IMPACT OF DIGITAL MARKETING COMMUNICATION (DMC) ON CUSTOMERS ADAPTABILITY FOR MOBILE-BASED TAXI APPS THROUGH TECHNOLOGY ACCEPTANCE MODEL (TAM): A SERIAL MEDIATION APPROACH

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ABSTRACT

Mobile Application Based Taxi (MBT) Services are the need of the hour. The Internet and mobile penetration have enabled commuters to benefit from MBT services. This study has extended the Technology Acceptance Model (TAM) by adding Digital Marketing Communication (DMC) as an antecedent for Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Social Influence (SI) and Attitude (ATT). Behavioural Intention (BI), representing the adoption of MBT, was taken as the dependent variable. The study also tests the serial mediation by PU and ATT between DMC and BI. The data were collected through a questionnaire, which was designed with the help of statements collated from previous studies. The sample size was 368. Data were analysed through "Exploratory Factor Analysis", "Confirmatory Factor Analysis", "Structural Equation Modelling", and "Serial Mediation" It was found from the results that DMC, PU and ATT directly affect the BI. The relationship between DMC and BI through PU and ATT was reported as partial mediation.

Keywords: Mobile App-Based Taxi, Digital Marketing Communication, Technology Acceptance Model, Behavioural Intention, Attitude, Perceived Usefulness, Serial Mediation.

INTRODUCTION

The Internet has changed the mode of distribution of goods and services. Travelling business has also adopted technological advancements in the last few years, and the major transformation has come up in the form of Mobile Based Taxi (MTB) apps, which complement the existing E-Commerce marketplace model (Lalitha & Rajasekar, 2016). The app-based taxis are now a trend because, with a few clicks, individuals can get a taxi to any intended destination. The start-up companies analysed the market and found a vast scope in the taxi service industry (Paul et al., 2021; Irawan et al., 2020). The M-Commerce domain has developed high-quality mobile apps under the B2C (Business-to-Consumer model for marketing in the tourism industry. It has also evolved the MBT (Mobile Based Taxi) apps, which have become highly popular among consumers (Lalitha & Rajasekar, 2018). App-based taxi service operates through local suppliers and cab owners by connecting them to their businesses through apps and making their services available to the public on a much larger platform.

By virtue of this arrangement, the cab owners get uninterrupted work, and operators such as Ola and Uber get commissions. Customers can directly make the payment to the cab service

through cash or online payment. The owner's MBTs basically consolidate the travellers and cab service providers on one platform (Kumar & Sentamilselvan, 2018). The two most extensive MBT service providers in the Indian consumer industry are Uber and Ola. They cater to the needs of consumers who are hiring cabs and autos to access cab services and who travel locally regularly. The use of innovative technology in the cab industry with the help of mobile phone apps is a result of the development of technology (Sarvepalli & Prakash, 2016). They have completely changed the way the middle-class consumer travels daily from one place to another.

Both aggregators function through their mobile applications. Both follow the strategies of expansion of their business and thrive in building their customer base across the country, especially in the metro cities. They aim to capture a more prominent market share and achieve an economy of scale while providing customer satisfaction (Shukla et al., 2017). Increased smartphone use is the lifeblood and the prime motivation for app-based and online businesses in India (Guo et al., 2016). On the other hand, mobile marketing empowered by applications that provide services with the help of magnificent technology has increased the demand for these app-based taxis (Currie & Fournier, 2020). Mobile applications have assisted the travel industry for decades by providing different aids like maps, mobile location-based solutions, etc. They also help in the identification of the location with the shortest route possible for the customers to reach their desired destination, quick booking, odd-time availability of cabs, advance booking, flexible fares, and well-behaved drivers; all you need is an internet connection and a smartphone. This experience helped them to move towards the mobile application of taxi service providers in a positive way (Chaturvedi et al., 2021; Singh et al., 2020). Cabs like Ola also have initiated a wallet facility named Ola money, which helps you make payments for booking and ensures a hassle-free ride by not bothering about carrying cash, having exact change, and making payments even when you are in a hurry; the wallet assists in automatic payment of the ride (Chaturvedi et al., 2021).
The online taxi service has versatile applications and is a technology that has a value-added service provided to the organisation whose basic agenda is to use innovation and technology useful for commuters in their daily life. An author in a particular study named Chae has proposed that organisations must look for quality while delivering any form of service to customers. Great association quality implies that clients sometimes experience havoc, and stable organisations can handle such turmoil. Content quality is whether the content is finished, proper, critical, and exceptional. Connection quality means great application appearance, the way the menu is displayed on the application screen, and the easy-to-use route (Malthus et al., 2020). An author contends that IT-based organisations that deal with such applications must react to the market quickly and should have fast, consistent reactions and questions that are asked frequently, which includes the goal that clients can think about without much of a stretch and immediately track down answers for their normal issues.

