Based on comparison I try to post better Selfie than others		

Table 3: Factor-1 Social Image Construction

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree	Total	Weight Mean
B42:	85	73	31	61	62	67	21	400	3.57
	21.3%	18.3%	7.8%	15.3%	15.5%	16.8%	5.3%	100.0%	
B43	111	73	22	73	62	42	17	400	3.24
	27.8%	18.3%	5.5%	18.3%	15.5%	10.5%	4.3%	100.0%	
B44	113	64	29	72	58	44	20	400	3.28
	28.3%	16.0%	7.3%	18.0%	14.5%	11.0%	5.0%	100.0%	
B45	130	57	37	68	55	39	14	400	3.09
	32.5%	14.3%	9.3%	17.0%	13.8%	9.8%	3.5%	100.0%	
B46	88	70	30	61	61	60	30	400	3.59

	22.0%	17.5%	7.5%	15.3%	15.3%	15.0%	7.5%	100.0%	
B47	86	56	18	71	65	79	25	400	3.78
	21.5%	14.0%	4.5%	17.8%	16.3%	19.8%	6.3%	100.0%	
B48	88	68	30	72	66	57	19	400	3.52
	22.0%	17.0%	7.5%	18.0%	16.5%	14.3%	4.8%	100.0%	
B49	94	65	33	66	60	63	19	400	3.50
	23.5%	16.3%	8.3%	16.5%	15.0%	15.8%	4.8%	100.0%	

Table 4: Factor-2 Selfie Creating Dual personality

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongl y agree	Total	Weight Mean
B25	70	70	45	71	65	54	25	400	3.63
	17.5%	17.5%	11.3%	17.8%	16.3%	13.5%	6.3%	100.0%	
B26	80	73	31	83	65	47	21	400	3.51
	20.0%	18.3%	7.8%	20.8%	16.3%	11.8%	5.3%	100.0%	
B27	89	85	23	81	58	43	21	400	3.37
	22.3%	21.3%	5.8%	20.3%	14.5%	10.8%	5.3%	100.0%	
B28	71	65	28	74	70	67	25	400	3.77
	17.8%	16.3%	7.0%	18.5%	17.5%	16.8%	6.3%	100.0%	
B29	105	75	26	83	57	34	20	400	3.24
	26.3%	18.8%	6.5%	20.8%	14.3%	8.5%	5.0%	100.0%	
B30	61	49	34	64	67	91	34	400	4.09
	15.3%	12.3%	8.5%	16.0%	16.8%	22.8%	8.5%	100.0%	
B31	110	74	34	70	62	36	14	400	3.16
	27.5%	18.5%	8.5%	17.5%	15.5%	9.0%	3.5%	100.0%	

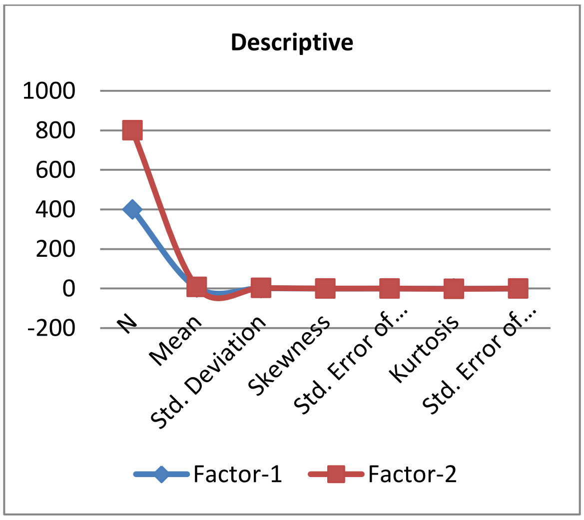
H2: Selfie posting behavior is causing dual personality one real and one projected over social media.

Table 5

Descriptive		
	Social Image Construction	**Selfie Creating Dual personality**
N	400	400
Mean	4.03	3.54
Std. Deviation	1.49	1.54
Skewness	-0.18	0.20
Std. Error of Skewness	0.12	0.12
Kurtosis	-0.89	-0.88
Std. Error of Kurtosis	0.24	0.24

The skewness results shows that for social image construction the skewness value is (-0.18) which means that though selfie are helpful for small term image construction but for long term social image construction it will not be beneficial. As for long term a person has to be consistent and the social media image construction and to be planned the way done by media celebrities etc. Whereas observing the skewness value of selfie creating dual personality it is positive i.e. (0.20) so it could be interpreted that selfie will create dual personalities if will be used for longer time period for shorter period they are ok to use and if not used frequently and with a though. Based on the results it could be interpreted that selfie posting behavior specially is Selfie's are posted frequency and posted without much though may be the reason for causing dual personalities one real and one projected over social media. Hence the hypothesis stands true.

Figure 1



Narcissism and the correlation

The first objective of the study was to find out whether the Selfie's and its posting behavior is causing narcissistic personality disorder amongst the responded. The following hypothesis was formulated and the following analysis and interpretations are presented based on the statistics.

H1: Selfie posting behavior is causing narcissistic personality disorders.

Observing Table 6 which shows the frequency of the level of Narcissism amongst the responded shows that majority of the responded shows low levels of narcissism i.e. were below average i.e. 224 (56.0%) out of (N=400), people with average narcissistic disorder were 163(40.8%) and those who have high level of narcissism in the scale were 13(3.3%) only.

Table 6

		Frequency	Percent
Narcissism	Low	224	56.0%
	Average	163	40.8%
	High	13	3.3%
	Total	400	100.0%

Table 7 presents the statistics through which the significant between Narcissism and the two factors that is Social image construction and Selfie Creating dual personality. The correlation between Narcissism and Social image construction is significant at the level of 0.05 which is (0.110) and Narcissism with Selfie Creating Dual Personality is (0.108). Observing the statistics further the correlation between the factors Social image construction and selfie creating dual personality factors are very significant at the level of (0.01) level i.ee (0.129).

Table 7

Correlations			
	Narcissism	Social Image Construction	Selfie Creating Dual personality
Narcissism	1	.110*	.108*
Social Image Construction		1	.129**
Selfie Creating Dual personality			1
**. Correlation is significant at the 0.01 level (2-tailed).			
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 8 and 9 shows the mean and standard divination values and the ANOVAs significance values of the both the factors i.e. the social image construction and the selfie causing dual personality. The values shows that these two factors does not have statistical difference in mean values of various variable used and also these variables does not share any statistically significant value when ANOVAs test is applied.

Table 8

Descriptives				
Age		N	Mean	Std. Deviation
Factor-1: Social Image Construction	<=20	94	4.143	1.3788
	21-30	196	4.0162	1.54161
	31-40	84	3.9739	1.46375
	>40	26	3.8869	1.59236
	Total	400	4.0287	1.48804
Factor-2: Selfie Creating Dual personality	<=20	94	3.5391	1.63501
	21-30	196	3.5253	1.51734
	31-40	84	3.5665	1.46398
	>40	26	3.5385	1.67586
	Total	400	3.5381	1.53959

Descriptives				
Type of Family		N	Mean	Std. Deviation
Factor-1:	Nuclear	275	4.0256	1.4608

Descriptives				
Occupation		N	Mean	Std. Deviation
Factor-1: Social Image Construction	Home Maker	42	3.9783	1.46593
	Service	119	3.9581	1.40075
	Business	21	3.9671	1.83879
	Student	177	4.1137	1.50043
	Not Employed	41	3.9502	1.5628
	Total	400	4.0287	1.48804
Factor-2: Selfie Creating Dual personality	Home Maker	42	3.2821	1.50601
	Service	119	3.5572	1.61312
	Business	21	3.4686	1.34019
	Student	177	3.596	1.54301
	Not Employed	41	3.53	1.47708
	Total	400	3.5381	1.53959

Descriptives

Social Image Construction	Joint	109	4.0312	1.54243	Education		N	Mean	Std. Deviation
	Living alone	16	4.0656	1.66978	Factor-1: Social Image Construction	Up to12th	65	4.4006	1.44716
	Total	400	4.0287	1.48804		Graduate	125	3.8982	1.40245
Factor-2: Selfie Creating Dual personality	Nuclear	275	3.6356	1.5128		Post graduate	177	3.9018	1.55922
	Joint	109	3.2937	1.5324		PhD	16	4.5413	1.36805
	Living alone	16	3.5269	1.93148		Any other	17	4.4059	1.34656
	Total	400	3.5381	1.53959		Total	400	4.0287	1.48804
Descriptives					Factor-2: Selfie Creating Dual personality	Up to12th	65	3.7489	1.64387
Marital Status		N	Mean	Std. Deviation		Graduate	125	3.4422	1.50139
Factor-1: Social Image Construction	Married	129	4.0574	1.47686		Post graduate	177	3.5359	1.54834
	Unmarried	233	4.0134	1.49885		PhD	16	3.9819	1.49922
	Any Other	38	4.0253	1.49725		Any other	17	3.0412	1.28124
	Total	400	4.0287	1.48804		Total	400	3.5381	1.53959
Factor-2: Selfie Creating Dual personality	Married	129	3.4805	1.49287					
	Unmarried	233	3.5584	1.57594					
	Any Other	38	3.6087	1.50309					
	Total	400	3.5381	1.53959					

Table 9

ANOVA						
Marital Status		Sum of Squares	df	Mean Square	F-value	p-value
Factor-1: Social Image Construction	Between Groups	.162	2	.081	.036	.964
	Within Groups	883.327	397	2.225		
	Total	883.489	399			
Factor-2: Selfie Creating Dual personality	Between Groups	.712	2	.356	.150	.861
	Within Groups	945.053	397	2.380		
	Total	945.765	399			
Education		Sum of Squares	df	Mean Square	F-value	p-value
Factor-1: Social Image Construction	Between Groups	20.593	4	5.148	2.357	.053
	Within Groups	862.896	395	2.185		
	Total	883.489	399			
Factor-2: Selfie Creating Dual personality	Between Groups	11.387	4	2.847	1.203	.309
	Within Groups	934.378	395	2.366		
	Total	945.765	399			
Occupation		Sum of Squares	df	Mean Square	F-value	p-value
Factor-1: Social Image Construction	Between Groups	2.310	4	.578	.259	.904
	Within Groups	881.178	395	2.231		
	Total	883.489	399			
Factor-2: Selfie Creating Dual personality	Between Groups	3.492	4	.873	.366	.833
	Within Groups	942.273	395	2.386		
	Total	945.765	399			
Type of Family		Sum of Squares	df	Mean Square	F-value	p-value
Factor-1: Social Image Construction	Between Groups	.025	2	.013	.006	.994
	Within Groups	883.464	397	2.225		
	Total	883.489	399			
Factor-2: Selfie Creating Dual personality	Between Groups	9.127	2	4.563	1.934	.146
	Within Groups	936.638	397	2.359		
	Total	945.765	399			
Marital Status		Sum of Squares	df	Mean Square	F-value	p-value
Factor-1: Social Image Construction	Between Groups	.162	2	.081	.036	.964
	Within Groups	883.327	397	2.225		
	Total	883.489	399			
Factor-2: Selfie Creating Dual personality	Between Groups	.712	2	.356	.150	.861
	Within Groups	945.053	397	2.380		
	Total	945.765	399			

DISCUSSIONS

Drawing the results and going through the analysis one could say that both the hypothesis of the research stands true. The main objective of the study was to research whether Selfie's are creating dual personalities i.e. one real and one internet personalities. The other objective was to see whether the following is also affecting the narcissus levels of the respondents who are using selfie as a medium for communication and building asocial image on social media.

The results clearly shows that (hypothesis 1) Selfie posting behavior is causing narcissistic personality disorders the following hypothesis was proved true as the narcissism shared a significant correlation with both the factors selfie creating dual personality and selfie creating social image construction. For the following few expert interviews were also conducted were also the experts related to photography, social media, communication and psychology were interviewed. According to the experts selfie is an extension of self, it is a mode of self expression but as it is also related to media the social media it also accompanies with it the glamour and presentation of the self in the best manner. The more one presents one in glorified manner the more one tend to fall in love with the self which validated the data explain it high level of significance with dual personality and social image construction.

With respect to the (Hypothesis 2) Selfie posting behavior is causing dual personality one real and one projected over social media. The statistics as discussed above clearly shows that the following hypothesis also stands true. Statistics showed that selfie will create dual personalities if will be used for longer time period .If used for shorter period they are ok to use and if not used frequently and with a though to it. Based on the results it one can conclude that selfie posting behavior especially if the Selfie's are posted frequently and posted without much though may be the reason for causing dual personalities one real and one projected over social media. The following was even validated by the experts. According to the experts if Selfie's are used to projects a self which is unreal or different from the real from the self, the following fact will be ok if selfie is used for fun, for example extreme use of filters and application to show a self which is very different from real self is ok but if the following is don't for a prolonged period of time could form addiction and can also lead towards dual personality which could cause many kinds of socio-psychological issues.

Limitations and future directions

For future research related to the following subjects many limitations have to be considered. As the following is a subject which is not entirely related to media it also involves the psychological aspect, certain question could have been answered with apprehension. The study if done in presence of a psychologist and if had been clinical could have fetch much more productive results and in depth analysis. As the research is on social media the demography and the variable could have been area specific to understand the cultural influence on the respondents/women. If the research has been narrowed down more in terms of variable life age, or the occupation would have furthers been beneficial for that certain segment chosen. Further research could be carried out to device a tool which will incorporate all the elements and the level of dual personality created could be easily calculated and the people using selfie on social media platform could be alarmed to talk precautions.

The following research was carried on women as men show high level of narcissism so a similar research could be conducted on men to understand how Selfie's effect dual personality in men. The following search could benefit a lot in the arena of psychology especially with people who are dealing with depression and loneness and using selfie and social media to fill that void and them getting addicted to them. The following research could also become the base for further researchers where how Selfie's could be used for social image construction without affecting the mental health of an individual (Singh & Tripathi, 2016).

CONCLUSION

The following research could be concluded by saying that Selfie's are creating dual personalities if they are using over social media without giving much though. Women clicking selfless if are using them to create a social media image which differs from their real personalities then these Selfie's could cause dual personalities leading to causing mental health issues according to the experts if the following was done for a long run. The study also tested the narcissism level in these women and the correlation narcissism established with Selfie's creating dual personalities and selfie used for social media also communicate the fact that more selfie are used for social image construction and more they form dual personalities more the level of narcissism the individual show that means it may increase the narcissism level in the person. Selfie could be used as an excellent medium to express and communicate on social media platform. But as the following medium is very powerful as one photograph is equal to 1000 words (Grammarist) and the photograph presented is presented with validation (photo of self is posted by the self) so the following tool should be used carefully keeping, the social media image it constructed, the social implication the psychological implications that it could creates and it creates.

BIBLIOGRAPHY

Ackerman, R. .. (2011). "What Does the Narcissistic Personality Inventory Really Measure?". Assessment. *1* (18), 67–87.

Ames, D. R., Paul, R., & Cameron, A. P. (2006). The NPI-16 as a short measure of narcissism. *Journal of Research in Personality* , 440-450.

Bansal A, G. C. (Medknow). Selfies: A boon or bane?, Journal of Family Medicine and Primary Care, .

Bargh, J. A., McKenna, K. Y., & Fitzsimons, G. M. (2002, 12 17). Can You See the Real Me? Activation and Expression of the "True Self" on the Internet. *Social Issues* , 33-48.

Bruno, N., Pisanski, K., Sorokowska, A., & Sorokowski, P. (n.d.). *frontiersin*. Retrieved 02 23, 2020, from https://www.frontiersin.org/articles/10.3389/fpsyg.2018.00044/full Editorial

Bureau, E. (2019, 06 16). *Global addiction: Selfie facts and moments from around the world*. (E. Bureau, Editor) Retrieved from The Ecomonic Times : https://economictimes.indiatimes.com/industry/miscellaneous/global-addiction-selfie-facts-and-moments-from-around-the-world/click-click-click/slideshow/69810065.cms#:~:text=93%20million%20selfies%20each%20day,compulsive%20need%20to%20take%20selfies.

Campbell, W. K., & Joshua, F. D. (n.d.). "The Narcissistic Self: Background, an Extended Agency Model, and Ongoing Controversies". In Sedikides, Constantine; Spencer, Steven J. (eds.). *The Self. Frontiers of Social Psychology.*

economictimes. (n.d.). *Global addiction: Selfie facts and moments from around the world*. Retrieved 02 26, 2020, from https://economictimes.indiatimes.com/industry/miscellaneous/earth-hacks-9-climate-friendly-solutions-that-reduce-wastage/power-from-water-pipes/slideshow/6961643

GooglePhotos. (n.d.). *One year, 200 million users, and a whole lot of selfies*. Retrieved 02 26, 2020,, from https://blog.google/products/photos/google-photos-one-year-200-million/

Grammarist. (n.d.). Retrieved from Grammarist, A picture is worth a thousand words: https://grammarist.com/proverb/a-picture-is-worth-a-thousand-words/#:~:text=The%20term%20was%20popularized%20in,photographic%20images%20to%20illustrate%20advertising.

Hotchkiss, S., & Masterson, J. F. (2003). *Why Is It Always About You?: The Seven Deadly Sins of Narcissism.* Free Press.

Ignatius, E., & Kokkonen, M. (2012, 07 11). Factors contributing to verbal self-disclosure. *Nordic Psychology* , 362-391.

Loiacono, E. T. (2014). Self-Disclosure Behavior on Social Networking Web Sites. *International Journal of Electronic Commerce* , 66-94.

M.Walsh, R., Forest, A. L., & Orehek, E. (2020). Self-disclosure on social media: The role of perceived network responsiveness. *Computers in Human Behavior , 104*.

McKenna, K. Y., & Bargh, J. A. (2000). Plan 9 From Cyberspace: The Implications of the Internet for Personality and Social Psychology. *Personality and Social Psychology Review* .

nordicapis.com. (n.d.). Retrieved 02 24, 2020, from https://nordicapis.com/20-emotion-recognition-apis-that-will-leave-you-impressed-and-concerned/

Panel, P., Sorokowskia, A., Sorokowakaab, A., Oleszkiewicza, T., Frackowiaka, A., Huka, K., et al. (2015). Selfie posting behaviors are associated with narcissism among men. *Sceince Direct* .

