Effects of Product Characteristics on Online Buying: An Empirical Study of University Students

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Abstract
Previous studies have highlighted that product characteristics played important role while considering buying online. However, most studies focused specific product category, for example, banking and financial services, fashion apparel, electronics, grocery, etc. Due to this, previous studies had limited generalisation on the same. To overcome this limitation, the study focused on the product characteristics like goods vs. services, branded, tactility, deals and offers; and monetary value, in case of online buying done by university students in India. The objective of the current research was to study online buying and effects of different product characteristics affecting online buying of university students in India which had been relatively neglected research area. A survey-based approach was employed to determine their attitude towards online buying. IBM Statistical Package for the Social Sciences Statistics 20 was employed for analysis and interpretation of valid and completed responses collected during the study. Reliability of the instrument was checked before testing hypothesis. Additionally, University Students’ Internet usage behavior was also studied to highlight the relation with online buying. Their preferred online websites were also asked. The finding supported the relation of product characteristics with online buying, whereas student’s characteristics, e.g. age, gender, hostler vs. non-hostler were not found significant factors, moderating the relation between product and online buying. It was found that online buyer’s attitude significantly and positively affects their online buying behavior. The insights gained out of the current study can be employed by the online marketer, while developing marketing strategies tailored to respond to the specific requirements of growing young population in India. Specifically, price sensitivity and preference for specific type of products with service characteristics is useful in further extending the product assortment offered online. Further, the paper concludes with a series of discussion questions designed to stimulate the development of generalised theory in the field of online buying behavior.

Keywords: Online Buying, Product Characteristics, University Students, India

JEL Classification: M31, L81, L86, D12

Paper Classification: Research paper
Introduction

There are 402 million internet users in India (December 2015 IAMAI & IMRB-Report). Mobile phones are one of the important devices used to access internet. Mobile phone subscribers numbers has topped to 1 billion Indians; India is the only country after China to cross that milestone (Shrivastava, 2015). According to the survey conducted by Google & TNS Australia, nine out of ten online customers intend to spend more on online shopping (Sharma, 2013). PWC reported that eTailing in India, which comprised online marketplaces and online retail, has become one of the fastest-growing segment with CAGR of around 56 per cent over 2009-2014 (pwc, 2015), and is fueled by increased use of tablets, smartphones and cheap-internet broadband and 3G connectivity. Not even metros but online shoppers are from tier 2 and tier 3 Indian towns. IAMAI (2015) reported that India has the third largest internet users’ base in the world; wherein 71 per cent were male and rest were female internet users (Research Inner.com 2015). In terms of age, profile 38 per cent of internet users were from the age 25 to 34 years (statista.com 2014).

One of the major consultancy Deloitte (2017) predicted, that Business to Business (B2B) e-commerce market will reach to $700 billion whereas Business to Consumer (B2C) market will reach $102 billion by 2020. Further the report predicted that online retailing will be almost at par with the store retailing in the coming five years in India. IBEF reported that in 2017 millennials i.e. aged between 15 to 34 years were the major consumers of e-commerce. They were the prime trend settlers and risk takers as early adopters. University students are assumed to be the representative of these change-introducers and early adopter segment. Number of studies previously focused on this segment as online (Bajpai & Cheng-Wen, 2014; Muthalif, 2014; Ozen & Kodaz, 2012; Yoruk, Dündar, Moga, & Neculita, 2011; Saprikis, Chouliara, & Vlachopoulou, 2010; Kiran, Sharma, & Mittal, 2008; Comehys, Hannula, & Vaisanen, 2006).

In spite of the gaining mall culture in India, online buying trend is picking fast acceptability (Ramchandani, 2015; Sharma, 2013). Traditionally, Indians have been assumed as conservative in their shopping approach. They assign high concern towards payment and security issues during online buying. Even non-metro cities buyers have been contributing towards the growth of online shopping (Vaidehi, 2014). This growth is continuous, in spite of challenges like low safety of payments, lack of touch and feel, high shipping cost, customer trust concerns; unclear refund rules and regulations etc. faced by online buyers. Number of recent studies concentrated on online buying behavior of Indians with respect to their profile e.g. a recent study reported 35 per cent of online shoppers aged between 18 and 25 years (Krithika, Selvaraj, & Panchanatham, 2014). But, studies rarely highlighted the online shopping behavior among college students (Muthalif, 2014) who constitute the major portion of young buyers in the above age group. Youngsters have always gained attention (Ramchandani, 2015) as one of the target by online retailers in India.