Surprisingly better, clients got a choice to pay through their cards, portable wallets, and so on. However, US-based Uber was not the main one to consider our market. Indian organisation Ola entered the market in a comparable time span, and from that day to the present, both players have been contending furiously with one another (Parsad, 2020). Both aggregators began offering various classifications of taxis, right, from conservative ones to premium ones. Clients cherished the opposition on the grounds that, at last, that led to great limits on rides and many more decisions for spending plan-based vehicles, particularly accommodation! Before adequately long, these aggregators began getting exceptionally well known in many parts of the country.

The consistently expanding traffic in our jam-packed urban areas, streets that are continually getting fixed or developed and the absence of parking spots implied that an ever-increasing number of individuals began dumping their own vehicles for these taxis. Not searching for stopping, not having to continually tweak the grip and brake in packed rush hour gridlock and on second thought, using that opportunity to polish off work or make up for lost time with news or films in a hurry implied that these taxis' notoriety was simply going to increment;

notwithstanding all the cash that financial backers are pouring on Ola and Uber, the sort of administration their clients are really getting cannot be named 'altering' (Arif et al., 2020). These new-age taxi organisations are great at involving innovation in booking or finding a taxi or traveller and streamlining the utilisation of vehicles. They are also great for the natural environment as they decrease the requirement for possessing countless vehicles by such a vast population of individuals when they find a parking spot in any city or town, which is getting progressively troublesome. Therefore, commuters find app-based taxis useful and compatible with their daily needs (Irawan et al., 2020). These new-age taxi organisations are great at involving innovation in booking or finding a taxi or traveller and streamlining the utilisation of vehicles. They are limiting the demand for endless individual and personal vehicles and finding a spot for parking in any city or town, which is getting progressively troublesome. Therefore, commuters are finding app-based taxis kind of useful and compatible with their daily needs (Irawan et al., 2020).

2. THEORETICAL BACKGROUND:

This study tested the Technology Acceptance Model (TAM) with an additional antecedent – Digital Marketing Communication (DMC) as an extension of TAM. TAM is a prominent model that captures people's reactions towards technology; it describes how individuals perceive a particular technology or several advancements in the digital business scenario (Vahdat et al., 2021). This model generally encapsulates how customers view any product or service, whether it is useful to them, and in what ways. The usability, handiness and perceived usefulness of the technology are judged by individuals and their mentalities toward innovation. The main criterion for deciding on a particular technology is based on important components, such as the perceived value and usefulness of a technology that must be launched in the market. This helps to understand the implications, especially the social outcome, while incorporating innovation and technology in any product or service. These basic components act as a deciding factor and are considered the major constructs helping in analysing technology from the social front and how the customers are willing to adapt themselves to using such a service. Customers are adopting the app-based taxi service because of its perceived usefulness, convenience, and subjective norms. It even helps trace the user and the driver (Chen, 2014). In Self Service Technologies (SSTs), the users get control over the usage of the services. They get an opportunity to access a wide range of information. The behaviour of the driver does not have any relation to customer satisfaction. The other important determinants include continuous service, affordable tariff plans, reliability, and convenience. These variables have a huge impact on consumer satisfaction (Horsu & Yeboah, 2015). The app-based taxi service providers have collaborated with online payment portals like Paytm, Freecharge, etc., or they have developed their own payment wallets. It helped in making the whole experience of booking a cab and paying for it easy and fast. In addition to the convenience of payments, mobile wallets offer consumers various offers and discounts. The customers' adaptability to e-commerce has strongly motivated app-based taxi services to offer their mobile applications. Like other e-commerce platforms, they also spend a lot on different promotional strategies through information technology innovations (Kavita & Rajeshwari, 2016). The outcomes of various studies carried out in the past show benefits, similarities, intricacy, perceptibility, and social impact of both the 'usefulness of the app-based taxi applications for consumers' and 'usability of the technological systems', which therefore, lead to ensuing buyers' mentalities and the expectations to adopt the new technology. The Technology Acceptance Model (TAM) focuses on the basic foundations of customers' perception of a specific product or service and the adaptability that consumers face while using the service or the product they are purchasing, which has been altered occasionally. Much more modest research studies have evaluated whether TAM components can be applied to e-taxi administration innovation reception and client acknowledgement (Shamim et al., 2021).

3. LITERATURE REVIEW:

Digital Marketing Communication (DMC):

The most crucial promotional avenue for e-commerce companies to promote their products is digital marketing because it gives them instant customer engagement and prompt conversions (Kudeshia & Mittal,

2015a). In many previous studies, advertising and other promotional methods have been a part of TAM. Núnez-Barriopedro (2022) studied programmatic advertising useful and annoyance using TAM. It has been established that the quality of communication improves the PEOU (Islam et al., 2014; Horsu & Yeboah, 2015). Duffett and Maraule (2024) studied the impact of emojis used in DMC on various TAM components. Lee et al. (2017) explored two-way communication in e-commerce and found its significant association with PU and PEOU. Similarly, Ye and Zhang (2014) found sales promotion significantly associated with PEOU. Murillo-Zegarra (2020) established a positive relationship between Mobile Advertising Alerts (MAA) attitude and acceptance with serval TAM variables and other aspects of consumer behaviour. Attitudes towards MBT services are formed through brand building, advertising and marketing, and such attitudes affect positive word of mouth (Chawla & Joshi, 2019; Kudeshia & Mittal, 2016). Instead of a good presence of DMC and other TAM factors, none of the studies cited above had tested any direct or indirect relationship between DMC and "Behavioural Intention" (BI). Considering this, we propose the following Hypotheses:

H_1 DMC of MTBs positively influences PU
H_2 DMC of MTBs positively influences PEOU
H_3 DMC of MTBs positively influences SI
H_4 DMC of MTBs positively influences ATT
H_5 DMC of MTBs positively influences BI

Perceived Usefulness:

Travellers use individual non-app-based vehicles because they are less expensive, accessible, and save travel time (Shou et al., 2020). However, these useful parameters are offered ineffective MBT services. They provide flexibility, responsiveness, tangibility, affordability and much more (Venkatesh & Easaw, 2015). Urban traffic has motivated commuters to hail taxis instead of using their own vehicle (Barmpounakis & Geroliminis, 2020). Less travel time, unwavering quality and accessibility are three prominent benefits of using the app-based taxi service. Further, less expense, accessibility, and less travel time were the primary reasons highlighted by the respondents who had individual vehicles and not the app-based taxi services (Shou et al., 2020). In the app-based taxi service, rather than calling down a taxi on the road to go to any location, they might call up the drivers to check in which location they are currently, what time they are going to reach to the commuters' location and finally sit and wait for a long time until the driver appears. With the consistently expanding traffic in our jam-packed urban areas, individuals have begun dumping their own vehicles and moving towards taxis (Arif et al., 2020). Another element that makes a decent internet-based taxi portable application is the capacity to make assessments like the objective area, the distance and travel time, just as the armada accessibility. Clients need affirmation, particularly whether they will get the ride. In this manner, the application needs a component that continuously shows the armada accessibility. Online portable taxi applications should be furnished with a discovery office that shows accessible vehicles in the nearest nearness. Considering everything, every one of these variables will add to the general consumer loyalty. Fulfilment influences reliability and makes clients return and repurchase. Rather than wrangling with non-AC cab drivers and begging them to go to your objective, clients currently need to enter their get and drop off focuses on their telephone, and a vehicle would get affirmed surprisingly fast (TRAN, 2020). Considering this discussion, we proposed the following hypotheses:

H_6 PU of MTBs positively influences ATT
H_7 PU of MTBs positively influences BI

Perceived Ease of Use:

The usefulness of a brand's mobile app helps convert visitors into prospective customers. The website's usability, ease of functioning, and quality of the mobile application are the main determinants differentiating the brand from its rivals (Avery, 2000). Customers consider safety, the quality of service, and transparency to be the most important determinants for booking a cab service online (Das et al., 2017). Commuters who use MBT apps have the option to pay through their cards, portable wallets, and so on. However, US-based Uber was not the main one considering the Indian market. App-based taxi services are accepted by customers when they are easy to use, convenient, and at lower rates. Businesses using MBT services make it happen by leveraging technology to make their services available to customers. They build comprehensive applications for booking services considering all possible user

convenience features (Tunn et al., 2020). The determinants of the success of an MTB app are the quality and variety of the service, information about the service provided by the brand, the use of technology, ease of usage that it offers to the customers, the quality design of the mobile application, etc. (Chang & Arnett, 2000). Barmpounakis & Geroliminis (2020) added that on a bustling city road, an individual who would need a ride remained at a city intersection and waved down a taxi; however, on the peaceful and calmer roads or in towns without meandering taxicabs the individual would call up a nearby vehicle administration and ask for a pickup from the place he or she wants to. App-based taxis permit an individual to book a taxi service by a cell phone. The taxi reaches the location of the person through GPS. The options used by the service provider include multiple options, including carpooling, where the cost is set and paid ahead of time, helping the commuters to decide which vehicle will suit their needs (Sharmeen et al., 2021). MBT service providers have drastically revolutionised the individual transportation industry, blending advantages and disadvantages for clients and drivers (Peticca-Harris et al., 2020). Sharp and correct content on the app is an important aspect that leads to the adoption. Content quality means app appearance, main menu display, application screen and easy-to-use route (Malthus et al., 2020). The service providers dealing with such applications must react to the market quickly and should have fast and consistent reactions towards the market needs and expectations. This discussion on existing literature led us to the following hypotheses:

H_8 PEOU of MTBs positively influences PU
H_9 PEOU of MTBs positively influences ATT
H_{10} PEOU of MTBs positively influences BI