Qiu, L., Lu, J., Yang, S., Qu, W., & Zhu, T. (2015, November). What does your selfie say about you? 443-449.

RhodesLonergan, A., Bussey, K., Mond, J., Brown, O., Griffiths, S., Murray, S. B., et al. (2019). Me, my selfie, and I: The relationship between editing and posting selfies and body dissatisfaction in men and women. *Body Image* , 39-43.

Singh, S., & Tripathi, K. M. (2016). Selfie: A New Obsession. *SSRN Electronic Journal* , 37-44.

Surhone, L. M., Tennoe, M. T., & Henssonow, S. F. (2010). *Snowball Sampling.* Betascript Publishing.

Weiser, E. B. (2018). *Shameless Selfie-Promotion:Narcissism and Its Association With Selfie-Posting Behavior.* Curry College , USA: GI Global .

wikipedia. (n.d.). Retrieved 02 23, 2020, from https://en.wikipedia.org/wiki/Narcissistic_personality_disorder

Williamson, P., Stohlman, T., & Polinsky, H. (2017). Me, My "Selfie" and I: A Survey of Self-disclosure Motivations on Social Media. *IAFOR Journal of Cultural Studies* , *2* (2).

www.frontiersin.org. (n.d.). Retrieved 02 23, 2020, from https://www.frontiersin.org/articles/10.3389/fpsyg.2018.00044/full Editorial

Zavala, A. G., Federico, C. M., Sedikides, C., Guerra, R., Lantos, D., Mrozi ́nski, B. ̇., et al. (2019). Low Self-Esteem Predicts Out-Group Derogation via CollectiveNarcissism, but This Relationship Is Obscured by In-Group Satisfaction. *American Psychological Association* , 41–764.

Zuern, J. D. (1988). "*Freud: On Narcissism*", *CriticaLink*. Retrieved 03 28, 2020, from University of Hawaii .

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YOUNG ADULTS' ABILITY TO DETECT FAKE NEWS AND THEIR NEW MEDIA LITERACY LEVEL IN THE WAKE OF THE COVID-19 PANDEMIC

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ABSTRACT

In the wake of the current scenario of the Covid-19 pandemic, the phenomenon has attracted worldwide attention to the extent that countries are not only trying to battle the onslaught of the pandemic but also the spread of fake news. This research examines the ability of young adults in Malaysia to spot fake news and how do they counter its spread. This study also analyses the level of new media literacy among young adults to process fake news on social media. A quantitative data collection method using questionnaires was used to collect data from 450 young adults. Results showed that despite being confident of being able to distinguish fake news from real news, young adults have difficulties to differentiate between verifiable news and fake news. Respondents are also proactive in combatting the spread of fake news, where a large percentage would re-share the post to notify other users. Finally, study results also found that young adults have a moderate level of new media literacy. Overall, the study highlights the importance of initiating new media literacy education for all social media users, particularly with regards to fake news on social media.

Keywords*:* new media literacy, social media, fake news

INTRODUCTION

Fake news, or commonly understood as disinformation, is defined as "news articles that are intentionally and verifiably false and could mislead readers" (Allcott and Gentzkow, 2017, p.213). Using the current Covid-19 pandemic as a reference, World Health Organization director-general Tedros Adhanom Ghebreyesus highlighted this at the Munich Security Conference in February when he said that "we are not just fighting an epidemic; we're fighting an infodemic. Fake news spreads faster and more easily than this virus, and is just as dangerous" (Ghebreyesus 2020, para. 45-46). The phenomena of fake have also crept into the Malaysian society and more so now in the current situation of the disturbing pandemic. As a result, citizens are misled and struggling to tell apart what is accurate news or what is false.

The term 'fake news' is not new. Wardle and Derakhshan (2017) broke the term fake news into three different types. They defined misinformation as "false information shared without harmful intent", disinformation as "false information shared with harmful intent" and finally, malinformation is defined as "genuine information shared to cause harm" (p.5). Where else, researchers Lazer et al. (2018, p.2) defined fake news as "fabricated information that mimics news media content in form but not in organisational process or intent".

According to a creative agency, We Are Social and the Hootsuite social media management platform's latest Digital 2019 report, on average, Malaysians spend eight hours to five minutes online daily, with two hours and 58 minutes being attributed to social media consumption (Bernama, 2019). In another report, International market research agency YouGov Asia Pacific (YouGov Apac) reported that Malaysians spent an average of five hours and 47 minutes a day on social media, with 17% of Malaysians spending more than nine hours a day browsing on social media, (Ariff, 2019). Further, as of January this year, about 81% of the Malaysian population were active social media users with 22 million Facebook users. India leads the statistics of Facebook users with over 260 million users (Muller, 2020).

With such rapid changes, it is no doubt that social media have become increasingly popular as the place where news is first shared (Schifferes & Newman, 2013). According to McGrew, Breakstone, Ortega, Smith and

Wineburg (2018, p. 166), "young people's reliance on the Internet as a source of information presents both immense opportunities for democratic participation and formidable challenges". As a result, these sites have become an ideal space for the propagation of fake news (Duffy, Tandoc & Ling, 2019).

The recent spread of the Covid-19 pandemic across the globe has driven nations to not only work on fighting the virus but also the spread of fake news. While fake news is not a new situation in Malaysia, given the context of the Covid-19 pandemic, the authorities are troubled and pressured to ensure fake news is tightly controlled. This is particularly so with the unprecedented current pandemic that the world had never handled before, more so in Malaysia. The Malaysian Communications and Multimedia Commission (MCMC) and police force collaborated through a Cyber Crime Committee to investigate cases of individuals alleged to have spread fake news about Covid-19.

By looking at the amount of time the youngsters spend engaging in different activities online, it provides significant benefits to have sufficient knowledge in terms of new media literacy which are required in the years to come. Chen, Wu, and Wang (2011) defined new media literacy as a "combination of information skills, conventional literacy skills, and social skills" (p. 84), and plays a vital key for media users in this 21st century. According to Metzger, Flanagin, and Medders (2010), people use hints and heuristics to determine the credibility of a website. However, such heuristics can often be misleading, and users tend to struggle with the many elements of online information gathering including information finding and assessment (McGrew, Breakstone, Ortega, Smith, & Wineburg, 2018).

Past studies show on the new media literacy level among young adults portrays a different picture. In a survey conducted by McGrew, Ortega, Breakstone, and Wineburg (2017), the researchers reported that while students were familiar with social media sites and contents, they do not have the skills to differentiate "reliable from misleading information" (p. 7). They stressed that if the young generations become victims of misleading information, the effects can be dire. In another study on new media literacy in higher education in South Jakarta, Maryam, Efianda and Sevilla (2018) noted that despite being familiar with using electronic devices and online media, students' ability to search effectively is still weak. Additionally, Wardle and Derakhshan (2017) noted that analysing information and evaluating the authenticity of sources on social media "will require our brains to adapt with new cognitive strategies for processing information" (p. 13).

For this reason, it is crucial to understand where the young adults stand in terms of their ability to differentiate fake news from genuine news as well as their new media literacy level.

PROBLEM STATEMENT

As social media has become an essential source of news for the users, it also makes it "difficult for people to judge the credibility of any message" (Wardle & Derakhshan, 2017, p.12). According to Rubin, Chen, and Conroy (2015), the shifts in how individuals may interpret 'truth' and access information and news has opened Pandora's box of 'fake news' from various online platforms. Significantly, researchers Moravec, Minas, and Dennis (2019), and Paschalides et al. (2019) also cautioned on the increase of misinformation on the Internet.

Further, the 2019 Digital News Report found that online and social media remain the predominant sources of news for Malaysians, with Facebook being the most popular platform (Nain, 2019). However, Tandoc, Zheng and Ling (2018) pointed that aside from being dominated by a mass audience, social networking platforms also promote the quick sharing and distribution of information. Unfortunately, together with this, they have also promoted the distribution of fake news.

What worries scholars is the effect of false news on public perception causing them to make reasonable decisions based on misinformation (Tandoc et al., 2018). This is even so more when users are most likely to share negative news, and with the recent pandemic, there are many news related to Covid-19 that are negative (Nyilasy, n.d.).

Consequently, Chen et al. (2011) stressed the need for individuals to be new media literate to engage competently in this new environment.

It is in these contexts that this research will look at the ability of the young adults in Malaysia to distinguish fake news from real news, and their level of new media literacy.

RESEARCH QUESTIONS

This study aims to analyse young adults' ability to distinguish fake news from real news. It will also look at their level of new media literacy. The following questions are asked:

RQ 1: What are the young adults' ability to identifying fake news?

RQ 2: What are the new media literacy skill levels of young adults?

LITERATURE REVIEW

Spreading of Fake News on Social Media

Lazer et al. (2018, p.2) defined fake news "to be fabricated information that mimics news media content in form but not in organisational process or intent" which has been drawing much focus from the 2016 US presidential election. People spread fake news based on their pre-existing views, media functionalities, and message structuring (Marwick, 2018) and also to obtain social acceptance and build an identity (Talwar, Dhir, Kaur, Zafar, & Alrasheedy, 2019).

The dissemination of fake news amongst the public can trigger confusion and unnecessary distress (Figueira & Oliveira, 2017), and despite that, "the high level of online trust is likely to cause users to lend more support to the information shared with them by sharing it further on their social network," (Talwar et al., 2019, p.75). In addition, they said that because of the high confidence in the information and news they get on social media like Whatsapp, users are "more likely to share the news and less likely to authenticate the news before sharing" (p.75).

According to Sterrett et al. (2019), browsing through a Facebook or Twitter feed varies in several aspects when compared with newspaper subscriptions or flipping on a newscast. They stated: "On social media, people often see news via posts and comments from public figures and celebrities alongside those from friends, family, and acquaintances" (p.784).

Furthermore, a study by NewsWhip stated that despite changes to Facebook's news feed algorithm in 2018 which was made to limit the spread of false content, fake news remains a significant concern on this platform. In November 2019, Facebook became the first technology company to be ordered by the Singapore Government to correct a posting that contained false information (Mandhana & Dvorak, 2019). It was part of the Singapore Government's Protection from Online Falsehoods and Manipulation Act that was meant to curb fake news.

As the Covid-29 pandemic continues spreading around the globe, it had also opened up an entirely different problem, where conspiracy theories and misinformation on outbreak have also gone viral on various social media platforms. In Malaysia, as of July 18, 2020, a total of 266 investigation papers in connection with fake news postings about Covid-19 on social media have been opened by the police force and MCMC, of which 30 cases taken to court (Arumugam, 2020). Among those who have been charged in court so far is the Malaysian Artistes Association (Seniman) president Rozaidi Jamil, who was among four people charged for sharing fake news on the Covid-19 virus (FMT Reporters, 2020). In another case, a senior citizen was fined RM2,000 by the Magistrate's Court for spreading fake news about Covid-19. ("Senior citizen fined RM2,000", 2020). It was reported in the news article that the accused had circulated a message via WhatsApp alleging that an acquaintance, part of the tabligh cluster, tested positive for Covid-19 but refused to seek medical treatment. In addition, a total of 352 fake news denials and clarifications (Arumugam, 2020) had been published through the information verification portal, 'sebenarnya.my'. The portal was set up by MCMC for the people to verify the news received on social media.

Besides Malaysia, a number of nations have introduced or passed legislation that curtails the proliferation of misleading information on social media platforms, whereas others have enforced strict laws against hate speech on social networks (Rodrigues & Xu, 2020). For example, the Philippines adopted an emergency law giving it more powers to arrest people who share fake news. Similarly, Thailand passed a state-of-emergency decree criminalising any sharing of misinformation online that could "instigate fear" (AFP, 2020).

The Russian government had approved a fine of up to US$25,000 (RM108,815) and prison terms of up to five years for anyone who spreads what is deemed to be false information and media outlets can be fined up to US$127,000 (RM552,780) if they disseminate disinformation about the outbreak (Litvinova, 2020). Over in India, the existing penal laws and Epidemic Diseases Act 1897 is used to curb the spread of fake news (Rodrigues & Xu, 2020), where else nations like Singapore and Indonesia imposed stringent policies and laws to prevent the spread of misinformation (AFP, 2020).

Over at the World Health Organization, a team of "mythbusters" are working with media organisations and social media platforms to fight the spread of fake news on the Covid-19 virus (Department of Global Communications. 2020, para. 4).

Looking at the news reports on fake news postings about Covid-19 on social media, it indicates the gravity of the issue at hand. Therefore, this research looked at the ability of young adults in Malaysia to distinguish fake news from genuine news.

New Media Literacy

As digital media technologies evolve, traditional literacy is no longer adequate for a person to sustain and be prepared to connect in the new media world. Media literacy is the ability of an individual to make proper use of the media. In other words, Hobbs (2001) defined media literacy as "the ability to access, analyse, evaluate and communicate messages in a variety of forms" (p. 7). Likewise, Tugtekin and Koc (2019) noted that new media literacy is an evolving term and refers to a range of skills that allow users to deal with the challenges and demands of living in today's growing digital environment. Koc and Barut (2016) noted that the popular types of news media are the Web 2.0 tools like the social networking sites where "a user can create media messages individually or collaboratively in the digital form of text, image, video or hybridity of these and share them with other users" (p. 835).

Researchers Chen et al. (2011) proposed the existing new media literacy framework and was described as a two-way continuum. The framework consisted of four components (a) functional consuming, (b) functional prosuming, (c) critical consuming and (d) critical prosuming. Researchers Chen, Li, Lin, Lee and Ye (2014, p.2) defined the components as follows:

a) Functional consuming: the ability to gain access to new media and understand what is conveyed.

b) Critical consuming: media consumers' ability to consider the social, economic, political and cultural contexts of media content.

c) Functional prosuming: the ability to participate in the creation of media content,

d) Critical prosuming: focuses on media users' contextual interpretation of media content when participating in media activities.

Chen and Wu (2011) suggested critical prosuming be championed as a key element in the knowledge society of the 21st century. According to Brown (2018), this is important as the current generations should have a critical mindset rather than merely technical skills. This is further proven necessary when researchers El Rayess, Chebl, Mhanna, and Hage (2018) reported that young users are not adapt to check credible information on social media. Therefore, teaching students with new media literacy is an important issue on the educational agenda (Chen, Lin, Li, and Lee, 2018) as people must be knowledgeable in new media to survive in the new media environment (Chen et al., 2011).

Although Lin, Li, Deng, and Lee (2013) said since new media literacy is an emerging term, the prevalence of social media has recently drawn educators and researchers to turn their focus on the younger generation, to explore their abilities in this new media ecology (Tugtekin & Koc, 2019). For example, in assessing youth's media exposure, engagement in Web 2.0 services and new media literacy skills in Zadar, Miočić and Perinić (2014) found that higher media penetration indicates a higher degree of new media literacy competencies. In concluding, they stressed that "young people need resources and learning principles to acquire new skills and to think critically about their own relationships to the media" (p.249). This corroborates with the study by Chin and Zanuddin (2019) who reported that university students, aged 18 to 25 displayed a medium level of new media literary and those who rarely use media showed low access to media content. As a result, this limits their ability to analyse the information shared online. The researchers pointed out that "they are also less likely turn to the online source to find information to evaluate any news they receive from others," (p.472).

Similarly, Syam and Nurrahmi (2020) who surveyed 500 university undergraduates reported that most of the respondents were less critical of social media content, as they found it hard to differentiate between fake or actual news. Further, McGrew et al. (2018) found that students had trouble to evaluate online sources, claims and evidence. In another study, researchers Kasra, Shen, and O'Brien (2018) in evaluating college students' ability to identify the credibility of images reported that students are unable to detect professional image manipulation and often fail to challenge its authenticity. This calls for image creators and publishers to work towards increasing the credibility of the images produced.

Despite past literature showing the inability of young adults to distinguish fake news (Kasra et al., 2018, McGrew et al., 2018, and El Rayess et al., 2018), the work available on new media literacy is also limited, and so far, it has concentrated on its theoretical conceptualisation. This was further reiterated by Syam and Nurrahmi (2020), who said previous literature has not focused on the new media literacy particularly with regards to fake news on social media.

Thus, in this study, we sought to assess new media literacy skills among young social media users in Malaysia.

METHODOLOGY

In this study, the targeted participants were young adults in Malaysia who are active social media users. According to Bleyer and Albritton (2003), young adults' age range is between 15 to 29 years old, while Petry (2002) categorised young adults as those aged between 18 and 35 years old. In Malaysia, the Youth and Sports Ministry had determined young adults as those aged from 15 to 30 years old (Yunus & Landau, 2019). For this study, the age bracket is set to be between 18 and 30 years old.

To answer the research question, the quantitative method, using the survey research method was used to collect data from 450 young adults using convenience sampling. In the first section of the questionnaire, respondents were asked about their social media activities. In order to evaluate their ability to spot fake news, respondents were presented with 10 news stories concerning Covid-19 that were widely circulated on social media platforms, of which six were fake. These pieces were taken from Malaysia's information verification portal, 'sebenarnya.my'.

The questionnaire on new media literacy was adopted from Koc and Barut (2016) who had developed and validated it. Although the researchers had developed the questionnaires for university students, their participants in the validation process were those whose age ranged from 18 to 30. The 35-item scale included four sub-scales tested on a 5-point Likert scale.

Data collected were analysed using the SPSS software. The descriptive statistical analysis was used to summarise and describe the respondents' demographic profiles. Further, a descriptive test based on the mean score was also analysed for each dimension. The composite mean is divided into three levels of equal intervals, so that the mean score can be interpreted. According to Pallant (2010), by classifying the mean score into three categories, the differences in the categories would be more straightforward and easier to see. The three levels are low (1.00-2.33), moderate (2.34-3.67), and high (3.68 – 5.00). A high mean value indicates a high level of new media literacy.

FINDINGS

The respondents' demographic profile is looked upon in terms of gender and age. The findings are tabulated in Table 1. In the sample, 167 (37.1%) were male, and 283 (62.9%) were female. As for the age distribution, almost half of the respondents (42.0%) were aged 21 to 23 years old, whereas 117 (26.0%) respondents were aged 27 to 29. Eighty-five of them (18.9%) were between the age of 24 and 26, followed by 36 of them aged between 18 and 20 years old. Respondents who were aged 30 only constituted 5.1% of the total respondents.