Internet Usage Behavior

Internet is the pre-condition for the adoption of buying online. Easy availability/accessibility and cheap internet connectivity is one the most important drivers for the gaining trend of online buying. It is a fact that internet penetration rate has improved many fold in the recent past. As per statista.com (2016), internet penetration rate is 18 per cent in India with digital buyers penetration rate of 24.4 per cent (Shah, Jain, & Bajpai, 2015). Name of search engine ‘Google’ has become generic to the literal meaning of ‘search over the internet’; thus resulted into increased reliance over internet as an important source of information. Internet is influencing each of the stages of consumer buying and has become most significant during pre-purchase-information-search stage. Consumers who are born in the internet era, holding mobiles and tablets in the
hands since their childhood; the young born in 80s are much more tech-savvy than their parents. Educated young one prefer online buying as compared to their counterpart (Sareen & Jain, 2014). It is unanimously accepted by the researchers that students have been heavy internet users (Makhitha, 2014; Valentine & Powers, 2013). Srivastava (2013) postulated online buying as the third most popular activity after e-mailing / instant messaging and internet / web browsing among students.

**Literature Review**

Census of India (2011) reported that India has largest proportion of young population in the world as 41 per cent of its population is less than 18 years of age. Thus, youngsters form a lucrative set of prospective cohort for marketers. IAMAI (2015) reported that 32 per cent internet users were college going students. The modern young consumers are highly innovative in their buying attitude (Muthalif, 2014). Moreover, students are more active on Internet, thus are now considered as the prospects of online shopping (Makhitha & Dlodlo, 2014). Youngsters have been the key drivers of e-tailing in India (Deloitte, 2017). University students constitute a substantive portion of total young consumer. Specifically, university students are the most vulnerable segment for the marketer as consumers. Their initially built buying habits can be hard to change (Uddin & Khan, 2016) due to which university students as surrogate of online buyers, have always been one of the most preferred part of studies samples (Sahi, Sekhon, & Quareshi, 2016; Tih, Ennis, & Poon, 2008). Therefore, buyers aged between 16 to 34 years have been focused by online marketer (Reid & Ross, 2015).

**Studies on University Students**

In the literature, a substantial amount of conceptual and empirical research work on online buying behavior is available, wherein different aspects of students buying behavior have been identified. Majority of these studies were conducted in the developed countries; but it is questionable whether the same spending and saving behavior findings can be applied in the context of developing countries that too, specifically to the Indian consumers. Post-graduate students at University Putra Malaysia were studied to explore their attitude and online purchase intention (Delafrooz, 2009). Even in western countries, students online buying behavior (reasons, items preferred, problems) was studied and differences have been reported in terms of different buying preferences (Truell, Alexander, Zhao, & Woosley, 2010). Study by Krithika et al. (2014) on Indian students revealed that online buying was still not that prevalent among students. Fang (2014) studied Chinese university student e-satisfaction.

Further, the studies undertaken in the Asian countries were specific to their socio-cultural, political and technological environment for online buying. In India, most of the studies primarily focused on adoption of online mode for buying and antecedent of online purchase intention. Moreover, there has been a distinct lack of studies to understand continuation intentions-specifically in India of university students. Limited number of studies have been conducted focusing university students e.g. Internet usage (Mathew & Mishra, 2014; Mishra & Mathew, 2013), role of student demographics (Chutia, 2014; Gupta et al., 2008; Handa & Gupta, 2009; Khare, Khare, & Singh, 2012; Khare & Rakesh, 2011; Magesh, 2011; Malik & Guptha, 2013; Nayyar & Gupta, 2009; Rakesh & Khare, 2012) sector of employment, purpose of Internet usage, product type (Magesh, 2011), ease of use, usefulness (Prasad, Aryasri, & Global, 2009), website characteristics (Bhatt & Bhatt, 2012; Ganguly, Dash, & Cyr, 2011; Boudhayan Ganguly, Dash, Cyr, & Head, 2010; Boudhayan Ganguly, Dash, & Cyr, 2009; Khare & Rakesh, 2011; Malik & Guptha, 2013; Mathew & Mishra, 2014; Mishra & Mathew, 2013). Different psychological constructs were
focused by different researchers e.g. perceived trust (Ganguly, Dash & Cyr, 2009), perceived risk (Mishra, 2013; Malik & Guptha, 2013; Mishra & Mathew, 2013), attitude towards online buying (Magesh, 2011; Mishra 2013; Khare, Khare & Singh, 2012; Khare & Rakesh, 2011; Malik & Guptha, 2013) and repurchasing (Mishra, 2013; Prasad & Aryasri, 2009).