Social influence

Researchers generally coin social influence as a pressure that consumers face and the "degree of impact on the interaction among people in the social network" (Jha & Shah, 2021; Hsiao et al., 2016). Similarly, in the context of mobile games, social influence positively influences players' hedonic and utilitarian attitudes (Yusnara & Soepatini, 2023). The extant literature shows 'social influence' (SI) as an integral variable of TAM. Irani et al. (2009) established that SI significantly affects the Behavioural Intention (BI) and actual adoption of broadband. Acceptance and use of new technology are influenced by SI and other variables, as identified by the Unified Theory of Acceptance and Use of Technology (Hung et al., 2013; Abu-Shanab & Haider, 2015). In the era of Web 2.0, social media also plays a vital role in social influence. SI affects mobile banking adoption through social media (Naeem, 2020). However, in a business-to-business context, SI had no significant influence on behavioural intention (Kašparová, 2022). This discussion led us to propose the following hypotheses:

H_{11} SI of MTBs positively influences ATT
H_{12} SI of MTBs positively influences BI

Attitude and Behavioural Intention:

Attitude has been an instrumental gateway from the antecedent of BI and BI. Numerous studies have found that strong PEOU, PU, Marketing Communication and SI build a strong attitude that leads to BI (Goyal & Haldar, 2020; Weng et al., 2017; Yang et al., 2020; Kudeshia & Mittal, 2015). Users ' internal motivation, perception, and adoption systems are based on TAM, along with the perceived usefulness of the customer, perceived convenience, subjective norms, and attitudes towards behavioural intention towards MBT services (Roy, 2017). The attitude was found to be a significant antecedent of behavioural intention in the case of app-based taxi services (Hansani & Karunarathne, 2021). MBT services have become a routine for Indian consumers due to their ability to avail themselves of taxi services via an online platform, which impacts customers' perception and adaptability to use such applications. The perceived benefits of ease and marketing communication affect attitude, which finally leads to the buying intention (Duggan et al., 2020). Several studies in the literature have established the mutual relationship between PU, ATT and BI; since we have introduced DMC as the novel antecedent to PU, it has been imperative to check its impact on BI through PU and ATT. This discussion led us to formulate the following hypotheses:

H_{13} ATT of MTBs positively influences BI
H_{14} PU and ATT meditation (serial mediation) the relationship of DMC and BI.

Research Gaps:

As discussed in the literature review section, numerous studies have been conducted on adopting technology using TAM (Yang, 2020; Goel & Haldar, 2020; Chawla & Joshi, 2019).

However, there is still a dearth of studies that connect digital marketing communication (DMC) with PU, ATT and BI. Also, there is a dearth of studies in the Indian context regarding MBT that comprehensively explain the antecedents of the adoption of mobile application-based apps. The study tests PU and ATT as the components of serial mediation between DMC and BI, which is a novel contribution of the study.

Theoretical Framework:

Figure 1 shows the theoretical framework of the study. The model is an extension of the Technology Acceptance Model (TAM), a pioneer model that discusses how people adopt new technology. It was proposed that Perceived Ease of Use (PU) influences Perceived Usefulness (Yang, 2020; Suhud, 2019; Ghani et al., 2017; Weng, 2017). PU, PEOU, and Social Influence (SI) influences Behavioural Intention (BI) directly (Tan & Lau, 2016; Yang, 2020; Siyal et al., 2020; Tan & Lau, 2016; Ghani et al., 2017) and indirectly through Attitude (Goel & Haldar, 2020; Suhud, 2019; Weng et al., 2017; Ghani et al., 2017; Chawla & Joshi, 2019).

conducted on a sample size of 70 **(**Viechtbauer et al., 2015**)**. Five items were dropped due to low communalities or factor loadings, and the final scale contained 26 items. The questionnaire was divided into two sections – the demographic profile of the respondents, which included their gender, age, occupation, education, and marital status. The second section contained the items pertaining to PEOU, PU and DMC (Weng et al., 2017; Das & Mittal, 2023), SI (Chawla & Joshi, 2019; Venkatesh et al., 2003), ATT (Suhud et al., 2019; Weng et al., 2017) and BI (Tan and Lau, 2016; Venkatesh et al., 2003).

Data Collection:

Data were collected from the MBT app users in Delhi and NCR. We used judgemental sampling along with the pre-specified filter questions based on the judgement criteria. There were two criteria: Firstly, the respondent must have used any of the MBT apps in the last 3 months, and secondly, the respondent must know the English language. The questionnaires were uploaded on Google Forms and circulated virtually. In total, 432 questionnaires were filled out, out of which 64