Table 1. Demographic profile of respondents

Demographic	Characteristics	Frequency	Percentage (%)
Gender	Male	167	37.1
	Female	283	62.9
Age	18-20	36	8.0
	21-23	189	42.0
	24-26	85	18.9
	27-29	117	26.0
	30	23	5.1

Table 2 shows slightly more than half of the respondents (58.2%) devotes 4 to 7 hours on social media platforms in a day. Whereas 20.4% of them spend eight to 10 hours a day. The analysis also revealed that 19.6% of the youth spends between one and three hours a day on their social media while only eight of them or 1.8% spends more than 10 hours in a day.

Table 2. Hours spent on social media

	Categories	Frequency	Percentage
Hours spent on social media in a day	1-3	88	19.6
	4-7	262	58.2
	8-10	92	20.4
	>10	8	1.8

In terms of the frequently used social media platforms, almost half of respondents – 48% preferred Instagram, followed by 23.6% who picked Whatsapp. Sixty-three (14%) respondents spend most of their time on Facebook, and another 9.8% said their first choice is Twitter. Only 21 respondents selected WeChat as their preferred platform. This is shown in Table 3.

Table 3. Frequently used social media platforms

	Frequency	Percentage
Instagram	216	48.0
Whatsapp	106	23.6
Facebook	63	14.0
Twitter	44	9.8
WeChat	21	4.7

In terms of the young adults' ability to identify fake news when received, the majority of them, (78.4%) were confident of being able to do so. As shown in Table 4, only 21.6% admitted to not having the confidence to differentiate fake news from non-fake news. However, in contrast to this answer, the majority (62%) of the respondents were not able to differentiate correctly between fake news and real news.

Table 4. Respondents' ability to identify fake news

	Frequency	Percentage
I am confident in identifying fake news	353	78.4
I am not confident in identifying fake news	97	21.6

Following this, participants were asked about their actions when they receive fake news. As displayed in Table 6, the majority of them would re-share the news to inform the others on the credibility of the news (60.4%), while choosing to ignore the post 33.6%. However, 27 respondents admitted to sharing the post as it is.

Table 5. Respondents' action upon receiving fake news

	Action	Frequency	Percentage
Valid	Re-share the post to warn others	272	60.4
	Ignore the post	151	33.6
	Report the post	27	6.0

New media literacy level

Table 6 displays the different levels of new media literacy among young adults. The overall mean value of young adults' new media literacy is moderate (*M*=3.34, *SD*=0.24), which implies that there is an average level of new media literacy knowledge among the respondents.

The mean values for the four components are between 2.30 and 4.27. Among the four new media literacy components, functional consuming showed the highest mean value (*M*=4.02, *SD*=0.38). This indicates that the respondents have high levels in terms of software and hardware technical skills and the abilities in understanding the meanings of the message conveyed.

Respondents also have a high level in functional prosuming (*M*=3.98, *SD*=0.35) which relates to the ability to participate in the creation of media content. Respondents showed a moderate level of critical consuming (*M*=3.12, *SD*=0.53), which looks at the users' ability to interpret media messages in terms of their authorship, structure, context and purposes. However, the analysis showed that respondents' skills in consumer presuming is low (*M*=2.24, *SD*=0.30). Critical presuming focuses on the uses' contextual understanding of media content when they engage in media activities. It is exclusively linked to the constructive participation and common intelligence of Web 2.0 technologies.

Table 6. *Respondents' level of new media literacy*

New Media Literacy Component	Mean	Standard Deviation	Level
Functional consuming	4.02	0.38	High
Critical consuming	3.14	0.53	Moderate
Functional prosuming	3.98	0.35	High
Critical prosuming	2.24	0.30	Low
Overall	**3.35**	**0.24**	**Moderate**

Note: Low level = 1.00-2.33; Moderate level = 2.34-3.67; High level = 3.68 – 5.00

DISCUSSION

Overall, the majority of the respondents spent 4 to 7 hours on social media platforms in a day, with Instagram being their top choice, followed by Whatsapp and Facebook. The findings of this study corroborate with the data collected by international market research agency YouGov Asia Pacific (YouGov Apac) which reported on average, Malaysians spent close to six hours a day on social media. The results also support the study by Ahmad, Hassan, Tajuddin, and Wimpi (2018) who found that a significant number of university students owned more than three social media accounts and spent between three to five hours on social media daily.

Looking at the choices of social media platforms, the results are similar to those of Meşe and Aydın (2019), and Yesil and Fidan (2017). However, it differs slightly from the results reported by Miller and Melton (2015) and Sendurur, Sendurur, and Yilmaz (2015) who found Facebook to be the most preferred SNS among their respondents. The present study revealed that the majority of respondents preferred Instagram and WhatsApp. This can be presumed that the choice of social media platform used by the younger generations can vary depending on their environment and interest. With the social media users growing tremendously over the years, the higher engagement rate and user-friendly interface of Instagram could be among the reasons for Instagram to dominate Facebook. Furthermore, Instagram is well known for its photo and video sharing applications which are in line with the young users' preference of images rather than long articles.

Further, the study revealed that 78.4% of the respondents were confident of being able to identify fake news. However, when given several fake news, the majority of them failed to do so. This mirrored the findings by Kasra et al. (2018), McGrew et al. (2018), and El Rayess et al. (2018). This incapability of young adults to validate false information and doubtful sources requires immediate attention. As noted by El Rayess et al. (2018) "this could indicate that students could be an easy target for purposeful manipulation of information" (p. 156). Therefore, the younger generation must be equipped with the proper knowledge to be a critical and impartial user of social media.

Additionally, the results also showed that most of the respondents take a more proactive role when they receive fake news by warning their social network of the circulation of fake news. However, the remaining participants would either ignore the post or share it as it is. This is similar to the results reported by El Rayess et al. (2018) and further supports the notion put forward by Abu-Fadil, Torrent, and Grizzle (2016) that users do not take time to verify the credibility of the news before accepting it or re-posting it. Similarly, Raj and Goswami (2020) concluded in their study that self-regulation will not be effective to curb the spread of fake news.

This brings us to the question of the respondents' literacy level on new media. The results showed that participants in the present study have a moderate level of new media literacy. Notably, the most developed new media literacy skills were functional consuming and functional prosuming. Chen et al. (2011) associated functional consuming and prosuming with computer literacy, whereby consuming is related to the required technical skills needed when accessing media content, while prosuming skills are those technical skills required to create media contents such as writing articles, or producing videos. With the advancement of technology, it is no doubt that young adults are more comfortable in consuming media contents and also to create one. In this study, the respondents are said to be able to use their devices and social media competently without the aid of others. However, just being a functional consumer and a prosumer is insufficient. Criticality is also vital for the consumption and prosuming of new media (Chen et al., 2011).

The present study revealed that respondents have a moderate level of critical consuming and a low level of critical prosuming. Critical literacy, according to Kellner (2000), refers to analyse, evaluate, and criticise media. Chen et al. (2011) explained this includes an interpretation of the textual and social definitions of media content, social values, media producers' intentions as well as the influential role of media producers and audiences.

A critical user and prosumer has a strong understanding of the different dynamics of media consumption and production and is able to exercise these critical views of media consumption and production to their advantage. Overall, the study results showed that respondents have a moderate level of new media literacy skills. This mirrors the studies by Miočić and Perinić (2014) and Chin and Zanuddin (2019).

In summary, the findings of this study revealed valuable information on the use of social media, understanding of fake news and level of new media literacy among young adults in Malaysia.

CONCLUSION

Access to smartphones, affordable Internet connectivity and various social media platforms allow users to manipulate false information and rumours. Particularly during this Covid-19 pandemic, the number of fake news is increasing.

This study aimed to understand how young adults in Malaysia were engaging with the term "fake news" and how was their new media literacy level. This study will help generate knowledge, and provide useful information to society, which will contribute to the prevention of the spread of fake news.

The findings of this study clearly show that young adults in Malaysia, despite being confident of being able to distinguish fake news from real news, are having difficulties to differentiate between verifiable news and fake news that is shared to mislead the readers, making them an easy target for intentional information misuse. Therefore, it is vital to further research on the methods used by social media users to verify the news they received and believe are fake. Interestingly, this study revealed that users are proactive in curbing the dissemination of fake news. The majority of the respondents would re-share the post to warn other users. Yet, some users would re-share the post, despite knowing it is fake. On this aspect, there is a need to expand the present study to identify the authentification practices by users.

Further, the findings revealed that young adults in the present study have a moderate level of new media literacy. The results shed light on the importance of new media studies and literacy amongst young adults. As the respondents have low critical prosuming level, there is a need for relevant organisations, particularly education providers, to include and emphasise new media literacy as part of their syllabus. Hence, effective new media literacy education must be initiated to tackle fake news and misinformation. Furthermore, it is crucial for young people to have the required skills to overcome the challenges surrounding new media technologies and access to online news.

Finally, this study is limited to young adults in Malaysia; therefore, the results of the study cannot be generalised to other populations.

REFERENCES

Abu-Fadil, M., Torrent, J. and Grizzle, A. (2016), "Opportunities for media and information literacy in the Middle East and North Africa", Go«teborg: International Clearinghouse on Children Youth and Media, available at: http://milunesco.unaoc.org/wp-content/uploads/MIL-Mena-2016-english.pdf (accessed 21 May 2017).

AFP. (2020, April 10). Rights groups fret as Asia cracks down on Covid-19 'fake news'. *New Straits Times.* Retrieved from https://www.nst.com.my/world/world/2020/04/583159/rights-groups-fret-asia-cracks-down-covid-19-fake-news

Ahmad, R., Hassan, N. A., Tajuddin, J. M., & Wimpi, Y. T. (2018). A Study On Social Media Usage Among Private University Students in Klang Valley. *Jurnal Sultan Alauddin Sulaiman Shah, 5*(2), 257-268.

Allcott, H., and Gentzkow, M. (2017). Social Media and Fake News in The 2016 Election. *Journal of Economic Perspectives 31*(2), 211–236. doi:10.1257/jep.31.2.211.

Ariff, S. U. (2019, May 1). Locals spend 5 hours on social media daily. *New Straits Times.* Retrieved from https://www.nst.com.my/news/nation/2019/05/484547/locals-spend-5-hours-social-media-daily

Arumugam, T. (2020, July 19). Malaysians more aware about sharing fake Covid-19 news. *New Straits Times.* Retrieved from https://www.nst.com.my/news/nation/2020/07/609878/malaysians-more-aware-about-sharing-fake-covid-19-news

Bernama. (2019, Jan 31). Malaysia ranks top 5 globally in mobile social media penetration, highest in region. *New Straits Times.* Retrieved from https://www.nst.com.my/lifestyle/bots/2019/01/456119/malaysia-ranks-top-5-globally-mobile-social-media-penetration-highest

Bleyer, W.A., & Albritton, K. (2003). Definition of Older Adolescent and Young Adult. In D.W. Kufe, R.E. Pollock, R.R. Weichselbaum, et al., (Eds), *Holland-Frei Cancer Medicine* (6th ed.). Hamilton (ON): BC Decker; 2003. Available from: https://www.ncbi.nlm.nih.gov/books/NBK13167/

Brown, M. (2018). Mind the gap: a critical guide to digital literacies. In: G. Ubachs, L. Konings, (Eds), *The Envisioning Report for Empowering Universities* (pp.52-55). Maastricht, NL: European Association for Distance Teaching Universities.

Chen, D.-T., & Wu, J. (2011, July). New media literacy in the 21th century society: Key findings, gaps and recommendations. Paper presented at the National Association for Media Literacy Education, Philadelphia, Pennsylvania, USA.

Chen, D.-T., Wu, J., & Wang, Y.-M. (2011). Unpacking new media literacy. Journal of Systemics, *Cybernetics and Informatics, 9*(2), 84- 88.

Chen, D. -T., Li, J.-Y., Lin, T.-B., Lee, L., and Ye, X. (2014). *New media literacy of school students in Singapore* (OER 32/09 VC). Retrieved from https://repository.nie.edu.sg/bitstream/10497/16585/1/NIE_research_brief_14-003.pdf

Chen, D-T, Lin, T-B, Li, J-Y, Lee, L. (2018). Establishing the norm of new media literacy of Singaporean students: implications to policy and pedagogy. *Computers & Education, 124*, 1–13. doi: 10.1016/j.compedu.2018.04.010

Chin, Y. S., & Zanuddin, H. (2019). New Media Literacy And Media Use Among University Students In Malaysia. *International Journal of Engineering and*

Advanced Technology, 8(5C), 469-474. doi:10.35940/ijeat.E1066.0585C19

Department of Global Communications. (2020). *UN tackles 'infodemic' of misinformation and cybercrime in COVID-19 crisis.* Retrieved from https://www.un.org/en/un-coronavirus-communications-team/un-tackling-%E2%80%98infodemic%E2%80%99-misinformation-and-cybercrime-covid-19

Duffy, A., Tandoc, E. C., Jr., & Ling, R. (2019) Too good to be true, too good not to share: the social utility of fake news. *Information, Communication & Society.* doi:10.1080/1369118X.2019.1623904

El Rayess, M., Chebl, C., Mhanna, J., & Hage, R.-M. (2018). Fake news judgement: The case of undergraduate students at Notre Dame University-Louaize, Lebanon. *Reference Services Review, 46*(1), 146-149.

Figueira, Á., Oliveira, L. (2017). The current state of fake news: challenges and opportunities. *Procedia Computer Science, 121*, 817–825.

FMT Reporters. (2020, Feb 21). Film industry man among 4 charged over fake news on Covid-19. *Free Malaysia Today.* Retrieved from https://www.freemalaysiatoday.com/category/nation/2020/02/21/film-industry-man-charged-over-fake-news-on-covid-19/

Ghebreyesus, T. A. (2020). Munich Security Conference [Speech Transcript]. World Health Organization. https://www.who.int/dg/speeches/detail/munich-security-conference

Hobbs, R. (2001). Improving reading comprehension by using media literacy activities. *Voices from the Middle, 8*(4), 44-50.

Kasra, M., Shen, C., & O'Brien, J. F. (2016, October 5-8). *Seeing is believing: Do people fail to identify fake images on the web?* Paper presented at the AoIR 2016: The 17thAnnual Conference of the Association of Internet Researchers, Berlin, Germany. Retrieved from http://graphics.berkeley.edu/papers/Kasra-SIB-2016-10 .

Kellner, D. (2000). New Technologies/New Literacies: Reconstructing Education for the New Millennium. *Teaching Education, 11*(3), 245-265.

Koc, M., & Barut, E. (2016). Development and validation of New Media Literacy Scale (NMLS) for university students. *Computers in Human Behavior, 63*, 834-43. doi: 10.1016/j.chb.2016.06.035

Lazer, D. M. J.; Baum, M. A.; Benkler, J.; Berinsky, A. J.; Greenhill, K. M.; Menczer, F.; … Zittrain, J. L. (2018). The science of fake news. *Science, 359*(6380), 1094–1096. doi: 10.1126/science.aao2998

Lin, T.-B., Li, J.-Y., Deng, F., and Lee, L. (2013) Understanding new media literacy: an explorative theoretical framework. *Educational Technology & Society, 16*(4), 160–170.

Litvinova, D. (2020, April 1). Covid-19: Fake news or the truth? Russia cracks down on virus postings. *The Star.* Retrieved from https://www.thestar.com.my/tech/tech-news/2020/04/01/covid-19-fake-news-or-the-truth-russia-cracks-down-on-virus-postings

Malaysian Communications and Multimedia Commission. (2017, March 14). *sebenarnya.my portal launched, in a battle against false news* [Press release] Retrieved from https://www.mcmc.gov.my/en/media/press-releases/sebenarnya-my-portal-launched-in-a-battle-against

Mandhana, N., and Dvorak, P. (2019, November 30). Ordered by Singapore, Facebook Posts a Correction. *The Wall Street Journal.* https://www.wsj.com/articles/facebook-complies-with-order-under-singapore-fake-news-law-11575116149

Maryam, S., Efianda, A., & Sevilla, V. (2018). New Media Literacy in Higher Education. *Malaysian Journal of Social Sciences and Humanities, 3*(1), 70-78.

McGrew, S., Breakstone, J., Ortega, T., Smith, M., & Wineburg, S. (2018). Can Students

Evaluate Online Sources? Learning from Assessments of Civic Online Reasoning. *Theory & Research in Social Education, 46*(2), 165-193. doi: 10.1080/00933104.2017.1416320

McGrew, S., Ortega, T., Breakstone, J., & Wineburg, S., (2017). The challenge that's bigger than fake news: Civic reasoning in a social media environment. *American Educator, 41*(3), 4–11.

Meşe, C., & Aydın, G. S. (2019). The use of social networks among university students. *Educational Research and Reviews, 14*(6), 190-199. doi: 10.5897/ERR2018.3654

Metzger, M. J., Flanagin, A. J., & Medders, R. B. (2010). Social and heuristic approaches to credibility evaluation online. *Journal of Communication, 60*, 413–439. doi:10.1111/j.1460-2466.2010.01488.x

Miller, R., & Melton, J. (2015). College students and risk-taking behavior on Twitter versus Facebook. *Behaviour and Information Technology, 34*(7). doi:10.1080/0144929X.2014.1003325.

Miočić, B., & Perinić, J. (2014). New media literacy skills of youth in Zadar. *Medijska Istrazivanja, 20*(2), 231-55.

Muller, J. (2020). *Leading countries based on number of Facebook users as of January 2020.* Retrieved May 25, 2020, from https://www.statista.com/statistics/268136/top-15-countries-based-on-number-of-facebook-users/

Moravec, P. L., Minas, R. K., and Dennis, A. R. (2019). Fake News on Social Media: People Believe What They Want to Believe When it Makes No Sense at All. *MIS Quarterly*, 43(4), 1343-1360.