Thus present study of university students bridges this gap in the literature. Present study aimed to highlight the insights of university student online buying to provide a basis with respect to product characteristics which further can be instrumental for online marketing strategy formulation. Accordingly, the objective of present study was to examine the nature of relationship between different product characteristics and online buying behavior of university students. More specifically the research intended to present important theoretical and practical contributions to the area of online buying behavior discipline. Practically the insights gained through the research can be utilized by online marketers in product strategy formulation.

### Theoretical Background

Online buying is defined as the process in which a customer purchases a product or service over the internet (Jusoh & Ling, 2012). Hsiao (2009) described it as the process wherein consumers directly buy different goods or services from a reseller in real-time (Makhitha & Dlodlo, 2014). Researchers have used online buying, web-shopping, online shopping, e-shopping, and internet shopping; interchangeably in the common parlance (Al-maghrabi, Dennis, Halliday, & BinAli, 2011; Srivastava, 2013). Online shopping trend is picking up rapidly (Qinghe, Wenyuan, & Kaiming, 2014). Even smaller towns of countries have been playing an important role in increased popularity of online buying (Muthalif, 2014). Thus online buying behavior is one of the most researched areas in marketing studies. Various concepts, theories and models are available in the literature.

#### Attitude towards Online Buying

Relation between attitude and behavioral action has been established in various psychological theories. One of the prominent theories in the literature is Theory of reasoned action (TRA) which is also referred as Fishbein’s model (Zhang, Tian, & Xiao, 2014). This theory was proposed in 1975 has been most utilized by researchers as the theory highlighted the concept of behavioral intentions which is determined by the attitude towards that specific behavior and social pressure termed as subjective norms. In number of buying behavior studies, TRA has been used as the basis for describing and predicting buying behavior (Yu & Wu, 2007; Zhang, Cheung, & Lee, 2014). Attitude was presented as a precedent of intention to buy or the actual action of buying.

Attitude towards online shopping has been explained as the psychological state in terms of making purchase over internet (Biswa, Ajmani, & Roy, 2014), which is linked with online buying behavior. Online buying stages can be identified: pre-purchase stage, purchase stage and post-purchase stage (Claudia, 2012). Due to lack of personal touch in e-store, it is harder to build customer satisfaction (Fang, 2014) thus gaining insights of online buying behavior is much more critical for the success of any e-retailer.

#### Product Characteristics

There are various factors influencing attitude towards online buying e.g. motivation, subjective norms, demographics etc. (Jain, 2015; Ranjbarian, Fathi, & Rezaei, 2012; Sameti, Khalili, & Sheybani, 2016; Thananuraksakul, 2007; Yin-Shijiu & Wu-Linhai, 2008). Product character has been reported as one of the key factors which have been positively found influencing online buying
decision (Chu, Arce-Urriza, Cebollada-Calvo & Chintagunta, 2010; Jain & Jain, 2011; Keisidou, Sarigiannisidis, & Maditinos, 2011; Maditinos, Sarigiannisidis, & Kesidou, 2009). Product offered online can be any good, service or combination; anything which can address customers’ needs and wants. There are number of product classification available- goods, services etc. Products can be divided into three types: search, experience, and credence goods (Keisidou et al., 2011b). Yet no single widely accepted classification of product can be found for online buying contest (Sarigiannisidis & Kesidou, 2009). Therefore different studies focused on different characters of products. For virtual items PEU (perceived ease of use), PU (perceived utility), enjoyment (hedonic motivation) and security were not found significant, therefore researcher proposed varying strategy for both types of items (Chawla, Khan, & Pandey, 2015). Research finding of Malaysian study reported no significant difference in the attitude towards online shopping among types of goods group (Jusoh & Ling, 2012). In recent study of undergraduate students, Valentine and Powers (2013) reported that students preferred internet searching for product information and bought offline to try and feel the product and avoid delivery delay inherent in online buying. Different product preferences were reported for both the genders.