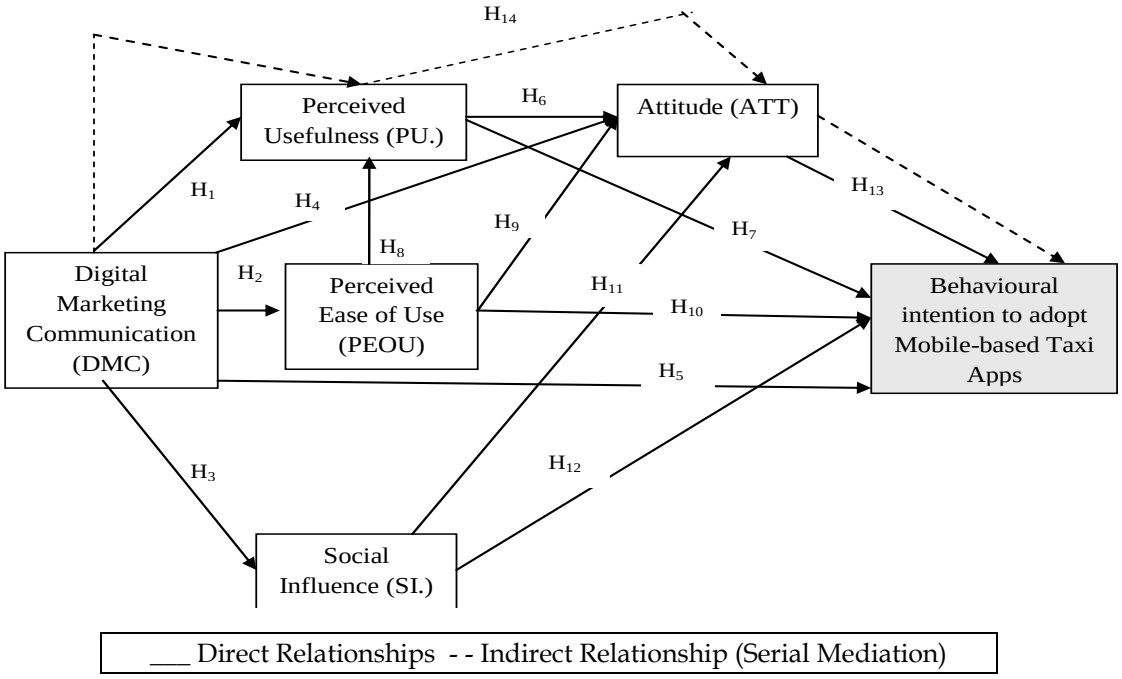

Figure 1 Conceptual Framework of the Study

RESEARCH METHODOLOGY

3.1 Survey Instrument

Initially, the survey questionnaire containing 31 items was used, and pilot testing was

questionnaires were disqualified due to unengaged responses, and 368 questionnaires were considered for final data analysis.

Validity and Reliability:

There are three dimensions of validity – content, discriminant and convergent. The content validity was ensured by using the items in the questionnaire that have been previously used by the other researchers (Weng et al., 2017; Suhud et al., 2019; Chawla & Joshi, 2019; Das & Mittal, 2023; Tan & Lau, 2016; Venkatesh et al., 2003). The "Average Variance Extracted" (AVE) is more significant than 0.5, and "Composite Reliability" (CR) as well as Cronbach's alpha are more significant than 0.7 (Hair et al., 2013), which establishes the convergent validity. "Average Shared Variance" (ASV) is greater than the Maximum Shared variance MSV, which establishes the discriminant validity (Table 1).

Table 1 Discriminant and Convergent Validity Coefficients

Constructs	MSV	ASV	CR	Cronbach's Alpha
PEOU	0.298	0.121	0.959	0.957
PU	0.263	0.118	0.884	0.886
SI	0.233	0.120	0.928	0.930
ATT	0.298	0.236	0.954	0.955
DMC	0.256	0.142	0.910	0.912
BI	0.129	0.077	0.949	0.955

Analysis:

Sample Characteristics:

In this study, 53.3% of the respondents were males and 46.7% were females, which were categorised into three age groups: below 35 years (49.5%), 35 to 50 years (43.5%) and above 50 years (7.3%). The qualifications were recorded under two categories – 90.4% were postgraduates or above, and 19.6% were undergraduates. 59.5% of the respondents surveyed were in full-time jobs, while 35.3% were freelancers, self-employed, students, etc. and 5.2% were retired and housewives. In terms of the marital status of respondents, 67.1% were married, and 32.9% were unmarried.

Measurement Model and Results

The factor loading of all the items ranges from 0.729 to 0.957, satisfactory and above the threshold value of 0.7, as Hair et al. (2010) recommended. As discussed in the section on Validity and Reliability, the CR, AVE, and Cronbach's alpha are also above their cut-off levels (Table 2).

Table 2 Measurement Model Results

Construct	Item	Factor Loading	Cronbach's Alpha	CR	AVE
Perceived Ease of Use (PEOU)	PEOU_1	.885	0.959	0.957	0.848
	PEOU_2	.902			
	PEOU_3	.903			
	PEOU_4	.899			
Digital Marketing Communication (DMC)	DMC_3	.870	0.910	0.912	0.723
	DMC_4	.866			
	DMC_1	.832			
	DMC_2	.783			
Perceived Usefulness (PU)	PU_1	.859	0.884	0.886	0.610
	PU_2	.816			
	PU_3	.778			
	PU_4	.804			
	PU_5	.695			
Social Influence (SI)	SI_1	.904	0.928	0.930	0.769
	SI_2	.867			
	SI_3	.880			
	SI_4	.796			
Attitude (ATT)	ATT_1	.729	0.954	0.955	0.808
	ATT_2	.800			
	ATT_3	.800			
	ATT_4	.843			
	ATT_5	.806			
Behavioural Intention (BI)	BI_1	.957	0.949	0.955	0.842
	BI_2	.919			
	BI_4	.908			
	BI_3	.841			