Nain, Z. (2019). *Malaysia, in: Reuters Institute, Digital News Report.* Retrieved from http://www.digitalnewsreport.org/survey/2019/malaysia-2019/

NewsWhip (2018) *Navigating the Facebook algorithm change: 2018 report.* Retrieved from https://www.newswhip.com/2018/03/facebook-algorithm-guide/

Nyilasy, G. (n.d.). *Fake News in The Age of Covid-19.* Retrieved from https://pursuit.unimelb.edu.au/articles/fake-news-in-the-age-of-covid-19

Pallant, J. (2010). *SPSS Survival Manual (4th ed).* Maidenhead: Open University Press.

Paschalides, D., Christodoulou, C., Andreou, R., Pallis, G., Dikaiako, M. D., Kornilakis, A., and Markatos, E. (2019). Check-It: A plugin for Detecting and Reducing the Spread of Fake News and Misinformation on the Web. In P. Barnaghi, G. Gottlob, Y. Manolopoulos, T. Tzouramanis, A. Vakali (Eds.), *Proceedings of the IEEE/WIC/ACM International Conference on Web Intelligence (WI)* (pp. 298 – 302). Thessaloniki, Greece.

Petry, N. M. (2002). A comparison of young, middle-aged, and older adult treatment-seeking pathological gamblers. *The Gerontologist, 42*(1), 92-99. https://doi.org/10.1093/geront/42.1.92

Raj, A., & Goswami, M. P. (2020). Is fake news spreading more rapidly than Covid-19 in India? A Representative Study of People's Perspective on Controlling the Spread of Fake News on Social Media. *Journal of Content, Community & Communication, 11*, 208-220. doi:10.31620/JCCC.06.20/15

Rodrigues, U. M., & Xu, J. (2020). Regulation of COVID-19 fake news infodemic in China and India. *Media International Australia.* https://doi.org/10.1177/1329878X20948202

Rubin, V.L., Chen, Y., & Conroy, N. J. (2015). *Deception detection for news: Three types of fakes.* Paper presented at the Proceedings of the Association for Information Science and Technology Annual Meeting (ASIST2015), St. Louis. Retrieved from https://asistdl.onlinelibrary.wiley.com/doi/pdf/10.1002/pra2.2015.145052010083

Schifferes, S., & Newman, N. (2013). Verifying News on the Social Web: Challenges and Prospects. In R.Baeza-Yates & S. Moon (Eds.), *WWW '13 Companion: Proceedings of the 22nd International Conference on*

World Wide Web, (pp. 875 – 878). Rio de Janeiro, Brazil.

Sendurur, P., Sendurur, E., & Yi,az, R. (2015). Examination of the social network sites usage patterns of pre-service teachers. *Computers in Human Behavior, 51*, 188-194. doi:10.1016/j.chb.2015.04.052

Syam, H. M., & Nurrahmi, F. (2020). "I Don't Know If It Is Fake or Real News". How Little Indonesian University Students Understand Social Media Literacy. *Malaysian Journal of Communication, 36*(2), 92-105. doi:10.17576/JKMJC-2020-3602-06

Sterrett, D., Malato, D., Benz, J., Kantor, L., Tompson, T., Rosenstiel, T., Sonderman, J., & Loker, K. (2019). Who Shared It?: Deciding What News to Trust on Social *Media. Digital Journalism, 7*(6), 783-801, doi:10.1080/21670811.2019.1623702

Talwar, S., Dhir, A., Kaur, P., Zafar, N., & Alrasheedy, M. (2019). Why do people share fake news? Associations between the dark side of social media use and fake news sharing behavior. *Journal of Retailing and Consumer Services 51*, 72-82. doi:10.1016/j.jretconser.2019.05.026

Tandoc, E. C., Jr., Zheng, W. L., & Ling, R. (2018). Defining "Fake News". *Digital Journalism, 6*(2), 137-153. doi:10.1080/21670811.2017.1360143

Tugtekin, E. B., & Koc, M. (2019). Understanding the relationship between new media literacy, communication skills, and democratic tendency: Model development and testing. *New Media & Society.* doi:10.1177/1461444819887705

Wardle, C., & Derakhshan, H. (2017). *Information disorder: Toward an interdisciplinary framework for research and policy making.* Council of Europe report. Retrieved from https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-researc/168076277c

Yeşil, Y., & Fidan, F. (2017). Türkiye'de Y Kuşağının E-İletişim Kullanımı:Üniversite Öğrencileri Üzerinde Bir Araştırma. *Balkan ve Yakın DoğuSosyal Bilimler Dergisi 3*(01), 100-109.

Yunus, A., & Landau, E. (2019, July 3). 'Youth' now defined as those between 15 and 30. *The New Straits Times.* Retrieved from https://www.nst.com.my

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A STUDY ON THE FEASIBILITY OF APPLYING IOT TO IRAN WITH AN EMPHASIS ON ENVIRONMENTAL AND HEALTH COMMUNICATION

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ABSTRACT

This paper will address achievements of Web 3.0 recognized as Internet of Things (IoT), and will examine the effects of IoT in the field of health and environment in Iran. IoT is one of the applications of semantic Web that uses layered architecture and is a new platform that was completed in 2020. Web 3.0 makes omnipresence communication possible and can make all electronic apparatuses to communicate with each other while communicating with human agents. It also enables computers to generate data by communicating to each other. This can contribute to developments in many fields and field of health and environment are no exception and probably are on top of priorities. Here, we will launch a documentary study and will focus on IoT and how it is related to the field of health/environment and will enumerate the priorities that can be set in this field if IoT is applied. Some of the priorities that can contribute to prolonging life span, diminishing contagious diseases, facilitating medical care for chronic diseases, child care, preventing life-threatening epidemics, and promoting quality of life among elderly consist of: Diagnosis of falling, caring the physiological state of individuals, monitoring patients remotely, managing chronic diseases and controlling pollutions. Some results indicate: Iran needs to change its approach towards IoT; this will help Iran to respond to its development needs in the field of health and environment with regard to its long-term development plan known as Ofogh 1404 (2025 outlook). One of these needs is to move towards technologies that comply with IoT while taking distance from technologies that are associated with Web 2.0.

Keywords: ICT, virtual space, IoT, health, environment, intelligent systems

INTRODUCTION

This paper will provide arguments about the theoretical and documentary frameworks of Web 3.0 and the development of Internet of Things in Iran. We first need to explain that the widespread development of the Internet of Things (IoT) has taken place by the development of information and communication technologies and an expansion of ICT infrastructure. Omnipresence communication is possible by this new technology.

Today, "the internet has moved beyond the fixed-page (Web 1.0) model, passing through Web 2.0- known as social media networking- and moving toward Web 3, or the world of omnipresence processing" (Gubbi, et al. 2013, Abdollahyan, 1394 [2015]; Seyed Asgari, 1394 [2015]).

One of the current powerful technologies in the field of health and environment is placed in the domain of IoT, which uses semantic web. Internet of Things as one of the applications of Web 3.0 -with a layered architecture of semantic web- "ideally uses every route, network and service to connect to the internet at every time and everywhere, to everything and everybody. The Internet of Things is a new evolution of the internet representing an emerging area in which billions of smart objects across world are interconnected that use Internet for data and resource sharing. These smart objects are generally used to sense various parameters such as temperature, motion of objects, and occupancy from the environment where these are deployed. In the last instance, the values and data are transmitted to the nearest access points to take intelligent decisions. However, with an increased penetration of smart objects in our daily life, these objects may also participate in social events using machine-to-machine or human-to-machine interactions that reflect a situation better called as Social Objects. This new paradigm of interaction among social objects is referred to as Social IoT (SIoT) (Chahala, et al., 2020: 13). Now, SIoT can help us to solve the social issues in a more effective and precise way.

Internet of Things is a new technology that pays attention to the pervasive presence of the environment" (Ghasemi et al., 1395 [2016]: 156). To study such an area, the structure of this article has been adjusted to show what the relationship between the Internet of Things, environment and health is, and which strategies Iran needs in order to apply the effective role of the internet in the field of health and environment.

First we start with the Millennium Development Goals (MDGs): Its aims are to eradicate poverty and starvation; to achieve basic academic knowledge; to support gender equality and women's empowerment; to reduce child mortality and promote maternal health; preventing the spread of AIDS, malaria and other diseases; promoting environmental conditions and global participation in development (Spence and Smith, 2010). Also According to a recent mandate from the Sustainable Development Goals of the United Nations (UN) countries should aim to provide universal health coverage and access to quality essential healthcare services to their population by 2030 (Bonina and Scrollini, 2020). In 1800, the most distance between rich and developed countries, in one hand, and poor countries, on the other hand, was 1 to 3. However this distance has become very big today by the development of industry and advanced technologies, so this distance has reached to a large number of 1 to 140 (Jalali, 1383 [2004]: 10). This gives us enough motivation to pursue new technologies in various fields to fill this gap.

The research on digital poverty done in developing countries shows that these countries do not use the vast potential of the internet to advance their country, although Iran has some differences. For example, many Africans often use internet at the micro level such as exchanging e-mail messages and checking out entertainment sites, but they do not use the various capabilities of the internet for research, education, and business (Obijiofor, 2015). Using the internet for health and improving environmental conditions is also a neglected issue in developing countries. In Iran, using internet for entertainment purposes is more common than using it for other purposes. This is while if Iran does not keep pace with technological advances in the world quickly, it will face digital poverty in near future and will have a deep digital gap compared to developing countries.

Problematic of the research

Based on the criteria of economic development and the use of information capital, Iran is one of the world's developing countries and possesses lower technological integration than the so-called first world countries and newly industrialized ones. Nevertheless, Iran plans to join the process of sustainable development based on the development of Web and information capital. One way for all Iranians to have access to comprehensive, information is to use internet, which can be helpful in empowering people, fighting against poverty, and moving towards global progress and development and improving health and environmental conditions.

In this context and with an emphasis on communication and development theorists such as that of Manuel Castells, it can be argued that new information and communication technologies help various aspects of development and, in fact, there is an almost direct relationship between technology adaptation in developing countries and diminishing economic deprivation. Accordingly, understanding and using technology can be logically considered a solution for eliminating poverty, improving health and environmental conditions. Under current circumstances with regard to the development of ICTs, being away from state-of-the-art technologies will fuel the digital divide in Iran. Thus, by empowering Iran and using the new technological developments of

Web 3.0, the digital divide can be reduced, web-based education can be promoted, and universal access to public services can be raised, as already has happened due to pandemic circumstances that forced on line education. However, it should not be ignored that one of the most important development indicators is the environmental situation in Iran. Deforestation is one of the major environmental threats in Iran; there were more than 18 million hectares of forest in Iran in 1979, while FAO (2015), based on satellite images, estimated the area of Iran's forests to be only 7 million hectares. This means that about two-thirds of the forests have been destroyed in less than a quarter of a century. Based on the World Bank estimates, this causes a reduction of 5-10% in GDP. Indiscriminate hunting and overgrazing are other environmental problems in Iran which threat 91% and 82% of protected areas, respectively. Land use change (79%) and logging (55%) are other causes of environmental destruction in Iran. The major shortfall in the category of forest ranging is related to the environmental protection, because the area covered by each ranger in other countries is 3000 hectares, while this figure in Iran is about 7-8 hectares. By using the sensors of the Internet of things, rangers can be helped and further degradation of the environment can be prevented.

The result was the degradation of Iran's environment (and health issues), which led to a fall in Iran's rank in the field of environment in the period between 2008 and 2012, something that continued into year 2021. This is caused by several factors such as air pollution, the phenomenon of dust, and encroaching upon forests, meadows, etc. All the above figures can be minimized through monitoring health and environment indicator and a precise control of the Internet of things.

In line with the protection of Iran's environment, many items have been emphasized in the Sixth Development Plan, such as development and enrichment of forests, soil protection, curbing desertification, promotion of forest conservation, state and national lands and pastures, green management, comprehensive program of fighting against dust, improving drinking water operation system, and consumption productivity enhancement. However, the realization of these programs requires research-based planning, which will be dealt with in the present paper.

It should also be noted that by development, we mean providing a better life for all and sustainable development is one that helps to meet our today's needs without compromising the ability of future generations to meet their own needs. The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) set in motion the most ambitious global development agenda[1] (UN, 2017). It recognizes Science, Technology and Innovation (STI) as a key action area for the realization of the 2030 Agenda. Under its terms, Member States commit to set policies to incentivize the creation of new technologies and consider setting up innovation funds to support innovative enterprises (Dutta, et. al, 2020).

However, development has had devastating effects on the environment of Iran. To achieve sustainable development along with improving environment conditions, these damages should be reconstructed and further destruction must be prevented. This requires planning based on Web-oriented research through the Internet of Things that can also diminish the suffering of environment rangers who risk their lives to protect environment. The Internet of things (IoT) is an internet-centered data structure based on the semantic web, which can be beneficial in such a way to achieve sustainable development, especially in environment as well in health issues. In IoT, objects act as a ubiquitous information network and a basis for computations. Intelligent environments are able to recognize and identify objects and retrieve information from the internet. The objective of IoT is to give the ability to objects to communicate with each other everywhere and any time or with any device and network. IoT can manage and process current and past data, which leads to the improvement of environmental performance and awareness about natural disasters.

Developments made by IoT in the current situation are dependent on the control, which provides faster responses than items

[1] UNGA A/RES/70/1 Transforming our world: the 2030 Agenda for Sustainable Development.

achievable through the monitoring, and control. This prevents further destruction and damages to the environment. Another application of IoT in the environment relates to energy consumption. These sensors are used in homes for the dynamic adjustment of temperature and light and energy saving. Waste management is another environmental use of IoT. Specifically, for the industrial and commercial waste, by applying business rules based on recoverable data of IoT, waste is disposed, because industrial hazards are of special importance due to creating a threat to human health and the environment in Iran. The key point here is the participation of all members of society. Development of efficient and clean technology of IoT needs drastic changes in the behavior of people. For community and social participation in the development of environmental sustainability, it is necessary to influence them in order to reduce harmful behavior and change strategies and low-risk behaviors.

The rapid development and implementation of smart and IoT-based technologies have provided various possibilities in technological advancements to serve various aspects of life. The main goal of IoT technologies is to simplify processes in different fields, to ensure a better efficiency of systems (technologies or specific processes) and finally to improve life quality (Nižetić, et al., 2020). Technically, IoT architecture is based on information exchange tools, the most important of which is tagged items of RFID (Radio Frequency Identification). RFID is a method for collection of high-volume data for the database. RFID technology allows the possibility to store data in circuits of small portable electronic transmitters. Communication between the RFID tag and a sensor is established via radio frequency waves and the stored data will be registered without contact. RFID plays an important role in applications related to the green world and reduces the carbon footprint in the environment. In cities of many countries, there are more than thousands of trees with a RFID tag which pave the way for oversight. In fact, this technology is a promise that helps the proposal of new solutions for having a greener world.

The arguments here follow a number of objectives as follows:

1. The paper will first review the IoT methods that have been used in environmental areas in developing countries.
2. The paper will offer a comparative study of the most beneficial uses of IoT in the environment of Iran, considering its special climate.
3. the paper will use the data collected through interviews with experts in the field of environment, to categorize environmental issues of Iran in accordance to the Sixth Development Program and 1404 (2025 AD) Outlook. The results can be used for strategic policymaking both in health and in environmental issues. From the perspective of national experts, the Internet of things can be also used for the prioritization of the Internet of things.
4. The paper will outline a type of lifestyle based on sustainable development that is useful in fastening the achievement of development objective in Iran, bridging the digital divide between Iran and developed countries. Prevention of deforestation, drying wetlands and rivers, loss of animal species and farms using the careful monitoring and control of IoT technology will be one of the achievements of this paper, each of which will be studied in an order of priority. In our view, such development objective is intertwined with health issues too because deterioration of the environmental conditions can affect production of foodstuffs and their qualities which in turn can worsen health issues at the national level.

The concept of the IoT and some conceptual considerations

We will use the theory of social relations with nature (and health issues) and the theory of the environment and sustainability from Adams (2001), and Art van der Wal and Adams [2] (2015) in order to propose a new charter of action for sustainable development in Iran. Since the United Nations Conference on Environment and Development, held in Rio in 1992[3], the title "development" has become one of the most sensitive and important words

[2] Koen Arts, René van der Wal and William. M. Adams

[3] UNCED or "Earth Summit",United Nations Conference on Environment and Development

in the debates (Adams, 2001: 1-2). There are concepts behind this title; on the one hand, efforts to solve environmental problems, using ecological and natural sciences whose major concerns is with conservation of nature, and on the other hand, a general concern with solving the problems of poverty and misery in the Third World (Ibid: 51). Sustainable development is not a fixed and static concept, but it is a continuous and evolving movement towards compatibility and adaptation, during which the utilization of resources for investments and orientation of technological development is done in a way that can meet the potential and actual human needs. In this sense, human kind is the center of attention and this very concept encompasses all aspects of human life (Adams, 2001).

The Internet of Things is a global infrastructure for the information society and it is also the foundation of a growing network of physical objects or devices which have an IP address to connect to the internet. In such a way, communication is established between objects and other devices and systems that are activated by the internet. The Internet of Things allows the devices' operating system to communicate through the internet, people to objects as well as machine-to-machine (M2M) without human intervention (Information Technology Organization of Iran, 1394 [2015]). Internet of Things provides all technological requirements for a successful socio-economic transformation in developing countries. IoT is a low-power technology, so it is suitable for places with unreliable power sources. In addition, it does not require a high-speed internet network; nodes send a small amount of data and the servers can be local. It is also low cost and has an immediate impact on people's lives (Zennaro, et al, 2015; quoted from Zarei et al, 2015).

Each object has a unique address by the Internet of Things, which can interact to the others to achieve a common goal ultimately. IoT is the predominance of the distributed computing systems that provide significant compatibilities for collecting, processing and disseminating information (Miazi, 2015: 1). It uses wireless and wired communicative systems (Ibid). IoT has evolved from communicative platforms that enable internet access anytime and anywhere: a network, which makes everything possible by collecting and disseminating data in the physical world (Zennaro, et al, 2015). In short, we can define IoT as an integrated internet system that is compatible to dynamic global network infrastructure (Miazi, 2015: 1).