In the present study, attitude of university students towards online buying has been studied with regard to following product characteristics- different items available online, product preference for branded products, tactility, deals and offers preference; and less monetary value product preference. Singh (2011) suggested that strong branded categories with standardized products wherein touching or seeing and feeling were not important, were best suited for online buying. Thus, preference for branded products has been reported as a major determinant factor of product buying, as branded products were perceived positively by consumers as brands indicate better quality (Shergill & Chen, 2005). Brand name assures consistency in features and other service aspects, thus reducing the risk and resulting in trust. Not even leading but challenger brands are also preferred online.

Another character that limits preference for online buying found in the literature is requirement to physically inspect the product before buying. Tactility has described as requirement to examine or test a product by touch and/or sight of it (Alkailani, 2009). But findings for this construct as an important determinant were mixed in different cultural environments (Chawla et al., 2015).

One more important character of products proposed as driver of online buying has been deals and offers as one of the major reason. With 24X7 availability in the comfortable environment of home, deals and discounts have been found as effective driving force towards online buying (IBEF, 2017). Thus, discount as major drivers of online shopping was reported important, along with other factors (Goyal, 2015). Related to discount is another character of product is its monetary value; as it is positively related to the perceived financial risk. In literature, monetary value of product has been reported as determinant of preference for online buying as with expensive products financial risk increases (Ariff, Sylvester, Zakuan, Ismail, & Ali, 2014; Bashir, Aslam, Ibrahim, & Kaur, 2017; Ko, Jung, Kim, & Shim, 2004; Suresh et al., 2011).

Different products have been preferred by online buyers in different studies (Hariramani & Pandya, 2016; Mahesh & Nathan, 2015; Nagra & Gopal, 2014; Priyanka & Ramya, 2016; Sathiya Bama & Ragaprabha, 2016). Products included in the current work were- gift items, fast food order, travelling reservation, apparel & accessories, electronics, books & magazine, movie ticket, financial services (money transfer/ bill payments/ recharges), daily items (e.g. groceries).
To summarize, it is worth exploring influence of different product characteristics on the attitude towards online buying. Thus based on the detailed literature review, following research model has been adopted:

**Figure-1 Research Model**

![Diagram](source: Prepared by researchers)

**Objectives of the Study**

Present study aimed to meet following objectives:

- To study the internet usage among university students.
- To explore the attitude of university students towards online buying.
- To study the effect of product characteristics- Brand preference, tactility and monetary value; on online buying attitude and behavior while online buying by university students in India.

**Research Methodology**

In order to meet the research objective, exploratory research design has been adopted wherein empirical data has been collected to understand university students’ internet usage behavior, attitude towards online buying and online buying.

**Research Instrument**

University students’ internet usage behavior, attitude towards online buying and online buying behavior was studied through survey method. For holding survey, structured instrument was employed which was based on the pre-validated scale available in the literature, which is a common practice in the social sciences (Ahmad, Rahman, & Khan, 2016; Khan & Adil, 2013; Khan, Liang, & Shahzad, 2015). It was improved based on the feedback of personal interview with a small set of university students who were buying online. Further to ensure construct validity, researchers also reviewed and suggested further changes in the wording. Final instrument consisted of three sections which were about demographics of university students, their Internet
usage details and last section explored their online buying behavior. The research instrument was administered in the classroom setting. For measuring internet-usage behavior, 14 items were included and 12 questions were included in the second section for measuring rate of usage and online buying. Total 21 items were included to measure online buying attitude and product character preference for which five point Likert scale was employed which ranged from ‘strongly disagree’ to ‘strongly agree’. Scores were coded from 1 to 5 depending upon favorableness and reversed items were coded from 5 to 1. Given Indian students five-point scale has been preferred in other studies (Biswas et al., 2014). As required, any multi item scale should be tested for accuracy before administration for data collection (M. N. Khan & Adil, 2013). Cronbach Alpha statistics was calculated as measure to ensure reliability of the instrument. As per the acceptable range all the constructs and items met the acceptability criteria of minimum 0.7 (Hair, Black, Babin, & Anderson, 2010; Malhotra & Dash, 2011).

Population and Sample
Non-probabilistic purposive sampling method was employed. Sample in the current study was drawn from undergraduate and post-graduate management students of Amity University, Noida, UP. Number of studies reported in past have studied online buying of these students e.g.(Biswas et al., 2014) only. These students were assumed to be suitable to satisfy the objective of this study, as they all were born in the era of technology-intensified environment and were from different parts of the county. Moreover studying in Delhi- NCR provides them improved infrastructural support in-terms of wi-fi campus and improved network coverage. Total 100 responses were collected in the classroom during the month of October, 2015.

