MOTIVATORS TO MOBILE APP ENGAGEMENT: A MULTI-DIMENSIONAL PERSPECTIVE

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ABSTRACT

The study adopts a multidimensional perspective to the mobile app engagement process and attempts to investigate the role of varying user motivations and app characteristics on this process. An online survey questionnaire was floated to collect data from 303 frequent app users. The findings revealed that the mobile app characteristics of convenience and perceived security, along with the utilitarian, hedonic and social motives, induce users to engage with the app psychologically. This was found to result further in the behavioural engagement towards the intention to use the app. This study attempts to provide a holistic preview of the mobile app engagement phenomenon and contributes to the existing body of knowledge. This is one of the few studies which conceptualize mobile app engagement as a multi-dimensional phenomenon and draws a clear distinction between various media characteristics, user motivations as well as different stages in the engagement process.

Keywords: Mobile apps, Psychological Engagement, User Motivations, Behavioral Engagement, App Characteristics, Multidimensional Engagement.

INTRODUCTION

Mobile apps have become an indispensable part of everyday life and the new face of engagement (Schadler & McCarthy, 2012). Mobile app is defined as software *"that is downloadable to a mobile device and prominently displays a brand identity, often via the name of the app and the appearance of a brand or throughout the user experience*." (Bellman et al., 2011). The total number of downloads for mobile apps in 2021 was 230 billion, and total revenues from these apps are expected to reach 613 billion USD by 2025. Clearly, mobile apps have gained popularity among consumers, encouraging marketers to alter their engagement strategy by increasing the use of the platform (Kumar, 2021). Mobile apps provide lucrative opportunities to businesses as it provides them with a new channel to reach out to customers with unique features such as convenience, customization, and location specificity. Mobile apps provide many touchpoints in the customer journey to deliver value to their customers (Omigie et al., 2017). Customers use a particular mobile app to seek information, entertainment, privacy, productivity, reviews, transactions etc. (Boyd et al., 2019). In this way, mobile apps play a vital role in engaging customers with their brands, ultimately increasing customer value (Pansari & Kumar, 2017).

Customer engagement, after being ranked as a major research priority continuously by MSI 2010, 2014, 2020 has resulted in vast amounts of conceptualization in the area in different contexts such as social media, online communities, brand engagement and mobile apps (Baldus

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et al., 2015; Brodie et al., 2011; Hollebeek, 2011; Kumar & Tuli, 2021; Pansari & Kumar, 2017; Tarute et al., 2017; Stocchi et al., 2018). Despite considering consumer engagement as a behavioral manifestation (Pansari & Kumar, 2017), psychological state (Bowden, 2009) and an emotional state (Sashi, 2012); many researchers consider it as a multi-dimensional phenomenon (Brodie et al., 2011; Baldus et al., 2015; Hollebeek, 2011; Kumar & Tuli, 2021).

Mobile apps' value propositions over other media platforms evidently provide personalized and portable solutions to the consumers. The nature of consumer engagement is context-specific (Brodie et al., 2011; Hollebeek et al., 2014); hence, the investigation of drivers and outcomes of mobile app engagement are increasingly attracting both practitioners and academicians alike (Rasool et al., 2020; Kumar, 2021). One of the prominent reasons behind the dearth of mobile app engagement studies is the lack of appropriate metrics to account for such engagement (Rutz et al., 2019). The mobile marketing literature can be divided into adoption and post-adoption phases (Nysveen et al., 2015). A large amount of literature is dedicated to adoption of mobile apps (Gupta & Arora, 2017). For this study, the authors consider adoption different from engagement. Adoption may be considered only the primary level of engagement, which is continued interaction with the app post-adoption (Fang et al., 2017; Kim et al., 2013a).

Additionally, despite the increasing number of downloads and adoption of mobile apps, 21 percent of apps are abandoned after their first use. This data clearly explicates the need for further exploration of the mobile app engagement domain and makes it imperative to investigate what drives users to engage with mobile apps. Thus, this study aims to investigate drives of mobile app engagement and its outcome. The next section comprehensively explores the literature and proposes a model validated by structural equation modelling based on 303 responses from frequent mobile app users. Finally, the last section discusses the practical and theoretical implications of the study and provides avenues for future research.