The history of IoT

Kevin Ashton first used the term "Internet of Things" in 1999 to describe a world in which everything (including people, animals, plants, and even inanimate objects such as machines) could have their own digital identity and allow computers to organize and manage them. The internet now connects all people, but IoT can connect all objects and they can be controlled and managed by the applications on smartphones and tablets (Ashton, 2009). The Internet of Things as a modern technology enables the data transmission through communicative networks, whether the internet or the intranet over everything like human, animal, or object (Chui, et al, 2010; Fox, et al, 2012). In fact, the Internet of Things is an approach that promotes the interactivity between object-to-object, object-to-human, and human-to-object, so new services will emerge by helping such an approach, (Mirandi et al., 2012).

Internet of Things (IoT) provides grounds for connection of people and things at any time, in any place, with anyone and anything, using any network and any service. Thus, IoT is a huge dynamic global network infrastructure of Internet-enabled entities with web services. One of the most important applications of IoT is the Smart Grid (SG) (Ghasempour, 2019). Smar Grid refers to increased penetration of smart objects in our daily life (Chahala, et al., 2020: 13) that makes smart societies. Internet of Things helps to develop smart city, smart transportation, smart building, smart energy (Zamani, et al., 1396), smart industry, smart health and smart life ... The applications of IoT can lead to increased health intelligence in the society (Ghasemi et al., 1395: 159-160). The Internet of things also provides the contexts of health improvement and disease prevention by continuous monitoring of the activities of individuals, weather normal or susceptible to disease (Vermesan & Friess, 2014). The applications of IoT can provide innovative services by increasing health intelligence for patients and those who need medical care. Therefore, in addition to improving the quality of life in the community, IoT can promote health, safety, easy access to emergency medical services, ongoing care and fast support (Ibid).

METHODOLOGY

This study takes an applied, descriptive, and explorative approach towards research that uses a documentary method and adding some data from some 55 interviews and surveys with environment experts in Iran. Here, almost all previous research materials on IoT and its usage in various fields of societal institutions have been gathered as necessary data to analyse them in comparative fashion with the results of interviews with environmental experts in Iran. Then all these material were studied and the most important applications of IoT in developing countries and Iran have been discussed and analysed as secondary data.

RESEARCH FINDINGS

The findings are offered in two sections: 1- findings related to the documentary studies 2- findings related to field and survey research.

The Usage fields of IoT

We did some semi-structured deep interviews to 10 environmental activists to know their opinions about using new technologies to improve Iran's environmental conditions. Documentary analysis and findings from interviews indicate that younger generations of Iranians are aware of the Internet of Things and that it can have a significant impact on the economic and social sectors, including education, health, agriculture, transportation and industry. Most values of the Internet of Things come from the production, processing, and analysis the new data. IoT and big data analytics can stand against major development challenges, including ones related to metropolitan areas, climate change, food security, and resource management. The potential of the IoT is proportionate to the existing ICT infrastructure and data processing capacity. While some IoT applications can run at low speeds and low-capacity connections, some can run at high capacity of bandwidth connectivity (Information Technology Organization of Iran, 1394 [2015]).

ICT infrastructure developments are accelerating the development of the Internet of Things, and it is expected they have a significant impact on all industries of our society. The world of the IoT is based on the ICT infrastructure, which is needed to collect, transmit and disseminate data as well as facilitating the provision of efficient services for a large community in the fields like health and education. The overall economic impact of the Internet of Things is profound. The Internet of Things offers high expectations in many sectors, including education, healthcare, agriculture, transportation, water and electricity, and manufacturing (Ibid.).

Other uses of the IoT include air quality monitoring devices for detecting pure particles, large-scale devices (such as agricultural health monitoring systems), climate monitoring devices, and energy management systems. Using these data provides many opportunities to improve the effectiveness of relief operations after the occurrence of natural disasters (Information Technology Organization of Iran, 1394). The other uses of the Internet of Things include "energy supply, water supply and sanitation" (ibid.).

Some applications of the IoT raised by Miazi (2015) are as follows:

- Aerospace and aviation industry in which the IoT promotes aviation safety and security;
- Intelligent Transportation Systems (ITC): This facilitates the current state of vehicle safety services and traffic management systems and also reduces road accidents;
- Pharmaceutical, health and medical industries: The IoT facilitates one-time diagnosis and emergency medical services in accidents by intelligent disease monitoring technology;
- Intelligent health care systems: Health monitoring assesses and predicts health issues and takes the necessary precautions. In developing countries, people often see a doctor when they are in the final stages of a cancer. IoT provides the methods of using e-health by cost-effective services for developing countries;
- Social security management: The conditions of developing countries indicate the lack of social security, especially for women. To get rid of such situations, a new general system of social

security networks must be provided (Miazi, 2015: 2-3).

All of the above affect the health of individuals and society indirectly. Therefore, the use of the Internet of Things in these areas leads to the promotion of health.

IoT for Iran and the developing countries

One of the advantages of the Internet of Things is low-power technology, which is suitable for places with unreliable power sources such as developing countries; IoT does not require a high-speed internet network. Low cost and immediate impacts on people's lives (Zennaro and Bagula, 2015) are other characteristics that make the use of the Internet of Things very suitable for developing countries.

Internet of Things (IoT) aims at connecting billions of devices and the IoT devices sense, collect, and transmit important information from their surroundings. This exchange of very large amount of information amongst billions of devices creates a massive energy need. To achieve a sustainable environment, Green IoT leads to reducing the energy consumption of IoT devices and making the environment safe (Arshad, et al, 2017). According to IERC European Research Cluster on the Internet of Things, there are three drivers for the development of the Internet of Things, including increasing economic prosperity, the quality of life, and environmental protection (Smith, 2012: 232). The above can be well promoted in Iran and developing countries using the Internet of Things. IoT applications also have many benefits for the Iranian population and other developing countries: the climate can be monitored, food safety is checked, water quality is analysed, air quality is assessed, and Earthquakes are studied. In addition, there are low-cost health kits for transportation to remote parts of the developing world to bridge the gap between urban and rural areas (Zennaro, et al, 2015).

In a few decades, food demand will increase 1.5- 2 times (Daily, et al. 1992). The situation is worse in developing countries. Natural disasters, lack of proper fertilization, overuse of chemicals and pesticides, and inefficient crop monitoring systems have endangered crop management systems (Miazi, 2015: 3); Quoted from Zarei, et al, 2015). Proper agriculture (PA) helps to develop appropriate methods for maintaining food security: improving crop planning, facilitating land management decisions, preparing accurate farm records, reducing the use of pesticides and fertilizers as much as possible, and finally reducing the environmental pollution (Miazi, 2015: 3). As we know, all of the above can promote health and prevent many diseases in Iran and developing countries.

Some of the interviewees emphasized that we are highly in need of modern environmental monitoring in Iran. The rate of air pollution, noise pollution, industrial pollution and the range of man-made environmental pollution in Iran are significant. Accordingly, regular and constant environmental monitoring is important to predict the climate change and natural disasters such as monsoon winds, floods, droughts, etc. In our country, systems must be cheap and maintainable (see Miazi, 2015: 3). Given the above, the high capacity of the Internet of Things can be used to prevent natural disasters, prevent endangering human health and avoid wasting a lot of money on the treatment of deadly diseases.

The Usage of IoT in the field of health

Iranians are aware that IoT technology has a variety of applications in the field of health. Applications of the Internet of Things in the field of health (smart health) include:

1. Fall diagnosis: This application focuses on the elderly and disabled and seeks to help them, so that they can live independently;
2. Observing the physiological condition of people (especially the elderly). In this case, data can be obtained from these people over time and analysed;
3. Medical refrigerators (internal temperature control of protectors): Some organic elements must be stored in containers with special (temperature) conditions. The Internet of Things can do it and create the objects interaction;
4. Athlete care: This application is used to measure weight, sleep, exercise, blood pressure and other important parameters for professional athletes;
5. Patient monitoring: It is used for in-hospital monitoring, remote or home care of patients (especially elderly);

6. Chronic Diseases Management: Caring the patients with chronic diseases, without presence. This technology reduces the attendance of people in hospitals, so it costs less.
7. Reducing hospital stays and commutes (even reducing fuel consumption);
8. Ultraviolet ray: Measure the ultraviolet ray and inform people not to enter certain areas or avoid exposure to ultraviolet ray at certain hours;
9. Pollution control (hand hygiene control): Connecting devices such as RFIDs designed to measure contamination in hand, body or environment;
10. Sleep control: Connecting devices to a person to detect the symptoms such as heart rate, blood pressure, etc. during sleep. Then this data can be analysed;
11. Dental health: Bluetooth-equipped toothbrushes that record individuals' brushing information by smartphone applications. So, a person's brushing habits can be examined by the data as personal information or the statistics can be shared with a dentist (Vermesan & Friess, 2014: 32-33); Quoted from Ghasemi et al., 1395 [2016]).

According to a research (Ghasemi et al., 1395 [2016]: 168), the priority of using the Internet of Things in the field of health is as follows: chronic diseases management, patient monitoring, infection control, fall diagnosis, dental health, ultraviolet rays, monitoring elderly physical activity, athlete care, sleep control and medical refrigerators. Since an approach towards disease-prevention is preferable to the treatment of diseases and all the above cases can be easily done using the Internet of Things. This is how people's health is monitored and improved by IoT.

The most important indicator for the sustainable development of the Internet of Things in the health sector is the economic success index with a weight of 52%, followed by an increase in quality of life with a weight of 45% and finally the environmental protection index estimated with a weight of 2.43% (Ghasemi et al., 1395 [2016]). Therefore, in the development of new technologies, including Internet of Things technology in the health sector, policy makers should focus on economic criteria, such as job creation, preventing the currency outflow, and income generation. After such needs are met, they need to pay attention to social criteria (such as increasing the welfare of patients and citizens, and increasing the satisfaction of medical staff in the use of medical devices). In addition, the environmental effects of these technologies (such as radiation, harmful radio waves, prevention of waste generation and wastewater) should not be forgotten (Ghasemi et al., 1395).

Iran Outlook 1404 shows that in order to be ranked first in the Middle East region, Iran must improve the quality of life (Iran Outlook 1404, 2015). This is something that a number of interviewees also referred to it.

For example, Iran ranks 76th out of 144 countries with an average of 73.8 in the life expectancy index (Schwab, 2014: 217). To achieve the first place in the region, Iran has a significant distance with Israel (Zarei, et al 2016: 436). Many IoT applications in the field of health, increase life expectancy, reduce infectious diseases, facilitate medical care for chronic diseases and for children, prevent dangerous diseases, improve the quality of life for the elderly and focus on monitoring the public health of the community (ibid) that helps the prevention of wasting money and time, and guarantees the health of people in the society.

Challenges facing IoT development in Iran

The IoT needs to interact to the other stakeholders outside the ICT sector (for example, car manufacturers, utilities, home appliance manufacturers, government offices and many other places) to meet expected needs. Gathering all these stakeholders together significantly adds to the complexity of IoT development, but it is a key factor to interact between all sectors (McKinsey, 2015; see also Miorandi, D., Sicari, Sellegrini, F.and Chlamtac, 2012).

Processing the big data generated by the Internet of Things requires bandwidth. Fixed broadband connection along with international internet bandwidth and sufficient backbone capacity are the most suitable options to meet this need. There are similar challenges in terms of data management and analysis for the other big data applications (Information Technology Organization of Iran, 1394 [2015]).

Other challenges facing the development of the Internet of Things include technical and financial challenges (Miazi, 2015: 3; quoted by Zarei, 2015) that should be fixed through policy-making and management.

RESEARCH FINDINGS THE SURVEY

This study uses two methodological approaches: quantitative and qualitative method. First, we look at the findings of quantitative study.

Our findings on the use of new technologies in Iran through this study and recent studies (Abdollahyan, Asadi, 1397 [2019]) show the increasing tendency of citizens to use new technologies. The findings based on the theoretical model of research prove it. The results of a significant coefficient show that the use of ICT has a relatively high impact on the growth of individuals' information capital. Also, the average impact of ICT on the variables of information capital (t=22/84), awareness (t=3/796), empowerment (t=7/869), and citizen participation (t=9/685) is high, which means that there is a high level of awareness about the use of ICTs in Iran. Structural equation modeling analysis also confirms these findings. The other findings include:

- The average impact of information and communication technologies on citizens' information capital (22.84) is higher than the expected average (18).
- The average impact of information and communication technologies on environmental awareness of citizens (25.62) is higher than the expected average (20).
- The average impact of information and communication technologies on environmental empowerment of citizens (26.40) is more than the expected average (24).
- The average impact of information and communication technologies on environmental participation of citizens (53.61) is higher than the expected average (48).

Research findings indicate that new technologies have a positive impact on increasing citizens' information capital. This is a basis for empowerment and participation of Iranians in improving the environmental situation in Iran, so that citizens' information capital has a positive impact on environmental sustainable development. ICTs create a double power for social actors to involve citizens in their social affairs, such as social health and environmental development.

The results of the structural equation model for the effect of ICT on the environmental compatibility of citizens show standard coefficient (β = 0.41) and significance coefficient (t-value= 5.61). Considering that, the significance coefficient of the above model is not outside the range of -1.96 to 1.96, it is concluded that ICT and environmental compatibility of citizens are correlated (with a positive correlation). On the other hand, considering the beta coefficient of 0.41, we conclude that for one unit of increase in standard deviation of using ICT, we have 0.41 standard deviation of increase in citizens' environmental compatibility. In addition, since the direction of this correlation is positive, the change is direct and increasing. In other words, whereas citizens' use of ICT increases, their environmental compatibility will be increased in a middle intensity. The result of the above findings is that new technologies have a positive effect on environmental compatibility of citizens. On the other hand, awareness of citizens can improve the quantity and quality of ecosystems and ultimately lead to sustainable environmental development. The findings therefore reaffirm the theoretical claim that citizens' environmental compatibility is increased by using ICTs.

In the qualitative part of this study, we interviewed environmental activists. The findings of the qualitative part are as follows:

On the impact of ICTs on citizen participation, environmental activists believe that the ICT infrastructure should be developed and the active presence of the private sector in the field of infrastructure should be supported. They also believe that by producing digital content, supporting information technology-based businesses, developing culture and training to use this infrastructure and developing access, and providing communication and information services, ICT can be used to improve the environmental development in Iran.

Environmental activists suggest using ICT to involve people in solving environmental problems, as follows:

- Development of cyberspace and environmental applications;
- Dissemination of environmental culture and environmental institutionalization in the society;
- Strengthening the social capital;
- Using the environmental instantaneous cameras and monitoring systems; and
- Equipping rangers with satellite and drone equipment.

Experts also proposed using some technologies to improve Iran's social status in the field of environment which the most important ones are monitoring and informative technologies, such as Internet of Things, VGIS (people-centred participation GIS), and RS (using the satellite data). Citizen participation, both in monitoring and using new technologies such as VGIS, applies the potential power of people to protect the environment.

People awareness of their duty in social issues, such as environmental protection and social health, is the first step suggested in this study. The direct correlation between awareness and the increase of social capital and information capital was proven, which creates trust and mutual understanding and it eventually leads to citizens' cooperation and participation.

As we mentioned, the theory of the environment and sustainability from Adams is used in this paper. This theory emphasizes on these concepts:

1. Sustainable development has become a central concept in development studies, building on environmental, social and political critiques of development theory and practice.
2. There is no simple single meaning of 'sustainable development': a wide range of different meanings is attached to the term. Far from making the phrase useless, it is precisely because of its ability to host divergent ideas that sustainable development has proved so useful and has become so dominant.
3. One reason for the complexity of concepts of sustainable development is the confused and contested meaning of development itself. The idea of sustainable development has gained currency in the 1990s at a time when development thought is widely held to have reached an impasse.
4. The use of the term 'sustainable development' reflects in particular the prominence at the end of the 20th century and the beginning of the twenty-first about the problem of acute global poverty and global environmental degradation. Although it is now acknowledged that these crises are linked, problems of environment and development are often addressed independently. They have to be tackled in an integrated way; the challenge of doing so is inevitably political. There are choices to be made between reformist and radical ideas about sustainability and development.

Studying the basic concept of sustainable development, Adams discusses the nature and extent of the 'greening' of development theory. He believes that 'sustainable development is essentially reformist, calling for a modification of development practice' (Adams, 2001). He attempts to draw a link between theory and practice by discussing the nature of the environmental degradation and the impacts of development. It argues that ultimately 'green' development has to be about political economy, about the distribution of power, and not about environmental quality.

Our findings fully support this theory. The issue of natural resources and environment has been always tied to politics, because the environment is rich in natural resources and power has been always trying to dominate the resources. Environmental activists believe that Iran's environment has been sacrificed to political issues and that environmental health has been ignored in order to make more money. Therefore, as Adams emphasizes on political issues for the preservation of the environment, in order to achieve sustainable environmental development, we need to start with politicians and the powerful to avoid using more resources.

Also, based on our findings, increasing the social and information capital helps to make mutual trust between people and government.

On the other hand, as presented in the quantitative data, increasing information capital leads to citizens' environmental compatibility. Therefore, the government and policymakers must first take the proper action to help increasing the social capital of citizens. In this way, the citizens will also be more active in preserving the environment.

CONCLUSION

Using the research findings, we could gain a great deal of knowledge about Internet of Things technology and know the innovative applications of the Internet of Things in various fields and, most importantly, in the field of health and environment.

Unfortunately, the Internet of Things has not received much support in Iran. On the other hand, only a few universities and research centres have realized the importance of it. The importance and potential of the Internet of Things in Iran has not yet been properly understood and the applications of the Internet of Things are limited to machine-to-machine communication or the development of technologies based on radio frequency detectors (Telecommunication Research Center of Iran, 1394 [2015]). Although the first IoT laboratory and educational and research platform was unveiled in 2015 at University of Science and Technology (Research Institute of Communication and Information Technology, 1394 [2015]), but many steps are still required to develop the IoT.

Based on a survey conducted at the Telecommunication Research Center of Iran, the healthcare industry has been identified as the main priority for the development of the Internet of Things in Iran (Telecommunication Research Center of Iran, 1394). However, no priority of IoT applications in this industry has been identified yet and it seems that the use of IoT technology in the healthcare sector needs to define and prioritize the application areas (Ghasemi et al., 1395 [2016]: 158). The various areas of health in which the use of the Internet of Things is essential should be identified and prioritized.