CR= Composite Reliability; AVE =Average Variance Extracted

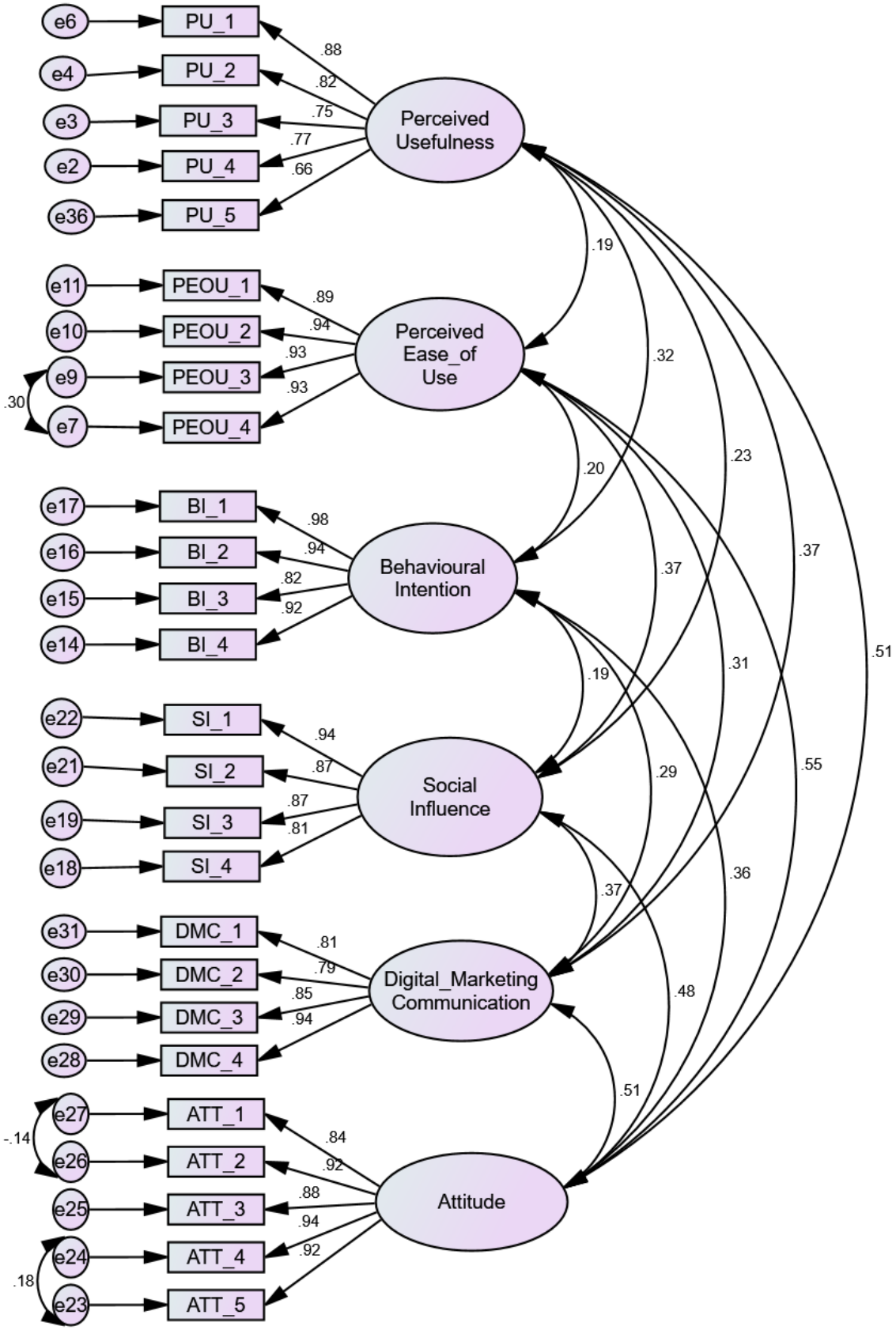

Figure 2 Measurement Model

Model Fit Indices:

Table: 3 Model Fit Indices

Indices	Recommended Value	Model Value	Fulfilment of the Criteria
CIMIN/DF	< 3	2.180	"Yes"
CFI	> .95	0.965	"Yes"
NFI	>.90	0.937	"Yes"
TLI	> .95	0.959	"Yes"
RMSEA	<.06	0.57	"Yes"

CIMIN "Chi-square Statistics in AMOS", DF = "Degree of Freedom", CFI = "Confirmatory Fit Index", AGFI = "Adjusted Goodness of Fit Index", NFI = "Normed Fit Index", TLI = "Tucker–Lewis index (TLI)", RMSEA= "Root Mean Square Error of Approximation".