Limitations of the Study
Even if due care has been taken to avoid errors, social studies have some inherited limitations. Firstly, since the research was conducted among a group of undergraduate and postgraduate students of private University of Uttar Pradesh, India, the results should be interpreted with caution, thus limits generalization of the results. Secondly, sampling method and sample size was also a constraint for the generalisation of the study findings.

Results, Analysis and Discussions
Sample Composition
As per the descriptives of the data collected sample of 76 respondents included 52 males (68 per cent) and 24 females (32 per cent), out of which 59 per cent were undergraduate and 41 per cent were postgraduate students enrolled in management education. The age group of 18 to 20 years formed the highest (50 per cent), followed by university students in the age group 21 to 23 years (39 per cent) and the age group 24 to 26 years (12 per cent). In terms of classification as per living status, 45 per cent respondents were living with family (owned house), followed by sharing a room or PG (32 per cent), whereas 16 per cent were hostlers. This combined total of 48 per cent students, highlighting a good number of students coming from different parts of the country. In terms of family income, 30 per cent reported family income less than Rs.75000 pm, 70 per cent of students reported more than Rs.75000 pm, total 47 per cent reported income more than Rs.95000 pm. This clearly indicated that students were coming from affluent families. Further to interpret the higher economic status of university student, data of pocket money has been utilised. As per responses of pocket money, 54 per cent were having more than Rs.5001 pm, followed by 30 per
cent with pocket money of Rs.3001 pm to Rs.5000 pm. Importantly, a major portion (88 per cent) reported that they were not involved in any part time work with the studies.

**Internet Usage of University Students**

Students were asked about the time-length since they were using internet; where options were: less than 6 months, between 6 months to one year, 1 to 2 years, 3 to 4 years and maximum more than 4 years. Internet usage rate were also very high almost many times a day, as they were maximum five scores for more than four years. The mean score of 4.82 was very close to 5, indicating most were using internet. Similarly, for access, most of them used home Wi-Fi or their own internet connection over mobile phones; whereas, university computer lab or library computers and cyber-café were hardly used and maximum university students used their own mobile phones. Tablets were not preferred. Major reason for using internet cited was for information search, communication/mail and entertainment. These findings are in line with previous studies. In a recent Indian study, mobile phone were most preferred by students for using internet in the educational institutes, and 56 per cent students were using internet for more than three years and 51 per cent students reported on daily one to two hours (Muthalif, 2014).

**Online Buying Behavior of University Students**

In substantiate number of studies, internet users have been reported as more likely to buy online (Srivastava, 2013). In the present study most of the students (92 per cent) responded that they have bought online. This clearly indicates wider acceptance of online buying by university students in India. The non-buyer reported different reasons as lack of trust, costlier as compared to offline, bad-experience, time taken for delivery, inability of touching-items and not-owning a debit/credit card.

Most of university students were indulged into online buying for last one to two years (41 per cent), whereas 30 per cent responded buying online for less than one year. But their frequency of buying was poor as 53 per cent students buy only once in a few months and 41 per cent buy once every month. In terms of money spent online, 24 per cent responded spending of less than Rs.4000 during last six months, 64 per cent responded less than Rs.9001 spending during last six months. These findings indicate that online spending of university student was very less per month or a relative small portion of monthly spending was spend online out of their pocket money. All these findings are in-line with one previous study in which 46 per cent students reported less than a year of online shopping experience, whereas only 37 per cent spent one to five thousand and reported major reason of friends, family influence for a specific product bought online (Muthalif, 2014).

In terms of preferred mode of payment, most preferred mode (ranging from frequently to always) of payment reported was cash/ payment on delivery (82 per cent), followed by debit card (30 per cent), credit card (19 per cent) and only 9 per cent reported paying through net-Banking. Similar results were found where CoD was preferred by 73 per cent (Muthalif, 2014).