So far, no program or legislation has been proposed to develop IoT in the health industry as a selected one. The challenges of policymakers for the development of the IoT in various industries, including health, should be identified and the problems of IoT development should be fixed in Iran.

According to Adams’ theory of the environment and sustainability, our efforts to solve environmental problems and preserve the nature must be considered in conjunction to the poverty in the Third World simultaneously. Therefore, we must look for technologies which are also compatible with the economic situation of any given country, including Iran, while solving environmental problems. As mentioned earlier, IoT technology is a new evolution of the Internet that adapts to the low speed Internet and the lack of enough bandwidth in Iran, meanwhile it requires relatively reasonable costs to provide infrastructure. Therefore, it brings about the most adaptive technologies that are compatible with the conditions of Iran and it can be used in various fields such as health and environment. The combination of efficiency and low cost of this technology makes it the best option to solve environmental and health problems in Iran.

Adams, on the other hand, believes in the dynamism of the concept of sustainable development and the direction of technology development so that it can meet real human needs. As mentioned before, technologies derived from the Semantic Web- such as the Internet of Things- can reduce Iran's problems in important economic and social areas, so as to help preserve the country's natural resources and environment. There is also a critique of Adams' theory, on the ground that he sees human as the centre of attention, while this approach can lead to the destruction of environmental resources. We focused on the environment so that all creatures, including animals and plants, are in the spotlight and we do not sacrifice the other life forms in favour of human issues. Such an approach will help to have a healthy society and a sustainable environment that uses technologies in a way that does not lead to irreparable damage to nature. The Internet of Things is a clean technology while helping humans; also helps preserving and improving the environmental conditions.

SUGGESTIONS

First, Iran needs to create the foundations for Web 3.0 development. Lagging behind in this area is irreparable. In the development process, after strengthening the foundations of Web 3.0 development, it is necessary to conduct numerous researches in the fields of technology and social sciences for policy-making and long-term planning in the field of IoT application. One of the uses of the Internet of Things is to reduce poverty and improve health in the country; therefore, we need to make many efforts in this sector in various fields. Considering the priorities of IoT application, the results of using the Internet of Things in our country have been determined to take big steps towards the development of IoT by integrating various researches and studies.

FARSI REFERENCES

Abdollahyan Hamid and Zahra Asadi (1397 [2019]) The Impact of Information and Communication Technologies on Environmental Adaptation; Study of the attitude of environmental activists, *Interdisciplinary Studies in Humanities Volume*, Vol.11, Winter 1397 (2019) No. 1 (41).

Abdollahyan, Hamid (1394 [2015]). *The Future of Identity In The Light Of the Formation of Web 3.0 and Web 4.0, Identity Letter: Monthly of Identity Studies*, Institute of National Studies, second year, volume 2, number 16, July 2015, p. 26-29.

Research Institute of Communication and Information Technology (2015). *Opening of IoT laboratory in Iran University of Science and Technology*. Available at: http://iot.itrc.ac.ir/

Iran Information Technology Organization (2015). *The development of information and communication technology at a glance, the situation of countries in the world until 2015: According to the report of the Measuring the Information Society (MIS) 2015*. Center for Strategic Planning and Supervision of Information Technology of the Information Technology Organization of Iran.

Jalali, Ali Akbar (1383[2004]). Acquire productivity skills and optimize consumption pattern, in Jame Jam, No. 1303, dated 3/9/83.

Qasemi, Ruhollah; Ali Mohaghar; Hussein Safari; and Mohammad Reza Akbari Jokar (1395 [2016]). *Prioritizing IoT Technology Applications in the Iranian Health Sector: A Stimulus for Sustainable Development. Information Technology Management*, Journal of the Faculty of Management, University of Tehran, Volume 8, Number 1, spring 2016, pp. 155-176.

Seyed Asgari, Seyed Hadi (1394 [2015]). B.Sc. Thesis, *Social Media and Web Public Diplomacy 2.0: A Comparison of the Type of Communication Actions between the US and Iranian Diplomatic Apparatus in the Field of Web Diplomacy 0, 2 and Social Media*, October 11, 2014, Faculty of Social Sciences, University of Tehran.

ENGLISH REFERENCE:

- Adams, W. M. (2001), *Green Development: Environment and Sustainability in the Third World*. London: Routledge.
- Arshad, Rushan; Saman Zahoor; Munam Ali Shah; Abdul Wahid; Hongnian Yu (2017). Green IoT: An Investigation on Energy Saving Practices for 2020 and Beyond. Publishe: IEEE. Available at: https://ieeexplore.ieee.org/abstract/document/7997698/metrics#metrics.
- Arts, K., van der Wal, R. & Adams, W.M. (2015), *Digital technology and the conservation of nature*. Ambio 44, 661–673. https://doi.org/10.1007/s13280-015-0705-1
- Chui, M., Löffler, M. & Roberts, R. (2010). *The internet of things*. McKinsey Quarterly, 2: 1-9.
- Bonina, Carla and Fabrizio Scrollini (2020). *Governing Open Health Data in Latin America*. Chapter 11 in: Making Open Development Inclusive: Lessons from IDRC Research. Cambridge, Massachusetts: The MIT Press.
- Chahala, R. Kaur; Neeraj Kumar; Shalini Batra (2020). *Trust management in social Internet of Things: A taxonomy, open issues, and challenges*. Journal of Computer Communications: Volume 150, 15 January 2020, Pages 13-46. Available at:
- https://www.sciencedirect.com/science/article/abs/pii/S0140366419310953
- Daily, G. ; P. Dasgupta, B. Bolin; P. Crosson; J. du Guerny; P. Ehrlich; C.

Folke, A. M. Jansson; B.-O. Jansson; N. Kautsky; A. Kinzig; S. Levin; K.-G. Mler; P. Pinstrup-Andersen; D. Siniscalco; and B. Walker (1992). *Food production, population growth, and the environment*. Science, vol. 281, no. 5381, pp. 1291–1292. [Online]. Available at:

- http://www.sciencemag.org/content/281/5381/1291.short.
- Dutta, Soumitra, Bruno Lanvin, and Sacha Wunsch-Vincent Editors (2020). *GLOBAL INNOVATION INDEX 2020: Who Will Finance Innovation?* Published by WIPO.
- Iran Outlook 1404 (2015) [Online] http://www.vision1404.ir/fa/News48.aspx (Accessed 15 April, 2015).
- Fox, G. C., Kamburugamuve, S. & Hartman, R. D. (2012). *Architecture and measured characteristics of a cloud based internet of things*. In Collaboration Technologies and Systems (CTS), 2012 International Conference on. pp. 6-12). IEEE.
- Ghasempour, Alireza (2019). *Internet of Things in Smart Grid: Architecture, Applications, Services, Key Technologies, and Challenges*. Available at: https://www.mdpi.com/2411-5134/4/1/22.
- Gubbi, J., Buyya, R., Marusic, S. & Palaniswami, M. (2013). *Internet of Things (IoT): A vision, architectural elements, and future directions*. Future Generation Computer Systems, 29(7): 1645-1660.
- McKinsey & Company (2015). *The outlook for global growth in 2015*. Available at: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-outlook-for-global-growth-in-2015
- Miazi, Md Nazmus Sakib, Zenville Erasmusz, Md. Abdur Razzaque, Marco Zennaroy and Antoine Bagula (2015). *Enabling the Internet of Things in Developing Countries: Opportunities and Challenges*. Available at: wireless.ictp.it/Papers/IoT_Developing.pdf
- Miorandi, D., Sicari, Sellegrini, F.and Chlamtac, I. (2012). *Internet of things: Vision, applications and research challenges*. Ad Hoc Networks, 10(7): 1497-1516.
- Nižetić, Sandro; Petar Šolić; Diego López-de-Ipiña; González-de-Artaza; Luigi Patrono (2020). *Internet of Things (IoT): Opportunities, issues and challenges towards a smart and sustainable future*. Journal of Cleaner Production Volume 274, 20 November 2020, 122877. Available at: https://www.sciencedirect.com/science/article/abs/pii/S095965262032922X.
- Obijiofor, Levi (2015). *New Technologies in Developing Societies, From Theory to Practice*. First published 2015 by Palgrave Macmillan.
- Schwab, K. (2014). *The Global Competitiveness Report 2014–2015*. World Economic Forum, ISBN-13: 978-92-95044-98-2.
- Smith, I.G. (2012). *The Internet of Things 2012 New Horizons [online], European Research Cluster on the Internet of Things*, Halifax, UK, http://www.internet-of-things-research.eu/pdf/IERC_Cluster_Book_2012_WEB.pdf (Accessed 16 April, 2015).
- Smith, Matthew L. and Ruhiya K. Seward (2020). *Making Open Development Inclusive: Lessons from IDRC Research (International Development Research Centre)*. Cambridge, Massachusetts: The MIT Press.
- Spence, Randy and Matthew L. Smith (2010). *ICT, development, and poverty reduction: Five emerging stories*. Information Technologies & International Development, 6(Special edition), pp. 11–17.
- United Nations (UN). Economic and Social Council. 2016. *Progress toward the Sustainable Development Goals:* Report of the Secretary-General, E/2017/66, 11–12. Reissue June 2017. http://www.un.org/ga/search/view_doc.asp?symbol=E/2017/66&Lang=E.
- Vermesan, O. & Friess, P. (Eds.). (2014). *Internet of Things-From Research and Innovation to Market Deployment*. River Publishers.
- Zamani, Mahmoud; Reza Ghorchi Beigi and Ruhollah Ghasemi (1396). *Identify IoT Requirements and Applications in the Banking*

Industry Based on International Experiences. Presented at the 7th National Conference on Electronic Banking and Payment Systems (Tehran).

- Zarei, M., Alambeigi, A., Karimi, P. and Zarei, B. (2015). *What drives mergers and acquisitions waves in developing countries? Evidences from Iranian banking industry*. Iranian Economic Review, Vol. 19, No. 2, pp.123–137.
- Zarei, Mohammad; Ayoub Mohammadian and Rohollah Ghasemi (2016). *Internet of things in industries: a survey for sustainable development*. Int. J. Innovation and Sustainable Development, Vol. 10(4), Pp. 419-442.
- Zennaro, Marco and Antoine Bagula (2015). *IoT for Development (IoT4D)*. Available at: http://iot.ieee.org/newsletter/july-2015/iot-for development-iot4d.html

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A COMPARATIVE ANALYSIS OF THE PRIMETIME SHOWS OF PUBLIC AND PRIVATE NEWS CHANNELS IN INDIA

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ABSTRACT

This research article attempts to understand the primetime broadcasting of the public and private broadcasters in India. In this present study Researchers have analyzed the 32 hours news content, 60 different type of news programs of three selected news channels. This study examined the news coverage topics and program format of public service broadcaster (PSB)*DD News* and private news broadcasters *Times Now* and *India Today* during the primetime. To conduct this study six-month content of the selected news channels were recorded by constructing a week for two hours 8pm to 10pm during primetime. All the news stories and program formats were the unit of analysis for the study. The findings through ANOVA and Post Hoc Turkey HSD test shows that there is a significant difference between the news coverage of public service broadcaster and private broadcaster in India. The selected channels are differing to each other in terms of news program production. Public service broadcaster has the maximum share of news count in its programs and follows news bulletin format the most. Whereas private news broadcasters have less share in news count and tries to emphasis on important issues and present the news accordingly.

Keywords: Primetime, News Coverage, Programme Formats, Public Service Broadcaster, Private news broadcaster, Television News

INTRODUCTION

TV nowadays has developed as a major source of news and current affairs in India. Newspapers and news channels set public agenda of the country. TV news programs plays a major role in determining audience psychological perception of reality and news is a good technology for influencing people's belief in our preferred manner (Afghahi & Sadat, 2014). Most of the people frequently watch primetime news and debate shows (V, 2014) Primetime is the most valuable, significant and precious time for the news channels in terms of viewership and its economics. The document of Ministry of Information and Broadcasting (MIB), Government of India (GOI) reveals that every second television channel in India is a news channel (*Broadcasting Documents MIB, GOI*, 2018). Having a population of over 1.37 billion (*India Population,2020)* and around 197 million households with television sets[1]Television has a great impact on people. It makes this research significant to study the content of Indian TV news broadcasters.

Unesco(2008) defines Public Service Broadcasting as "PSB is broadcasting made, financed and controlled by the public, for the public. It is neither commercial nor state-owned. It is free from political interference and pressure from commercial forces. Through PSB, citizens are informed, educated and also entertained. When guaranteed with pluralism, programming diversity, editorial independence, appropriate funding, accountability and transparency, public service broadcasting can serve as a cornerstone of democracy." Its main role is to inform the public (Picone & Donders, 2020) about the

[1]EY report- 2019 Federation of Indian Chambers of Commerce and Industry, Published in *Annual Report 2018-19,* TRAI-2020.

topics of public interest in accordance with professional reporting standards(Ružić, 2020).On the other hand Private news broadcaster are the television news channels which are run and owned by private companies, groups or individuals for commercial purposes and profits.

The journey of television in India initiated in 1959 when the first transmission of India was on-air as an educational project (Singhal, A., & Rogers, 2001) and on an experimental basis with the backing of broadcasting equipment by Philips (India) company and a funding of 20,000 US dollars by UNESCO (Kewal, 2000; Ninan, 1995; Vilanilam, 2004). Television broadcasting in India began in a makeshift studio of national broadcaster *All India Radio* (AIR) and the television sets were first installed in the homes of high level officials and ministers (Khandekar, 2013) and in the year 1976 giving it a distinct identity as *Doordashan* (DD) it was separated from AIR (*About Doordarshan | Doordarshan*, n.d.). Till90's DD enjoyed the monopoly over television market in India, but this domination broke after the implementation of new economic reforms in 1991.

In 1991, India was confronting a serious financial crisis when the nation's foreign exchange stock went down to short of what one month's import bill. To tackle this crisis then government brought the liberalization policy. India took a huge loan from International Monetary Fund (IMF) and agreed to its condition to open Indian markets to overseas rivalry and venture. This progression of globalization caused in de-regulation of the television market in India (Rodrigues, 2010).

The television has now developed as one of the most gainful businesses in India (Roy, 2011). Once, television broadcasting market was ruled by DD in terms of popularity, reach and access, but after 1991, the segment was opened for private sector was then opened to the international media houses. That was the beginning of the making of a global media market in India. The country which started her journey of television broadcasting in a makeshift studio with 20 minutes of airtime twice a week (Kewal, 2000) only , it has become one of the largest television broadcasting industry in the world. India stands second (Rotheray, 2010) just after China in terms of largest TV market and number of private satellite Television channels has increased from 524 in the year 2010 to 902 in the year 2019 which are being beamed in different languages (TRAI, 2020). According to the report of Ministry of Information & Broadcasting, Government of India (2018) presently 367 news channels are functioning in India and presenting news round the clock. These news channels are delivering news content nonstop according to the policies, focus area and target audience (Dewal and Kumar, 2017).

LITERATURE REVIEW

The primetime evening broadcasts have usually been considered significant in terms of viewers ratings and their impact on the images of networks (Bae, 2000b). The reason behind this is that maximum numbers of individuals tend to watch TV when they are at home and free after their routine work. This is the main reason for high ratings of TV programs at this time and grab the interest of advertisers (Ahmed & Osmani, 2014). Primetime television is the segment of daily broadcast time when most of the viewers are watching TV. Conventionally, it stars from 8 pm and ends at 11 pm in the midnight during weekdays, Monday to Friday (Nielsen, 2011). It is a query of content and the convenience of a big segment of the viewers in front of the television. Consequently, by meaning it is post evening hours (indiantelevision, 2016).

The most popular media (Geniets, 2010) having round the clock news stations countrywide and locally across the country and their live inclusion potential, TV nowadays has developed as a major source of news and current matters in India. Newspapers and news channels set public agenda of the country- provincially and nationwide- for legislative issues, the administration and even markets. The content of news media in certain regards effect markets and mirror the disposition of the country, concern of representatives, priorities of the administration of the day (Rao, 2016). TV news programs plays a major role in determining audience psychological perception of reality and news is a good technology for influencing people's belief in our preferred manner (Afghahi & Sadat, 2014). Most of the people frequently watch primetime news and debate shows (V, 2014) and it touches people as well as their regular lives (Ahmed & Osmani, 2014). All the news broadcasters try to grab the attention of the viewers during primetime by showing their best programs or are expected to get popular (N, Chanakya C N. & Narasimhamurthy, 2019). Therefore, the present study is an attempt to investigate the content of television news broadcasted by Public Service Broadcaster of India and top rated English private news channels of India on prime hours.

Hudíková et al., (2020)examined hybridization of news on public TV broadcaster *RTVS* and two commercial news broadcasters *Markiza*and *TA3* in Slovakia. The study attempted an analysis of 967 news reports and ''current affairs elements'' in the news stories broadcast in three news programs during primetime over a two-week period. The researchers revealed that public news broadcaster broadcast news related to *Politics* more than the private news channels. Private news station *Markiza* took the lead in presenting news reports of *Economics* in its coverage during primetime. The news of *Sports* was covered by public broadcaster only. The commercial TV station *TA3*reported less news in numbers as compared to other selected news channels.

Arbaoui et al., (2020) studied sensationalism in news reporting of public and private television stations. The researchers performed a content analysis of a sample of 29 daily newscasts from 14 television systems in Canada, France, Belgium, Germany, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Switzerland, Turkey, and the United Kingdom. Total 812 newscasts and 13444 news stories were examined. The results of the study revealed that private channels report and give preference to sensational news more often than public broadcaster. Both types of broadcast channels apply sensational formal features equally in their news reporting.
Garg (2016) reveals that, in India, news like national politics, film and entertainment, crime and sports occupies almost half of the entire prime time and the share of important news like education dropped from 1.10 percent in 2005 to 0.69 per cent in 2013 of entire prime time. Even news coverage related to Health; Science and Technology; Agriculture also saw a drop in 2013.