LITERATURE REVIEW

In the current world scenario, mobile based services have become a prominent tool for businesses not only for their digital commercial transactions but also for enhancing their operational efficiencies (Aithal, 2015; Leem et al., 2004). Several factors such as gaining technology leadership, catering to customer needs, increasing revenues, and enhancing the image are few of the many motivators for financial businesses to use and provide mobile services (Tiwari et al., 2007). Using m-commerce has been found to broaden business networks, increasing sales; adding resellers and buyers; smooth business transactions, and enhance product innovation, process and marketing (Utami et al., 2019). According to Peppard & Rylander (2006), integration of mobile devices with the data and IT, results in better opportunities for firms.

One of the most prominent applications of mobile business observed is mobile marketing. Varnali & Toker (2010) have highlighted that the acceptance of mobile marketing depends upon consumers' predispositions, their acceptance of the technology and the perceived credibility of the sender. Mobile marketing is defined as "*using a wireless medium to provide consumers with time and location sensitive, personalized information that promotes goods, services and ideas, thereby benefiting all stakeholders*" (Scharl et al., 2005). Emphasizing that adoption of mobile marketing is affected by the geography and industry, mobile devices facilitate targeting customers based on several temporal, geographical, behavioral, or contextual factors, which

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enables personalization and effective two-way interactions across different channels, which in turn improves the quality of mobile marketing (Narang & Shankar, 2019). These features of mobile devices facilitate purchasing in the contemporary omnichannel retailing environment.

Mobile apps are predominantly being used for brand marketing. Previous research has found various personal factors influencing app adoption (Xu et al., 2016; Gera et al., 2020). Malik et al. (2017) have proposed that multiple app features and consumer expectations and perceptions affect adoption among Indian consumers. Additionally, the existing literature points out that both the personal factors (i.e., cognition, affection, behavior, motivation, and personality), as well as peripheral factors (i.e., societal), significantly affect the adoption intentions of the consumers (Gera et al., 2020). But in some cases, studies have shown that certain apps are not adopted even though there is no problem with the technology (Shukla & Sharma, 2018). The aforesaid finding is likely contextual. The extant literature also discusses post-adoption behavior in great detail. Karahanna et al. (1999) draw a clear differentiation between the users' pre-adoption and post-adoption behaviors and beliefs.

The post-adoption behavior between continuers and discontinuers depicts that early adopter (*vs* late adopters) of the technology are less likely to discontinue post-adoption and are more likely to utilize the services offered (Parthasarathy & Bhattacherjee, 1998). Such findings aid the technology developers to enhance the usability and features of the said technology to influence both the adoption and post-adoption behaviors of the users. The studies on post-adoption behavior have shown multiple factors affecting the users' behavior. For instance, a study shows how the perceived benefits derived post-adoption enhance an app's perceived usefulness and enjoyment, which consequently act as antecedents to continued use of such apps (Oghuma et al., 2015). Similarly, a study highlighted how the favorable perceptions of the mobile apps among older adults' results in positive usage behavior among such user are post-adoption (Li & Luximon, 2018). The post-adoption behavior is also believed to affect the technology upgrade intentions of the users. Although a significant amount of literature talks about the adoption and post-adoption of mobile apps, there is a lack of literature distinguishing the concepts of adoption and engagement. Both of these concepts, though they appear similar, vary in their nature.

The concept of mobile app engagement is dynamic and still requires a consensus around its nature and orientation. This is evident by the various definitions of mobile app engagement that are adopted in the literature, each providing a different perspective on the process. Table 1 depicts the varying illustrations and the dimensions proposed in the field of mobile app engagement.