**Product Preference**

Data revealed university students’ preference of products online. Online Movie ticket was most preferred, followed by travelling reservation, financial services (money transfer/ bill payments/ recharges), apparel & accessories, electronics, fast food order, gift-items, books and magazine; and at the end groceries were preferred online. Their most preferred website was flipkart.com, very
closely followed by Myntra.com, Amazon, Snapdeal, Jabong; other sites preferred were Ebay, Bookmyshow, Koovs, ‘Freecharge, IRCTC (Indian railways), Healthcart. These findings were in contrast to previous research which reported online buyers most preferred product was books (Jusoh & Ling, 2012) as in the findings of the present study books were not even among top five preferred items of university students. In another recent Indian research on students, online travel reservation for bus/train was reported as bought by most of the students (78 per cent) online (Muthalif, 2014). In the same study, flipkart.com was most preferred website (by 77 per cent). In another study, it was found that movies, music and electronic goods were frequently bought by students (Krithika et al., 2014).

Hypothesis Testing and Results

Research model adopted for the present study highlighted hypothesis to be tested through data collected. This section of the paper presents results of statistical test undertaken to test the hypothesis.

**Hypothesis 1**: There is no statistically significant difference between male and female university students’ attitude towards online buying.

The Levene’s Test statistic $F (100) = 0.311, p=0.550$ (which $> 0.05$) indicated the ‘assumed to be approximately equal’ variance between two populations. Thus the standard t-test was employed for hypothesis testing to determine if there existed any difference between the mean score of attitude towards online buying of male and female students. Value of $p$ obtained was .550 which indicated that there was no statistically significant difference between male and female. Hence the null hypothesis was accepted.

**Hypothesis 2**: There is statistically significant difference between Hostlers students and students staying with family/own house and sharing/staying in a PG university students’ attitude towards online buying.

As per one-way ANOVA, computed value of $F$ statistics was 0.480. The tabulated value of $F$ at 3 degree of freedom in the numerator and 66 degrees of freedom at 5 per cent level of significance was 0.697. As computed $F$ statistic was less than tabulated, null hypothesis of no difference between the students was accepted.

**Hypothesis 3**: There is no statistically significant difference among students based on different age groups i.e. below 18 years, aged 18 to 20 years, 21 to 23 years, 24 to 26 years and 27 years and above aged university students’ attitude towards online buying.

One-way ANOVA computed $F$ statistics equals to 2.698. The table value of $F$ with 3 degree of freedom in the numerator and 66 degrees of freedom at 5 per cent level of significance was by 0.053. As computed $F$ statistic was greater than tabulated, the null hypothesis was rejected that there is statistically no difference between the students groups.

**Hypothesis 4**: There is no relation between students’ attitude towards online buying and product characteristics.

Pearson correlation coefficient of 0.016 revealed weak relationships between attitude and product characteristics. As 0.895 Sig. (2-tailed) value was higher than 0.05, it can be interpreted that there exists no statistical significant correlation between the two.
Thus, no statistical significant association was found between product characteristics and online buying attitude.

But separately for each characteristics studied, in case of preference of branded product the coefficient calculated is 0.365 which is moderate relation and for product tactility it was -0.21 which is negatively related. For rest, the statistics was 0.1.

University students’ correlation between products preferred with attitude towards online buying is studied. Correlation with preference for travelling reservation was studied in which Pearson correlation coefficient of 0.392 means moderate relation between attitude and travelling reservation bought online as product at 0.001 Sig. (2-tailed) value is less than 0.05 implying statistical significant correlation. In case of electronics, Pearson correlation coefficient of 0.445 means moderate relation between attitude and electronics bought online as product, 0.00 Sig. (2-tailed) value is less than 0.05 implying statistical significant correlation. In case of financial services (money transfer/bill payments/recharges) Pearson correlation coefficient of 0.493 means moderate relation between attitude and financial services (money transfer/bill payments/recharges) bought online as product, 0.00 Sig.(2-tailed) value is less than 0.05 implying statistical significant correlation.

**Hypothesis 5**: There is no relation between students’ attitude towards online buying and online buying length.

Results Interpretation- 0.344 coefficient means moderate relation between attitude and length of buying Online, 0.004 value is less than 0.05 implying statistical significant correlation. Statistical significant correlation is found between length of online buying and attitude.

**Hypothesis 6**: There is no relation between students’ attitude towards online buying and no. of times students buy online.

Pearson Correlation of 0.241 coefficient means moderate relation between attitude and ‘how many times of buying Online’, 0.044 value is less than 0.05 implying statistical significant correlation. Statistical significant correlation is found between length of online buying and online attitude.

**Hypothesis 7**: There is no relation between students’ attitude towards online buying and the amount students spend buying online’.