Panda & Tripathi (2016) while studying primetime news content of public service broadcaster, *DD News*, and private news channel, NDTV 24*7, for one week at 9 PM, found that *DD News* presented 79.7 per cent (67 stories) of the total news stories covered by both the news channels whereas NDTV 24*7 covered on 20.2 per cent (17 stories) of the total news stories covered. *DD News* presented the news stories more than NDTV 24*7 in the form of package. International issues covered in panel discussion on *DD News* was more than NDTV 24*7.

Afghahi & Sadat(2014) compared the content of *ShabakeKhabar (Iran)* and *TRT Turk (Turkey)* and found that Iranian news channel gave preference to news related to "political violence" and Turkey's news channel was tilted towards news of "foreign relations". Both the channels gave equal coverage to news with subjects related to human rights, crime, and judicial affairs. Their finding shows that *ShabkeKhabar* highlighted the issues related to business and economics, and religion. On the other hand, TRT Turk covered the news associated with any event, "art, culture and entertainment" regularly.

Angela & Stella(2011)studied the world news on *CNN* and *Channels TV* over a period of 6 weeks for one hour daily and revealed that both the channels give more importance to political news. *CNN* covered 27.2 per cent news stories on political issues out of total news covered by CNN. Whereas Channels TV covered 32.1 per cent of total news on political issues. Stories related to crime broadcasted on *CNN* and *Channels TV* stood on second place with 25.5 per cent and 20.4 per cent of total coverage respectively. News related to economics, sports, science and technology, education etc. were given little coverage.

Singh(2015) in his study on primetime television news of three private news broadcasters reveals that Indian news channels covers news related to "Politics" more prominently and stories related to Sports/Cricket, and international issues are given equal importance[2]. Environment related news were not covered in the 224 hours of the sample size of news programming. Crime news was given more preference by IBN 7 (11 percent).

Rodrigues (2005) investigated the content of the primetime news programs of The Indian public service broadcaster, *Doordarshan*, and a television network based abroad, Star News. The study was carried out using a constructed week sampling method over a period of one year. The researcher found that stories related to "politics" were given more attention than any other stories. *Doordarshan* covered 45.5 per cent stories of politics whereas Star covered 34.9 percent political stories. In case of stories related to sports, Star gave more importance (19.5%) than *Doordarshan* (10.6 %). Star presented its stories in the form of Package more than *Doordarshan* whose 49 % of stories are presented by anchor with visuals.

Natarajan & Xiaoming(2003) while focusing on investigating the content of Asian evening news bulletins of *Channel news Asia* and *CNN* for four weeks over a period of six months found that both the channels focused on crisis and conflicts of Asia. The most news covered by *CNN* were related to Politics (33.5 per cent) and *CNA* gave more preference to the stories related to War & terrorism (26 per cent) and Politics was covered in 24.4 per cent of news. Finance, Accident and Crime related topics were also covered by both the channels heavily.

Bae(2000) examined the content of different primetime evening newscasts (6.30pm to 11 pm) on *CNN, FNC, MSNBC, ABC, CBS* and *NBC* over a ten-week period forming two constructed weeks. The result of the study reveals that the stories related to Crime/Court was covered prominently and consistently by all the six channels.

Kirat(1995) studied the flow of international news on the evening newscasts of the BBC and CBS and found that both the networks covered the news which were crisis and non-political oriented in nature. News related to other category and sports category did not find time on their screen.

[2] 5.5 percent of the total news stories covered by each channel (*AajTak, NDTV India, and IBN 7.*

While investigating foreign news coverage on U.S. television the researchers (Hester, 1978; Weaver et al., 1984) concluded that news topics corresponding to human interest, important personalities, arts-culture-entertainment, race relations, education, Science and Health, and agriculture received very little coverage during the evening television news broadcast and news topics related to foreign relations, internal politics, military, and crime-terrorism received more attention by the TV news channels.

In a major advance in 1970, Almaney analyzed the evening news bulletins of ABC, CBS and NBC of U.S. over a period of four weeks and concluded that the topic of domestic affairs was the dominant element in the news coverage. For international and foreign affairs, Almaney refers to a point which he called the "Crisis" point. When issues cross that point the news is more likely to be covered and the events which remains below that point are "scarcely reported".

Significance of the study:
In summary, the present literature shows that news channels give more importance to news related to Politics, Crime, and business more often. And a very little attention has been given on the issues like environment, social issues, education, science & technology, agriculture etc. The present study is an investigation of public service broadcaster of India *DD News* and two top ranked English news channels of India.

There is considerable amount of literature on television news content. There is a literature gap in these studies. The key problem with much of the literature on the issue is that more emphasis is given on news stories and little research has been conducted on formats of the news programs. Another key problem with much of the literature on news investigation is that of news categories. Previous studies outlined few news categories and investigated. In the present study, researchers have investigated diversity of news content, news programs formats and other variation in prime-time broadcasting.

Research Questions: Formulation of the research problem is essential to move in a particular direction, to identify, select and analyze an appropriate research problem to get a meaningful answer.

RQ1: How Indian news channels (private and public service broadcaster) covering news in their prime time and shaping the ideology and habits of the viewers?

RQ2: How much diversity is there in news content of Indian TV News Channels (Public and Private Service Broadcasters) ?

RQ3: What type of news program formats have been used in the prime-time television news shows of Public and Private Service Broadcasters in India?

Hypotheses:
1. There is difference of news coverage between public and private broadcasters.
2. Prime time news program formats are different in news channels.

RESEARCH OBJECTIVES

Media persons and Media Educators are worrisome about the changing patterns of the content and formats in Indian TV Industry, Majorly, they observed a huge significant difference in the content and formats of Public and Private Broadcasters of India. These laymen observations strongly urging the scholars and research to come up with a strong empirical base, or to test these assumptions. The way Indian New Channels, shaping the ideology and habits of the viewers, motivates us to analyze and study this phenomenon; how Indian news channels (private and public service broadcaster) covering news in their prime time and shaping the ideology and habits of the viewers? How much diversity in news content and what type of news program formats they are using in their prime time? The aim of this is to understand the various formats of television news being presented on prime time.

METHODOLOGY

After a rigorous literature review, researchers have understood that to test empirical test this phenomenon or research problem it demands, a quantitative analysis approach, to appropriately meet the objectives of the present research study researchers have adopted for the content analysis method, empirically. The news channels *DD News*, *India Today* and *Times Now* have been selected, by keeping in view that *DD News*Asia Public service broadcaster of India which claims to give balanced, fair and accurate (*DD News*, n.d.), whereas news networks *Times Now* and *India Today Television* are 24 hour private commercial networks operated in India. Both the channels have been rated first and second[3] respectively in Television Audience Measurement (TAM) weekly ratings by Broadcast Audience Research Council of India (BARC), the largest TV audience measurement system of its kind in the world.[4]

Sampling Procedure

The present study covers a period of six months in 2017-2018. Riffe et al., (1993) in a study of about the effectiveness of random, consecutive day and constructed week sampling in newspaper content analysis found that "for a six months of editions, one constructed week was as efficient as four". We also adopted the same method of one constructed week sampling for the present study and spread it over six months of period.

As noted by Rodrigues(2005) "it is not a common practice for television channels to provide data to academic researchers", so we decided to record the newscasts/programs of selected TV channels to collect the data for analysis. For our study, we selected the two hours of primetime slot (8 pm to 10 pm) of selected TV news channels. As we were not focusing on any single issue covered by different news channels on a single day, we recorded the data for each channel separately. First, we formed a constructed week for each selected channel. We started recording the data from Saturday, 9th September 2017 and the first day was devoted to *DD News.* We dedicated the next date 10th September (Sunday), 2017 to *Times Now* and 11th of September (Monday), 2017 was given to *India Today* Television (till then it was known *India Today*). Following the same pattern and spreading it over a period of six months the following days mentioned in Table 1 were chosen systematically.

[3] BARC "Weekly Data", 27 January 2017, 3rd February 2017 and 9th February 2017. http://www.barcindia.co.in/statistic.aspx
[4] About us, BARC, https://www.barcindia.co.in/about-us.aspxaccessed on 12/7/2020

Table 1: Channel wise distribution of days of constructed week.

Channel	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
DD News	12th Feb. 2018	31st Oct. 2017	17th Jan. 2018	5th Oct. 2017	22nd Dec. 2017	9th Sept. 2017	26th Nov. 2017
Times Now	27th Nov. 2017	13th Feb. 2018	1st Nov. 2017	18th Jan. 2018	6th Oct. 2017	23rd Dec. 2017	10th Sep. 2017
India Today	11th September 2017	28th November 2017	14th February 2018	2nd November 2017	19th January 2018	7th October 2017	24th December 2017

Table 1 shows that by constructing a week for data collection, each channel got a chance to be recorded on each day of week including weekends and each channel got the representation of each month of six months i.e., from September 2017 to February 2018.

Researchers kept news stories as the unit of analysis for the evaluation of the content of the news bulletins/programs aired during the sample period. The news story was defined as a topic prefaced by the anchor, which is usually followed by a video report presented or submitted by the reporter. Stories which did not have any reporter and were credited in the voiceover as '*Bureau Report'*; and a story narrated by Anchor without visuals and graphics were also considered under the category of news story in the present research. Voiceover was defined as the male or female voice which was a part of the narration and was heard over the visuals during the story.

The starting point of a news story was considered from the beginning point of the Anchor Link followed by the actual story reported by reporter or bureau and the beginning of the anchor link of a different story was considered the end point of the first story. Anchor link was defined "as that part of news which is read or delivered by an anchor" (Kalra, 2012). After the completion of the news story if anchor said something about the previous story (Anchor Tag) was also considered a part of the same news story. Differentiation of two news was made based on separate Anchor Links.

The categories of the news stories (topics) for the investigation were developed which was a mix of various previous studies (Bae, 2000a; Budd, 1964; Kumar & Sahu, 2011; Schmitt & Soderlund, 1982; Yu, 1997)with few amendments: Politics; Terrorism; Crime/ Corruption; Police/Intelligence Agency; Demonstrations/Protest; Military and Defence; Natural Disasters; Science & technology; Science & technology; Weather/Rain; Environment/Wild Life/Forest; Health, Hygiene and Social Issues; Education; Transport issues; Economics/ Trade and Business; Sports; Culture and Tradition; Life style/Fashion; Travel and Tourism; Celebrities; Films and Television; Human Interest; Religion/Ethnic Issues; Human rights; Development; Court/ Judicial System; Foreign Affairs/Bilateral Ties/Visits/ Foreign Policy; Agriculture and Farmers; Literature; Peace; Accident; Law and Order; Government and other.

News stories were covered in different programs by the selected news channels and these programs were defined as:

1. News Bulletin; program which consists of more than one news and the news are introduced by the news presenter(s).Sometimes a news bulletin can be of one single issue which consists of different news stories with diverse viewpoints/angles on the same issue.
2. Debate/Discussion; it refers to a genre of news program comprising a variety of guests. In this genre the anchor or anchor woman/host/moderator first provides the background of the issue to be debated, then asks the invited guests to comment on the issue. The guest speaks either in favour of the issue or against the issue. Participating may be political commentators, experts on various subjects, senior journalists,

3. Rapid News (Speed News); refers to news programs with short news of few seconds without anchor link. The speed of the voiceover is faster than the routine news presentations. These may be presented by an anchor or without.
4. Documentary/Special Program; refers to a programme on a particular single issue and different aspects of that issue are presented in a form of documentary.
5. Interview; refers to a programme that have an Interviewer (Anchor) and an Interview. Anchor asks different questions to the present guest for the interview.
6. Other; this category refers to a program which cannot be included in one of the above categories.

News stories were coded and examined as news topic, duration and formats of the news programme. News presented in headlines, Teasers, promos were not included in the study.

In order to test the hypothesis and examining the variability amongst the means and compare it against the variability within each group we applied ANOVA test.

Table 2 :Percentage of Total News Stories Covered by News Channels

Content Category	*DD NEWS* (Public Broadcaster)	*TIMES NOW* (Private Broadcaster)	*INDIA TODAY* (Private Broadcaster)	TOTAL
Politics	11.1%	3.5%	6.0%	20.6%
Terrorism	3.3%	1.6%	2.5%	7.4%
Crime/Corruption	6.8%	4.1%	4.7%	15.7%
Police/Intelligence Agency	0.6%	--	--	0.6%
Demonstration/ Protest	0.4%	0.4%	0.4%	1.2%
Military and Defence	2.9%	1.2%	2.5%	6.6%
Natural Disaster	0.6%	--	--	0.6%
Weather/Rain	1.4%	--	--	1.4%
Environment/Wild Life/Forest	0.8%	--	--	0.8%
Health, Hygiene and Social Issues	0.6%	--	0.2%	0.8%
Education	0.4%	--	0.8%	1.2%
Economics/Trade and Business	8.7%	--	1.0%	9.7%
Sports	4.1%	--	0.2%	4.3%
Travel and Tourism	1.6%	--	--	1.6%
Celebrities	--	--	0.2%	0.2%
Films and Television	0.4%	0.2%	1.0%	1.6%
Human Interest	2.5%	--	0.6%	3.1%
Religion and Ethnic Issues	0.8%	1.0%	0.2%	2.1%
Development	3.1%	--	--	3.1%
Court/ Judicial System	1.6%	--	--	1.6%
Foreign Affairs/Bilateral Ties/Visits/Foreign Policy	5.8%	0.2%	0.4%	6.4%
Agriculture and Farmers	1.2%	--	0.4%	1.6%
Other/ Miscellaneous	1.2%	--	1.0%	2.3%
Literature	0.6%	--	--	0.6%
Peace	0.2%	--	--	0.2%
Accident	0.2%	--	0.4%	0.6%
Law and Order	1.0%	0.2%	--	1.2%
Government	2.5%	--	--	2.5%
Total	100%	100%	100%	100%
(n)	314	61	110	485

Findings Analysis and Testing of Hypotheses:

In total, 485 news stories broadcasted by *DD News*, *Times Now* and *India Today* and a total duration of 1,16,811 seconds (about 32 hours) were recorded and content analysed. Table no.1 shows the total number of news covered by all the three selected channels and the percentage also. The Public Service Broadcaster *DD News* covered most of the news topics, 314 topics; Private Broadcasters *Times Now* and *India Today* covered 171 news topics; 61 and 110 respectively.

The major share of news subjects fell within two categories: *Politics* and *Crime*(20.6% and 15.7% respectively).*DD News* covered 11.1% of its total news related to politics and 8.7 % news on Economics/Trade and Business issue.

The Private Broadcaster *Times Now* emphasized more on the topics related to Crime (4.1 %) and Politics (3.5%) whereas *India Today* shared 6.0% of its total news related to *Politics* and 4.7% of news were related to Crime.

The graph above also shows the comparison between public and private news channels. The public news broadcaster *DD News* covered the maximum news content categories as compared to its counterpart private news channels. To check the differences of news coverage between the independent variables we applied the One-Way ANOVA test and found the following as table 3 & 4:

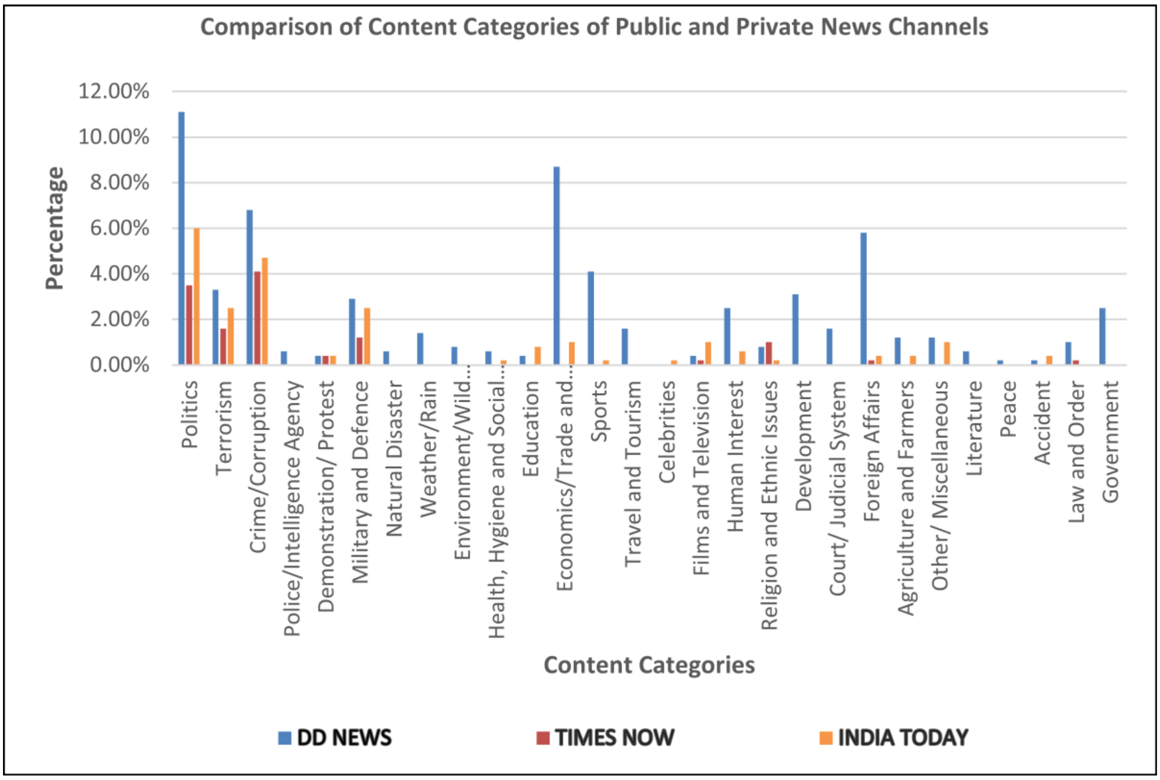


Table 3: Descriptive analysis of variance of news coverage difference of the news channels

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
DD News	314	14.0287	11.44074	0.64564	12.7583	15.2990	1.00	38.00
Times Now	61	5.4590	7.74074	0.99110	3.4765	7.4415	1.00	37.00
India Today	110	8.1636	9.80313	0.93469	6.3111	10.0162	1.00	36.00
Total	485	11.6206	11.17943	0.50763	10.6232	12.6181	1.00	38.00

Table 4:ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5451.250	2	2725.625	23.869	0.000
Within Groups	55038.944	482	114.189		
Total	60490.194	484			

The test reveals that there is a statistically significant difference of news coverage between the levels of independent variable ($F_{2, 482}=23.869$, $p<.001$)therefore hypothesis 1, there is difference of news coverage between the selected news channels, was supported. After getting the statistically significant difference we conducted a Post Hoc test to find where the exact difference was, and we found the following as table 5

The results of post hoc Turkey HSD test states that there is a highly significant difference (p<0.001) between *DD News, Times Now* and *India Today* and there is no significant difference (p>0.05) between the coverage of *Times Now* and *India Today*.