Table 1
DEFINITIONS, DIMENSIONS AND CONTEXT IN THE MOBILE APP ENGAGEMENT LITERATURE

Authors	Definition	Context	Concept Dimensionality
Kim et al. (2013a)	Engagement motivation refers to "*user's motivation to engage in activities using their smartphones*"	General Apps	Multi-dimensional
Kim et al. (2013b)	"*A set of branded app experiences that motivates consumers to try to make happen repeatedly in their lives*"	Branded Apps	Uni-dimensional
Fang et al. (2017)	While psychological engagement is "*the level of an app user's positive, fulfilling,*	Travel	Multi-dimensional

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	and app-related state of mind that is characterized by vigor, dedication, and absorption", "*behavioral engagement refers to users' continued interaction with a mobile app*"	Apps	
Kim & Baek (2018)	"*The quality of motivational experiences that consumers have when connecting with a mobile app and how those experiences satisfy their functional, experiential, and social expectations*"	General Apps	Uni-dimensional
Viswanathan et al. (2018)	"*Customers' interactive experience with the focal branded mobile app*"	General Apps	Uni-dimensional
Kulta & Karjaluoto (2016)	Mobile engagement refers to "*interactions with the mobile technology, experiences, and the connection between a brand and a customer*"	Mobile Devices	Multi-dimensional
Mondal & Chakraborty (2019)	"*A set of in-app experiences that influence consumers to become interested, involved, and occupied in doing something and acts as an antecedent to consumer responses such as consumer attention, liking, usage, and word of mouth*"	Branded Apps	Multi-dimensional
Tian et al. (2021)	App engagement refers to "*users' continued interaction with a product*"	Travel Apps	Multi-dimensional
Kumar & Tuli (2021)	"*Consumer's continuous cognitive, affective and behavioral involvement and interaction with the app induced by the subjective systemic features and brand-related aspects to obtain inherent and derived benefits*"	Branded Apps	Multi-dimensional

While numerous factors have been found to drive and instill app engagement, these factors are primarily categorized into utilitarian and hedonic motivations to engage (Kim et al., 2010; Stocchi et al., 2018; Wang & Gutierrez, 2018). In addition, a study also found that increasing the financial incentives for downloading an app may increase user engagement by establishing a U-shaped relationship between the two.

The way the consumers interact with an app essentially decides the effectiveness (Wu, 2015). This interaction is also moderated by the type of apps in some cases (Kim & Baek, 2018). McLean & Wilson (2019) provided a detailed model that covers both pertinent technology factors and context-specific factors of augmented reality affecting engagement. The mobile app features are believed to increase the engagement among the users, which might lead to favorable outcomes for the brands (Fang et al., 2017; Wang & Gutierrez, 2018). McLean (2018) shows how the role of app features changes with the time and the location of the usage of the apps. However, a study shows that engagement is more affected by the users' emotional responses to the app than the perceived app features when the app fulfils hedonic enjoyment (Li et al., 2020). Additionally, app performance was found to exert a relatively stronger effect on stimulating psychological engagement than app design/features (Fang et al., 2017). These findings have proven to be fragmented and highly contextual.

Viswanathan et al. (2018) focus on how an app's features may sometimes be perceived as disengaging leading to specific app-related disengagement having substantial long-term effects on purchase behaviors. Engagement is inherently multi-dimensional (Hollebeek, 2011), but the existing framework on mobile app engagement lacks this consideration. For instance, Tarute et al. (2017) presented consumer engagement mostly from the emotional dimension perspective. However, a few studies have shown app engagement as a multi-dimensional construct. For

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example, Fang et al. (2017) studied how psychological engagement is mediated by various utilitarian, hedonic and social benefits, in turn influencing behavioral engagement. Similarly, a study by Kim et al. (2013b) uses the cognitive–affective–conative stage framework to understand mobile user engagement.

Contributions of the Study

The dearth of studies exploring the multi-dimensional nature of mobile app engagement calls for a revised framework to incorporate this multidimensionality and enhance the existing body of literature. Thus, this study aims to investigate the various utilitarian, hedonic and social motivations, along with the app characteristics that instill a user to engage psychologically with a mobile app, which translates to the behavioral manifestation of engagement. The studies undertaking the multi-dimensional view of the mobile app engagement process have shown psychological engagement to result in behavioral engagement (Kim et al., 2013a; Fang et al., 2017). The utilitarian, hedonic and social benefits/motivations are proposed to affect the future engagement with an object (Nambisan & Baron, 2007). This work aims to provide a holistic view of the mobile app engagement process taking a lens of multi-dimensional engagement, media-specific characteristics, and user motivations to engage.