Pearson Correlation of 0.346 coefficient means moderate relation between attitude and ‘spending amount in last six months on buying online’, 0.003 value is less than 0.05 implying statistical significant correlation. Statistical significant correlation is found between attitude towards online buying and the amount students spend in buying online.
TABLE-1 Summary of Hypothesis testing Results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Statistical Test</th>
<th>Result</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hy1: There is no significant difference in attitude towards online buying between male &amp; female students</td>
<td>Independent t-test</td>
<td>F = .311 p &gt; 0.05</td>
<td>Fail to reject</td>
</tr>
<tr>
<td>Hy2: There is no significant difference in attitude towards online buying between students grouped based on living-on-campus &amp; off-campus</td>
<td>One-way ANOVA</td>
<td>F = 0.480 p &gt; 0.05</td>
<td>Fail to reject</td>
</tr>
<tr>
<td>Hy3: There is no significant difference in attitude towards online buying among students of different age groups</td>
<td>One-way ANOVA</td>
<td>F = 2.698 p &lt; 0.05</td>
<td>Rejected</td>
</tr>
<tr>
<td>Hy4: There is no significant relation between product characteristics and attitude towards online shopping</td>
<td>Pearson Correlation Test</td>
<td>r =0.016** p &gt; 0.05</td>
<td>Fail to reject</td>
</tr>
<tr>
<td>Hy5: There is no significant relation between online buying experience and attitude towards online shopping</td>
<td>Pearson Correlation Test</td>
<td>r =0.344** p &lt; 0.05</td>
<td>Rejected</td>
</tr>
<tr>
<td>Hy6: There is no significant relation between e-commerce frequency and attitude towards online shopping</td>
<td>Pearson Correlation Test</td>
<td>r =0.241** p &lt; 0.05</td>
<td>Rejected</td>
</tr>
<tr>
<td>Hy7: There is no significant relation between amount students spend online and attitude towards online shopping</td>
<td>Pearson Correlation Test</td>
<td>r =0.346** p &lt; 0.05</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Source: Prepared by researchers

Conclusion

The study finding supported the relation of product characteristics with online buying. But demographic characteristics of university students studied- age, gender, and living status hostler vs. non-hostler were not found significantly influencing online buying. It was revealed that attitude of university students as online buyer significantly and positively affects their online buying behavior. Interestingly, out of total studied product related behavior i.e. different items available online, product preference for branded, tactility, deals and offers preference; and low monetary value product preference; only few were linked to the online buying attitude. Statistical analysis results supported that brand and tactility were significant product characteristics while considering buying online by the university students in India.

Managerial Implications

There are number of managerial implications of these findings of the present research. Firstly, gender and surroundings are insignificant in framing marketing strategies, as the analysis highlighted that gender, students living in hostel or family were not affecting formation of attitude towards online buying. Whereas age was found as an important determinant influencing amount of money spent online and frequency of buying online. In terms of product characteristics-product tactility and branded products can be considered important determinant influencing positive attitude towards online buying. Specific products- financial services (money transfer/bill payments/recharges), electronics and travelling reservation were found to have statistically significant relation with attitude towards online buying behavior of university students in India. Most preferred products online identified through present research can be utilized by marketers to develop offers, via linking these with their current product offering, to gain acceptance by students and their preference for online buying. The details of experience of online buying of university students- in terms of time length, since when students are buying online; and number of times students buy online; can also be utilized as contributors towards forming favorable attitude for online buying. Hence, e-marketer should give privileged treatment to regular customers and employ customer-friendly and relationship enhancing strategies.
Scope of Future Research

Future research work can be undertaken on the basis of findings of present research wherein a larger sample from different universities spread across the country should be employed. Probability sampling method can also be employed to support scientific findings. Further, present study can be extended by including more constructs to link relevant product characteristics to better explain online buying behavior of university students in India.