News Program Formats

Table 6 shows that all the three selected news channels there were 61 programs were aired during the sample period on primetime. Public Service Broadcaster *DD News* adopted News Bulletin program format (81.8%) the most to broadcast news and Rapid News was the second format (18.2%) *DD News* adopted. Private Broadcaster *Times Now* adopted only one single program format i.e., Debate & Discussion (100%)and the other Private Broadcaster *India Today* gave news in News Bulletin (36%), Debate & Discussion (28%), 20% in another category. *India Today* also adopted Documentary and Special Program format; and Interview also (12% and 4% respectively).

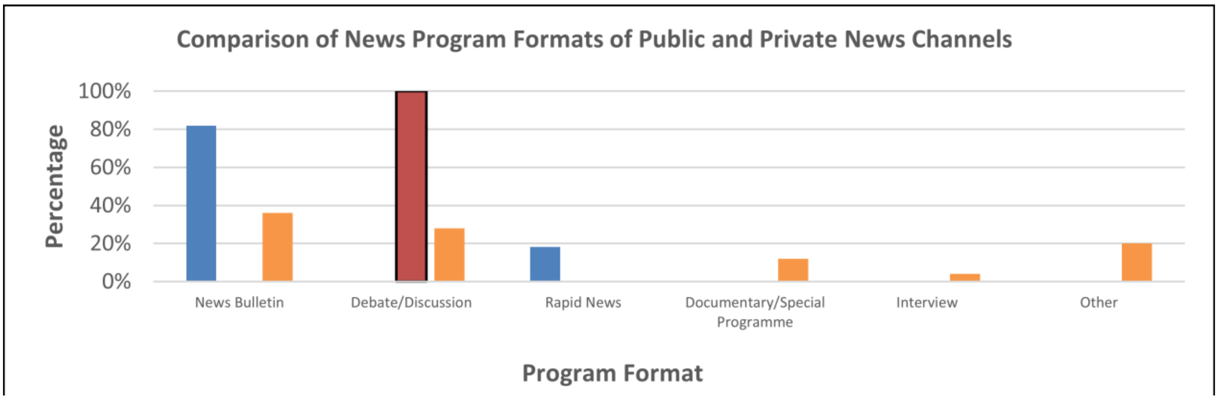
The graphical representation of the comparison between public news broadcaster and private news broadcaster in terms of news programme format is also shown through the graph below.

Table 5: Post Hoc Test Turkey HSD Multiple Comparisons of News Content Coverage

(I) Name of the Channel	(J) Name of the Channel	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
DD News	*Times Now*	8.56965*	1.49519	0.000	5.0545	12.0848
	India Today	5.86503*	1.18395	0.000	3.0816	8.6485
Times Now	*DD News*	-8.56965*	1.49519	0.000	-12.0848	-5.0545
	India Today	-2.70462	1.70588	0.253	-6.7151	1.3059
India Today	*DD News*	-5.86503*	1.18395	0.000	-8.6485	-3.0816
	Times Now	2.70462	1.70588	0.253	-1.3059	6.7151
*. The mean difference is significant at the 0.05 level.						

Table 6 :Percentage of News Program Formats on Indian News Channels

	Name of the Channel			Total
	DD News	*Times Now*	*India Today*	
News Bulletin	81.8%	--	36.0%	44.3%
Debate/Discussion	--	100.0%	28.0%	34.4%
Rapid News	18.2%	--	--	6.6%
Documentary/Special Programme	--	--	12.0%	4.9%
Interview	--	--	4.0%	1.6%
Other	--	--	20.0%	8.2%
Total	100.0%	100.0%	100.0%	100.0%



The graph above shows a clear picture of news programme formats adopted by the news channels. Only *DD News* and *India Today* adopted the News bulletin format. *Times Now* emphasised only on Debate/Discussion programme during its primetime broadcast. Apart from news bulletin format *DD News* used 'Rapid News' format also in its primetime slot this format was totally ignored by private news channels.

To examining the variability amongst the means and compare it against variability within each mean in terms of the entities within each group we performed a One Way ANOVA test.

Table 7 and 8 shows that there is a statistically significant difference of news program formats between the levels of independent variable ($F_{2, 58}=7.923$, $p<0.05$) therefore hypothesis 2, there is difference of news program formats between the selected channels, was supported.

To find the exact differences of news program formats we conducted a Post Hoc Turkey HSD test. The results are as under Table 9:

Table 9 reveals that there is a statistically significant difference (p<0.05) between *DD News, Times Now* and *India Today* and there is no statistically significant difference (p>0.05) between *Times Now* and *India Today* in terms of news program formats.

DISCUSSION AND CONCLUSION

This study discussed the news content coverage and the formats of the news program of Public Service Broadcaster *DD NEWS* and Private Broadcasters *Times Now* and *India Today*. The study reveals statistically significant difference in the diversity of news coverage on primetime newscasts of Public and Private Broadcasters. Most of the news covered by all three broadcasters falls under the category of *Politics* which supports the findings of previous studies(Angela & Stella,

Table 7 Descriptive analysis of variance of news programme formats of the news channels

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
DD News	22	1.5455	1.18431	0.25250	1.0204	2.0705	1.00	4.00
Times Now	14	3.0000	.00000	0.00000	3.0000	3.0000	3.00	3.00
India Today	25	3.4400	2.34663	0.46933	2.4714	4.4086	1.00	7.00
Total	61	2.6557	1.85189	0.23711	2.1814	3.1300	1.00	7.00

Table 8 : ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	44.156	2	22.078	7.923	0.001
Within Groups	161.615	58	2.786		
Total	205.770	60			

Table 9 :Post Hoc Test Turkey HSD Multiple Comparisons of News Program Format

(I) Name of the Channel	(J) Name of the Channel	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
DD News	*Times Now*	-1.45455*	.57069	.035	-2.8272	-.0819
	India Today	-1.89455*	.48797	.001	-3.0683	-.7208
Times Now	*DD News*	1.45455*	.57069	.035	.0819	2.8272
	India Today	-.44000	.55722	.711	-1.7803	.9003
India Today	*DD News*	1.89455*	.48797	.001	.7208	3.0683
	Times Now	.44000	.55722	.711	-.9003	1.7803
*. The mean difference is significant at the 0.05 level.						

2011a, 2011b; Garg, 2016; Rodrigues, 2005). News related to *Crime* category has been another topic of coverage prominently and consistently on all the three channels. *DD News* presents more news related to *Economics, Trade & Business* issues as compared to private broadcasters *Times Now* and *India Today* on primetime.

Public service broadcaster *DD News* has share in almost all the news categories. Overall, news topics related to Police; Demonstration; Environment; Health, Hygiene & Social Issues; Education; Travel & Tourism; Films & Television; Court/ Judicial System; Agriculture & Farmers; etc. got less coverage on primetime.

This comparative study also found statistically significant difference among the three news channels in terms of formats of the program. This study examined 61 news program formats (News Bulletin=27; Debate & Discussion=21; Rapid News=4; Documentary/Special Program=3; Interview=1 and other category=5). Public service broadcaster *DD NEWS* prefer the 'News Bulletin' program format the most among all the channels. It also adopted the 'Rapid News' format also to broadcast news stories.

On the other hand, private news broadcaster *Times Now* prefer 'Debate & Discussion' format only during its primetime slot and concentrate on limited topics to discuss. It covered Politics; Terrorism; Crime; Demonstration/Protest; Military &Defense; Films & Television; Religion & Ethnic Issues; Foreign Affairs/Bilateral Ties; and Law & Order related issues. One very important thing was noted about the *Times Now* that in Debate & Discussion format the various aspects related to the topic of debate are in different news presentation formats like Anchor Graphics; Anchor Visuals; Packages; Breaking News; Studio spots etc. Adopting the Debate & Discussion format can be considered the reason behind the less news share by *Times Now* (total=61; and 12.6% of the total news 485) during primetime.

No statistically significant difference was found between *Times Now* and *India Today* in terms of news program formats. *India Today* emphasized on News Bulletin; Debate & Discussion; Documentary/Special Program; Interview; and another category. In its presentation of News Bulletins *India Today* kept some segments of debate & discussion on a related topic also. Package: and Flash/Breaking News formats were also used by the *India Today* during its Debate & Discussion program.

The present study found that public service broadcaster and private news broadcasters are very much different in terms of coverage of news. Public service broadcaster *DD News* follows its traditional news bulletin format for giving news to its viewers during primetime. Apart from bulletin format it has adopted the new trend of presenting news Rapid News Bulletin and tries to give more news. *DD News* has the highest share of news stories in comparison with private news broadcasters. *Times Now* and *India Today* gives less news, tries to emphasis on important issues and present the news accordingly during primetime. Study shows that most of the news channels are broadcasting variety of news programs to engage their audience. They are also taking care of the diversity of news content on prime time.

Studies on Headlines and Tickers should be carried out to measure the news coverage in both the formats. Graphical representation of news content can also be examined.

REFERENCES

About Doordarshan | Doordarshan. (n.d.). Retrieved June 16, 2020, from https://doordarshan.gov.in/about-doordarshan

Afghahi, E., & Sadat, S. R. N. (2014). A Comparative Study of News Structure of State Tv News Channels of Iran and Turkey: Content Analysis of Foreign News. *Global Media Journal: Turkish Edition*, *5*(9), 1–18. http://search.ebscohost.com/login.aspx?direct=true&db=ufh&AN=99716099&site=ehost-live

Ahmed, A. M., & Osmani, M. H. (2014). News Coverage and Treatment in Prime Time Bulletins: A Comparative Study on BTV and ATN Bangla. *Social Science Review: The Dhaka University Studies*, *31*(1), 105–121. https://doi.org/2014

Almaney, A. (1970). International and foreign affairs on network television news.

Journal of Broadcasting, *14*(4), 499–509. https://doi.org/10.1080/08838157009363616

Angela, I. O., & Stella, E. E. (2011b). A comparative analysis of Channels TV and CNN's coverage of World News. *Journal of Public Affairs*, *11*(1), 4–24. https://doi.org/10.1002/pa.372

Arbaoui, B., De Swert, K., & van der Brug, W. (2020). Sensationalism in News Coverage: A Comparative Study in 14 Television Systems. *Communication Research*, *47*(2), 299–320. https://doi.org/10.1177/0093650216663364

Bae, H. S. (2000a). Product differentiation in national TV newscasts: A comparison of the cable all-news networks and the broadcast networks. In *Journal of Broadcasting and Electronic Media* (Vol. 44, Issue 1, pp. 62–77). Routledge. https://doi.org/10.1207/s15506878jobem4401_5

Bae, H. S. (2000b). Product Differentiation in National TV Newscasts: A Comparison of the Cable All-News Networks and the Broadcast Networks. *Journal of Broadcasting & Electronic Media*, *44:1* (January 2015), 62–77. https://doi.org/10.1207/s15506878jobem4401_5

Broadcasting Documents MIB, GOI. (2018). https://mib.gov.in/all_broadcasting_documents

Budd, R. W. (1964). U.S. News in the Press Down Under. *Public Opinion Quarterly*, *28*(1), 39. https://doi.org/10.1086/267220

DD News. (n.d.). Retrieved July 12, 2020, from http://ddnews.gov.in/about/about-us

Garg, S. (2016). The Plight of Prime Time. In P. N. Vasanti & P. Kumar (Eds.), *TV News Channels in India. Business, Content, and Regulation. Business, Content, and Regulation.* (pp. 131–140).

Geniets, A. (2010). *The Global News Challenge - Assessing changes in international broadcast news consumption in Africa and South Asia* (Issue November).

Hester, A. (1978). Five Years of Foreign News On U.S. Television Evening Newscasts. *Gazette (Leiden, Netherlands)*, *24*(1), 86–95. https://doi.org/10.1177/001654927802400108

Hudíková, Z., Pravdová, H., & Gažicová, A. (2020). The pragmatism of hybridisation logic of television news in Slovakia. *Communication Today*, *11*(1), 90–124. https://doi.org/https://doi.org/10.1002/pa.372

India Population (2020) - Worldometer. (2020). https://www.worldometers.info/world-population/india-population/

indiantelevision. (2016). *Who defines prime time - Advertisers or viewers? | Indian Television Dot Com*. Indiantelevision.Com. https://www.indiantelevision.com/specials/event-coverage/content-hub/who-defines-prime-time-advertisers-or-viewers-160215

Kalra, R. J. (2012). *The ABC of News Anchoring*. Pearson.

Kewal, K. J. (2000). *Mass communication in India* (Vol.741). Jaico publishing house.

Khandekar, V. K. (2013). The Indian Media Business. In *The Indian Media Business*. SAGE Publications India Pvt Ltd. https://doi.org/10.4135/9788132107941

Kirat, M. (1995). BBC and CBS International News coverage: A content Analysis of the Evening News. *", Revue Algerienne de Communication*, pp: 23-43.

Kumar, N., & Sahu, M. (2011). COVERAGE OF INDIA BY MAJOR US TELEVISION NEWSCASTS : AN ANALYSIS OF LAST THIRTY YEARS. *Global Media Journal-Indian Edition*, *June 2011*, 1–15.

N, Chanakya C N. & Narasimhamurthy, N. (2019). The Role of Visibility Politics in Determining the Prime Time Content on Television. *Journal of Advances and Scholarly Researches in Allied Education*, *16*(4).

Natarajan, K., & Xiaoming, H. (2003). An Asian voice? A comparative study of Channel News Asia and CNN. *Journal of Communication*, *53*(2), 300–314. https://doi.org/10.1093/joc/53.2.300

Nielsen. (2011). *What Time is Really Primetime? |Nielsen – Nielsen*. https://www.nielsen.com/us/en/insights/article/2011/what-time-is-really-primetime/

Ninan, S. (1995). *Through the Magic Window: Television and Change in India* (p. 208).

Penguin Books India (P) Ltd.

Panda, B., & Tripathi, N. (2016). A comparative study on news content of public news channel Vs private news channel (with reference to DD News and NDTV 24 * 7). *International Journal of Humanities and Social Science Research*, *2*(1), 24–26.

Picone, I., & Donders, K. (2020). Reach or trust optimisation? A citizen trust analysis in the flemish public broadcaster VRT. *Media and Communication*, *8*(3), 348–358. https://doi.org/10.17645/mac.v8i3.3172

Rao, N. B. (2016). The Scene of News Channels in India. In P. N. Vasanti & P. Kumar (Eds.), *TV News Channels in India. Business, Content, and Regulation.* (pp. 19–36). Academic Foundation.

Riffe, D., Aust, C. F., & Lacy, S. R. (1993). The Effectiveness of Random, Consecutive Day and Constructed Week Sampling in Newspaper Content Analysis. *Journalism & Mass Communication Quarterly*, *70*(1), 133–139. https://doi.org/10.1177/107769909307000115

Rodrigues, U. M. (2005). Competition and Television News in India: A Content Analysis. *Australian Journalism Review*, *27*(2), 171–186.

Rodrigues, U. M. (2010). Glocalisation of Indian television. In *Indian Media in a Globalised World* (pp. 3–25). SAGE Publications Inc. https://doi.org/10.4135/9788132105992.n1

Rotheray, B. (2010). *Good News from a Far Country? Changes in international broadcast news supply in Africa and South Asia* (R. I. for the S. of Journalism (Ed.); Issue July). http://reutersinstitute.politics.ox.ac.uk/sites/default/files/Changes in International Broadcast News Supply_0.pdf

Roy, S. (2011). Television news and democratic change in India. *Media, Culture and Society*, *33*(5), 761–777. https://doi.org/10.1177/0163443711404467

Ružić, N. (2020). The Role of the Public Broadcaster in Informing Montenegrin Citizens about European Integration with Special Emphasis on Chapter 27. *Studia Europejskie - Studies in European Affairs*, *24*(2), 147–159. https://doi.org/10.33067/se.2.2020.8

Schmitt, C., & Soderlund, W. C. (1982). Television and Newspaper Coverage of Latin American and Caribbean News: A Canadian-American Comparison. *North-South Canadian Journal of Latin American Studies*, *7*(13), 57–74. https://doi.org/10.1080/03841367.1982.10816505

Singh, J. (2015). Trends in Primetime News Study of Selected News Channels in India. *JOURNAL OF CONTENT, COMMUNITY & COMMUNICATION*, *1*(1), 14–29.

Singhal, A., & Rogers, E. M. (2001). *India's Communication Revolution: from bullock carts to cyber marts*.

TRAI. (2020). *Telecom Regulatory Authority of India: Annual Report 2018-19*.

Unesco. (2008). *Media Development Indicators A framework for assessing media development*. *March*, 102.

V, A. M. (2014). Televised Political Learning : Influence of Prime-Time Televised Political News and Debates on the Political Awareness of the Viewers of Malayalam TV News Channels. *International Journal of Humanities and Social Science Invention*, *3*(5), 37–43.

Vilanilam, J. V. (2004). *Communication and mass communication in India*. BR Publishing Corporation.

Weaver, J. B., Porter, C. J., & Evans, M. E. (1984). Patterns in Foreign News Coverage on U.S. Network TV: A 10-Year Analysis. *Journalism & Mass Communication Quarterly*, *61*(2), 356–363. https://doi.org/10.1177/107769908406100217

Yu, X. (1997). What does China want the world to know: A content analysis of CNN World Report sent by the People's Republic of China. *Gazette*, *58*(3), 173–187. https://doi.org/10.1177/001654929705800303

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