Hypotheses Development

Perceived usefulness: The perceived usefulness of a mobile application, defined as ''*people's tendency to use or not use an application to the extent they believe it will help them perform their job better*" (Davis, 1989)**,** represents the degree to how much the app will add value to the consumer. Previous literature has observed that the perceived usefulness of mobile apps mostly relies on, for instance, the category of the product purchased, perceived attribute of technology, and ease of use (Chuah et al., 2016; Sohn, 2017; Choi, 2018). On perceived usefulness, Kim et al. (2010) state that it can be explained by four attributes of the mobile applications – reachability, mobility, convenience, and perceived ease of use. Furthermore, the significance of usefulness can be grounded by the results of the studies that show consumers' positive attitudes towards mobile apps in relation to both information and entertainment usefulness (Gurtner et al., 2014; Kim et al., 2016). Therefore, the following is hypothesized:

H_1: *The perceived usefulness of the app will positively affect psychological user engagement.*

Perceived security: Security is defined as "*the protection of information and its critical elements, including the systems and hardware that use, store, and transmit that information*" (Whitman & Mattord, 2021). Users are often asked to feed their personal information in the mobile apps, which stand the risk of being misused by various entities, making the users skeptical (Fang et al., 2017). Users have different perceptions of the security features of the mobile apps affected by their personal hesitancy to provide information and trust the external details on the security of an app (Kumar & Tuli, 2021). Thus, apps that are perceived to have security protocols in place are found to have a higher user interaction (Fang et al., 2017). Therefore, the following is hypothesized:

H_2: *Perceived security features of the app will positively affect psychological user engagement.*

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Convenience: Convenience is defined as "*the consumers' ability to receive a service when he or she wants it*" (Gilbert et al., 2004). Previous research has also shown that time convenience (Kim & Baek, 2018), mobility/location convenience (Wu, 2015; van Heerde et al., 2019), and effort convenience (Flaherty et al., 2019) contribute significantly towards app engagement. McLean (2018) shows the influence of the convenience of the app to increase continued engagement with the app when an app is retained for use by a user. Thus,

H_3: *The convenience provided by the app will positively affect psychological user engagement.*

Enjoyment: One of the major factors found behind mobile app engagement is enjoyment through various ways like music, games, videos, etc. Enjoyment is an activity of using a system that a user finds enjoyable in its own right, aside from any performance consequences resulting from system use (Venkatesh et al., 2012). Users can play games or watch movies and listen to music anytime, anywhere for entertainment and enjoyment, and that's how they get engaged with the app. Previous studies have also shown the aspect of enjoyment as an important determinant of mobile app engagement (McLean, 2018). Additionally, Venkatesh et al. (2012) has stressed the role of enjoyment in enabling technology used under the improved TAM model. Enjoyment was also found to act as an antecedent for behavioural intention to adopt mobile apps by positively influencing perceived usefulness factor (Mehra et al., 2021). It is hypothesized:

H_4: *The level of enjoyment from the app will positively affect psychological user engagement.*

Social interaction: Social interaction is defined as the "*app's ability to help customers stay in touch with friends and others*" (Eisingerich et al., 2019). When an app allows a user to create and share content or information with other users, a user is socially motivated to engage with the app. Alnawas & Aburub (2016) have depicted how the social benefits derived from mobile apps enhance satisfaction and loyalty intentions. A study also established the mediating role of social benefits derived from the apps between psychological engagement and behavioral engagement (Fang et al., 2017). The previous literature has shown that socialization on any media has been necessitated as it is a method of identity formation (Genner & Suss, 2017). Considering the above findings, the following is hypothesized:

H_5: *Social interaction allowed by the app will positively affect psychological user engagement.*

Psychological engagement and continued intention to use: The intention to use has been found as a likely consequence of consumer engagement (Tarute et al., 2017). The intention to use has been considered as a subset of behavioral engagement in the mobile app literature (Kim et al., 2013a). This study uses continued intention to use as a proxy to the behavioral manifestation of engagement (Figure 1). It is found that when a user invests cognitively and affectively in an app, he/she is likely to continue this investment behaviorally (Fang et al., 2017). Chuang (2020) proposed that engagement follows a sequence wherein psychological engagement precedes the behavioral engagement. Hence, it is hypothesized that:

H_6: *Psychological user engagement results in continued intention to use mobile applications.*

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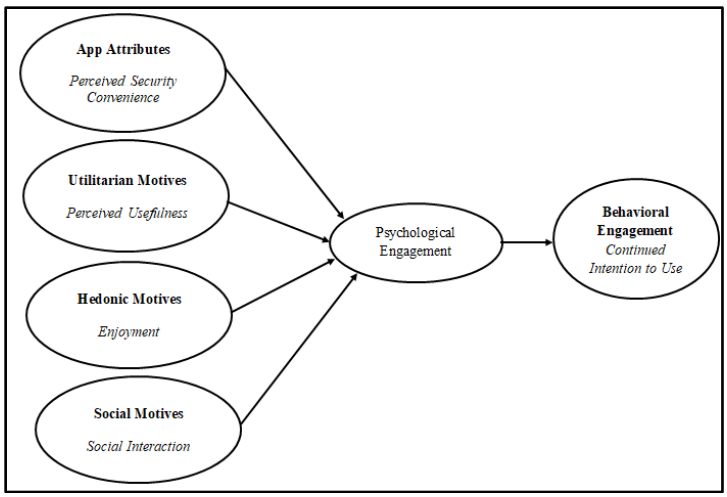

FIGURE 1
RESEARCH MODEL FOR TESTING

METHODOLOGY

Data Collection and Sampling

An online survey questionnaire was floated for data collection using random sampling on a Likert 5-point rating scale. Only those respondents who were using mobile apps for one or more than a year daily were included in the study. Use of online surveys has become popular and adds diversity and validity to the data (Duffy et al., 2005). A total of 328 responses were received, out of which only 303 responses were usable. 136 (45%) of such respondents were female and 167 (55%) were male. First, they were asked to choose their favorite mobile apps out of 10 mobile apps. Then, these apps were chosen from the Google Play Store's list of most popular apps in all categories. This was done following the proposition by Roy & Mandal (2020) that all mobile apps are branded apps and have a point of differentiation separating them from the substitute apps. WhatsApp was the most used app with 82.9% by users, followed by YouTube (70%) and Instagram (66.5%). The average age of the respondents was 25 years.

Measures

For the questions, well-established scales from the literature were adopted. These questions measured the variables of perceived usefulness, privacy and security, interaction, consumer capabilities, customization, consumer engagement and continued intention to use. To enhance the reliability of the measures, some of the questions were modified according to the context. 24 questions measuring 7 constructs on a Likert scale of 1 to 5 ranging from strongly disagree to strongly agree were used. Table 2 depicts the scales and items used for the research.

Table 2
MEASUREMENT SCALES

Variables	Adapted Scales	Scale Reference	Item Loadings	Cronbach alpha	CR
	USEF1 – Using this app improves my	Davis (1989)	0.855	0.897	0.899