Compared with the minimum cut-off values of various model fit measures – CIMIN/DF, CFI, NFI, TLI and RMSEA- it was found that the specifications of the Model Fit indices have been fulfilled (Table 3).

Path Analysis (Direct Relationships):
This study is divided into two parts. The first part measures the direct relationships among DMC, PEOU, PU, SI, ATT and BI. The DMC positively influences PEOU, PU SI and ATT. The direct impact of ATT, PU, and DMC positively influences BI. However, the direct impact of PEOU is not significant on PU and BI. Similarly, SI does not significantly affect the BI (Table 4). The standardised coefficient values pertaining to all the direct relationships have been presented in Figure 4.

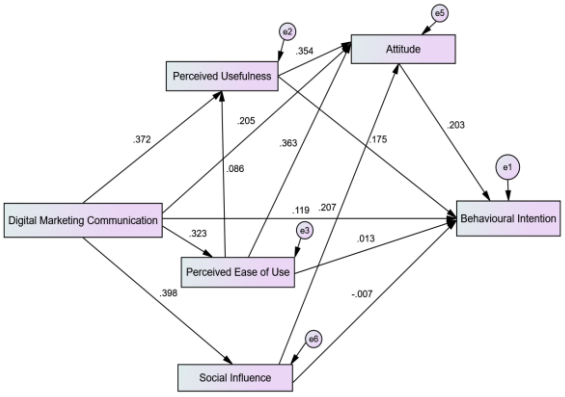

Figure 3 Path Model showing Direct Effects

Serial Mediation Effect:
The second part of the study tests the serial mediation model while taking DMC as the independent variable and PU as well as ATT as the first and second mediators, whereas BI is a dependent variable. The conceptual model

Table 4: Path coefficient and hypothesis testing

Hypothesis	Relationship	Path Coefficient	P Value	Results
H1	DMC → PEOU	.287	.000	Supported
H2	DMC → PU	.316	.000	Supported
H3	DMC → SI	.327	.000	Supported
H4	DMC→ ATT	.168	.000	Supported
H5	DMC → BI	.144	.045	Supported
H6	PU → ATT	.339	.000	Supported
H7	PU → BI	.250	.003	Supported
H8	PEOU → ATT	.333	.000	Supported
H9	PEOU → PU	.083	.086	Not Supported
H10	PEOU → BI	.017	.823	Not Supported
H11	SI → ATT	.205	.000	Supported
H12	SI → BI	-.010	.912	Not Supported
H13	ATT → BI	.301	.000	Supported

is shown in Figure 4. Table 5 elaborates on the labels' meaning on the arrows in Figure 4.

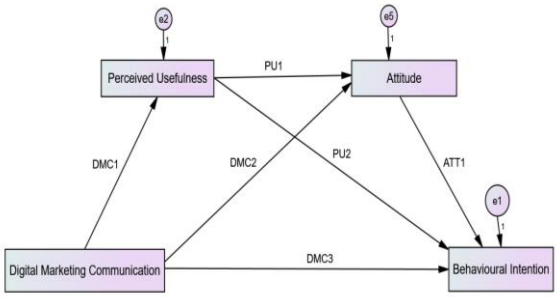

Figure 4 Conceptual Model of Serial Mediation

Table 5 Labels in the Serial Mediation Model

Labels	Relationships	Variables Roles
DMC1	DM → CPU	IDV → Med. 1
DMC2	DMC → ATT	IDV → Med. 2
DMC3	DM → CBI	IDV →DV
PU1	PU → ATT	Med. 1 → Med. 2
PU2	PU → BI	Med. 1 → DV
ATT1	ATT → BI	Med. 2 → DV

IDV = "Independent Variable", DV = "Dependent Variables", Med. = "Mediator".

The results of various relationships, including serial mediation, have been presented in Table 5. An Indirect effect is calculated as a multiplication of two relationships (Table 4 & 5).

combined between DMC and BI (β=0.041, *p=0.02*). Serial mediation was further investigated for its nature. The results are presented in Table 6. The Direct, Indirect and Total effects are found to be significant (β=0.118, 0.182 and 0.300, respectively, p=0.000, .049, and .000, respectively), which reflects that there is a partial mediation of PU and ATT between the relationship of DMC and BI.

Findings and Discussion:

The study finds that "Digital Marketing Communication" (DMC) significantly affects all the most important antecedents of the TAM, along with the BI. This reflects the power of digital communication in the present era. MBTs run their campaigns mainly through digital means. These results are consistent with the previous research that has investigated "digital marketing" (Das & Mittal, 2023) and "electronic word of mouth" (Kudeshia & Mittal, 2015b) in various business contexts. DMC clarifies doubts and communicates offers and other benefits about MBTs to the customers, influencing positive usage appeal and familiarity with the usage of applications (Murillo-Zegarra et al., 2020; Kudeshia & Mittal, 2016). PEOU, PU and SI significantly affect the ATT (Goyal & Haldar, 2020; Weng et al., 2017). This reflects that in

Table 6 Indirect Effects (Normal and Serial Mediation)