References


### Appendix-A

**Descriptive Statistics- INTERNET USAGE**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tr>
<td>Internet Usage Time Length</td>
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<td>5</td>
<td>4.82</td>
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<td>5</td>
<td>3.63</td>
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<td>Internet Access [Private access e.g. Phone]</td>
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<td>Device Used [Smart Phone]</td>
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<td>5</td>
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<td>5</td>
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<td>Device Used [PC in LAB/Lib]</td>
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<td>5</td>
<td>1.79</td>
<td>.984</td>
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<td>Purpose of Using Internet [Education]</td>
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<td>5</td>
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<td>Purpose of Using Internet [Online shopping]</td>
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<td>1.070</td>
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<td>Purpose of Using Internet [Communication (mail/ messages)]</td>
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<td>Purpose of Using Internet [Information Search/ Navigation]</td>
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<td>Purpose of Using Internet [Pleasure (youtube/ savan.com/ games)]</td>
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<td>Valid N (listwise)</td>
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### Appendix-B

**Descriptive Statistics- Online Buying**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tr>
<td>How Long have you been buying Online?</td>
<td>70</td>
<td>1</td>
<td>5</td>
<td>2.97</td>
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<td>How many times do you buy Online?</td>
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<td>1</td>
<td>4</td>
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<td>.652</td>
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<td>Prefer Buying Online [Gift Items]</td>
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<td>1</td>
<td>4</td>
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<td>1.015</td>
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<td>Prefer Buying Online [Fast Food Order]</td>
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<td>1</td>
<td>5</td>
<td>2.40</td>
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<td>Prefer Buying Online [Travelling Reservation]</td>
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<td>1</td>
<td>5</td>
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<td>Prefer Buying Online [Apparel &amp; Accessories]</td>
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<td>Prefer Buying Online [Electronics]</td>
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<td>Prefer Buying Online [Books &amp; Magazine]</td>
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<td>5</td>
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<td>Prefer Buying Online [Movie Ticket]</td>
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<td>3.59</td>
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<td>Prefer Buying Online [Financial Services(money transfer/ bill payments/ recharges)]</td>
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<td>3.36</td>
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<tr>
<td>Prefer Buying Online [Daily Items(e.g. Groceries)]</td>
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<td>1</td>
<td>5</td>
<td>1.93</td>
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<td>Spending Online in Last Six months</td>
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<td>Payment Mode[Online giving credit card info]</td>
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<td>Payment Mode[Online giving debit card inf]</td>
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<td>Payment Mode[Online through net Banking]</td>
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<td>Payment Mode[Payment on Delivery]</td>
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<td>Valid N (listwise)</td>
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</tbody>
</table>
Authors’ Profile

Mamta Chawla is working as an Assistant Professor-Marketing in Amity Global Business School, Noida, India. Currently she is pursuing her Ph.D in the area of Marketing from Department of Business Administration, Faculty of Management Studies and Research, Aligarh Muslim University, Aligarh, India. She possesses five years of corporate work experience and more than ten years of teaching experience in the area of management. She has done her graduation in commerce and masters in Management. Her interest areas are: consumer behaviour, digital marketing, and customer relationship management. She has presented papers in national seminars and conferences.

Mohammed Naved Khan is working as an Associate Professor at Department of Business Administration, Faculty of Management Studies & Research, Aligarh Muslim University, Aligarh, India. After completing Electrical Engineering, he did his MBA and PhD in the area of Consumer Behavior. The topic of his Ph.D was Dimensions of Family Decision Making in the Purchase of Consumer Products. He is the recipient of the prestigious P D Agarwal TCI Award for Doctoral Research in Management. He teaches courses on Marketing and Research Methodology to first-year MBA and MBA (International Business) students and elective course on Consumer Behavior to final-year MBA students. Several leading business schools in India and abroad regularly invite him as a resource person for conducting workshops for management teachers, corporate professionals, researchers, and management students on use of latest tools and techniques in business research. He has to his credit books published by leading publishers such as Sage Publications, New Delhi (India)/ Thousand Oaks (USA)/ London (UK) and his research papers have been published in leading refereed national journals including those of Indian Institute of Management & peer reviewed international journals. He attended and chaired sessions during the Frontiers in Service Conference co-sponsored by the Center for Excellence in Service, Robert H. Smith School of Business, University of Maryland, USA, IBM Research, and American Marketing Association, held at San Francisco, USA. He has presented papers in several International and National Conferences including Global Conference on Job & Wealth Creation through Entrepreneurship jointly organized with Max Planck Institute for Economics, Jena, Germany; School for Public Policy, George Mason University, Fairfax, Virginia, USA and Management Development Institute (MDI), Gurgaon, India; International Conference on Return on Marketing Investments jointly organized by Indian Institute of Management (IIM), Ahmedabad, India, and Zyman Institute of Brand Science, Goizueta Business School, Emory, Atlanta, USA; and has presented papers at International Conferences. He has travelled widely and visited USA and several countries in Europe and Middle East.

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