Relationships	Codes	Calculations	Estimate	P
DMC → PU → BI	SEI1	DMC1*PU2	.084	.012
DMC → ATT → BI	SEI2	DMC1*ATT1	.105	.002
*DMC →PU →ATT BI	SEI3	DMC1*PU1*ATT1	.041	.002
Total Indirect Effect	TIE	SIE1+SIE2+SIE3	.230	.000
Total Effect	TE	TIE+DMC3	.373	.000

*SIE=Specific Indirect Effect, *Serial Mediation = DMC to PU to ATT to BI*

Table 7 Direct, Indirect and Total Effect (Parallel Mediation of ATT & CS)

Hypothesis	Direct Effect	P Value	Indirect Effect	P Value	Total Effect	P Value	Result of Parallel Mediation
*DMC PU ATT BI	0.118	0.000	0.182	0.000	0.300	0.000	Partial Mediation

The estimates show that all the indirect effects are significant. There is a significant mediation effect of PU between DMC and BI (β=0.084, *p=0.012*), ATT between DMC and BIT (β=0.105, p=0.002), and PU and ATT both

the case of MBTs, marketers may use multiple attributes in the marketing communication to form the attitude of taxi users. Further, PU and PEOU also influence the BI significantly (Yang et al., 2020; Weng et al., 2017). Only PEOU

does not influence PU (Yang et al., 2020), and SI does not influence BI (Weng et al., 2017). These results indicate that PEOU does not always convert into PU when it comes to an important and severe service like a taxi. Similarly, SI can form an attitude, but it directly fails to influence the behaviour.

In addition to introducing DMC as an antecedent to the constructs of TAM, another contribution of this study is to test the serial mediation of PU and ATT between DMC and BI. It was found that there was a significant partial mediation of PU and ATT between DMC and BI, which reflects that these two components are important in a sequence. First, users perceive new technologies as useful and then build a positive attitude towards them. When put together, these two lead to a positive BI. Though we could not find any evidence of similar results in the previous studies, the relationship between PU to BI and ATT to BI has been found significant in many previous studies (Goyal & Haldar, 2020; Weng et al., 2017; Yang et al., 2020).

CONCLUSION AND IMPLICATIONS

MBT services represent yet another service that involves users' adoption of technology. In a study in the Chinese context, it was found that app-based taxi services are more prevalent in cities with shorter metro lines (Tang et al., 2020). It has been well established in most studies that the PU, PP, and PEOU affect BI's use of e-hailing applications (EHAs). However, the authors also determined the precedents of PEOU, namely, effort expectancy, perceived locational accuracy, and perceived mobility. (Shamim et al., 2021).

The findings of the study indicate that budding managers and marketers must give due importance to DMC and PU to form a strongly positive attitude so that users are motivated to adopt MBT. MBT service providers may consider customising their services using Artificial Intelligence (AI). Knowledge management through AI can contribute to understanding and serving customers better (Arbatani et al., 2021; Mittal et al., 2023; Mittal et al., 2024). A significant increase in mobile phone usage timing has fostered the usage of mobile apps. It has given customers a confirmation of using such apps, which contributes positively to their PEOU (Weng et al., 2017). Literature has reported that Satisfaction with MTB apps leads to positive behavioural intention (Lee et al., 2017). This finding may be extended in future research by connecting it directly or indirectly with the DMC and BI.

This study contributes new insights into the existing literature. However, many other dimensions need to be investigated further. Convenience and ease of use for customers are always the heart and soul of businesses like MBTs. The passengers would have the privilege to just set up the location on the app and track down the driver automatically, and in a matter of few minutes, the driver would come and pick them up. The driver would not ask for the location as it is already mentioned in the system, and the GPS will allow the driver to track the address. The travellers' account details are connected to the e-taxi account; no money transactions can be done via cash. The privilege of paying money online to drivers via UPIs or even post-paid services has been made available through applications such as Ola (Erceg et al., 2021).

This study opens many new areas for future research. A comparative study may be carried out by applying the moderation effect of various demographic variables (Chawla & Joshi, 2019). Similarly, a comparison of the behavioural intention of heavy users and light users may also be made. Most of the studies in the existing literature have shown that the principal components of TAM are generally the perceived usefulness, as well as the usability as viewed by the commuters, and disposition towards e-taxi innovation, which firmly affects a client's expectation to utilise e-taxi innovation. TAM may be extended throughout by using different antecedents to the existing variables. Such antecedents may be service quality, tech savviness, age, number of years of MBT usage, customer satisfaction, etc. (Yang et al., 2020; Weng et al., 2017). Future researchers should also study the interplay of customer loyalty, switching behaviour, and satisfaction to strengthen the antecedents of MBT adoption (Allen et al., 2019). In future research, the drivers' attributes can also be tested as moderators between the PEOU, PU, and Attitude (Khan et al., 2016). Briefly, the present study gives new insights into MBT services by highlighting the importance of digital marketing communication in forming P and attitudes and

influencing behavioural intention to adopt MBT services directly and indirectly.

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