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	performance in my daily life.				
	USEF2 – Using this app increases my productivity in my daily life.		0.788		
Perceived Usefulness	USEF3– Using this app enhances my effectiveness in my daily life.		0.872		
	USEF4- Using this app enhance my potency in my daily life.		0.861		
	CON1 – Buying from the app is a convenient way to manage my time.	McLean (2018)	0.749	0.778	0.786
Convenience	CON2 – Buying from the app makes my life easier.		0.754		
	CON3 - Buying from the app fits with my schedule.		0.719		
	SEC1 - My private information is managed securely when using this app.	Miyazaki & Fernandez (2001)	0.792	0.71	0.707
Perceived Security	SEC2 - I am sure that payment information will be protected when using this app.		0.808		
	SI1 - The app helps me stay in touch with friends and colleagues.	Eisingerich et al. (2019)	0.744	0.73	0.729
	SI2 - The app facilitates social interaction with friends and family.		0.796		
Social Interaction	SI3 - The app strengthens the connections I have with friends and others.		0.718		
	ENJ1 - Using this mobile application brings me pleasure.	Lu et al. (2017)	0.85	0.772	0.785
	ENJ2 - Using this mobile application makes life fun.		0.884		
	ENJ3- Using this mobile application makes me feel happy and relaxed.		0.835		
Enjoyment	ENJ4- Using this mobile application is exciting.		0.8		
	PE1 - I feel strong and vigorous when I am using this mobile app.	Fang et al. (2017)	0.798	0.883	0.885
	PE2- I am enthusiastic in this mobile app.		0.795		
Psychological Engagement	PE3 - Using this mobile app is absorbing and immersive.		0.799		
	CIU1 - I tend to leave positive comments about this mobile application.	Overby & Lee (2006); Ryu et al. (2012)	0.878	0.886	0.888
	CIU2 - I think this mobile application is the best out of similar ones.		0.816		
	CIU3 - I would like to use this mobile application in the future.		0.814		
Continued Intention to Use	CIU4-I would recommend this mobile application for my family and friends.		0.807		
	CIU-5 I think that I would use this mobile application in the future.		0.8		

(CR - Construct Reliability; AVE - Average Variance Extracted)

RESULTS

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Preliminary Analysis

SPSS and Amos (Version 21) were used for the Structural Equation Modelling (SEM) to empirically validate the model. Since it's a multi-dimensional construct, EFA was done by using principal component analysis using varimax rotation (Pallant, 2020). EFA was done to find the relationships between the measured variables and the structure of various variables included in the study. EFA was done for each construct as they all are latent variables. After six iterations, the results of 7 factors are shown in Table 2. The KMO Bartlett sampling adequacy was 0.832, above the standard criteria with a significant P-value (Kaiser, 1970).

All the items were well loaded with an average of more than 0.7 in their respective constructs (Hair et al., 2011). In addition, Cronbach alpha was calculated for reliability, significant and above 0.7 for all the constructs. The descriptive, convergent and discriminant validity and reliability are presented in Tables 2 & 3.

Table 3
CORRELATION AND THE SQUARE ROOT OF AVE

Enjoyment	0.649	-		-	-	-	-
Continued Intention to Use	0.614	0.429	-	-	-	-	-
Perceived Usefulness	0.691	0.054	0.07	-	-	-	-
Psychological Engagement	0.658	0.057	0.037	0.406	-	-	-
Convenience	0.581	0.019	0.022	0.169	0.444	-	-
Social Interaction	0.521	0.129	0.043	0.364	0.563	0.365	-
Security	0.549	0.014	0.063	0.52	0.499	0.214	0.418

SEM Results

AMOS was used to test the measurement model; the maximum likelihood method was used for the CFA. Firstly CMIN=376.51 and DF=228 and CMIN/DF=1.651 was found significant (Bentler & Bonnet, 1980). Further CFI, GFI, NFI, TLI, RMESA and AGFI values were obtained, which are significant as per the literature (Browne & Cudeck, 1992). The model fit indices are presented in Table 4. The data showed a good model fit. All the AVE values are above the standard value of 0.5 (Fornell & Larcker, 1981) and exceed the square inter-construct correlation establishing the discriminant validity.

Table 4
RESULT FOR MODEL FIT

	GFI	CFI	NFI	TLI	RMESA	AGFI
Values	0.907	0.957	0.898	0.947	0.46	0.878

(GFI- Goodness of Fit; CFI- Comparative Fit Index; NFI- Normed Fit Index; TLI- Tucker Lewis Index; RMESA- Root Mean Square Error of Approximation; AGFI- Adjusted Goodness of Fit) ($p<0.05$)

Hypothesis Testing

To test the hypothesis: the p-value, t-value and path coefficients were estimated. Since the study's objective was to see the drivers for mobile app engagement, the formulated hypotheses were tested. The findings supported 5 out of these 6 hypotheses. The findings show

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that social interaction act as a strong driver to psychological user engagement (t-value 5.172 and p-value 0.000), along with convenience (t-value 4.88, p-value -0.000), usefulness (t-value 3.447, p-value 0.001), and perceived safety (t- value 3.775, p-value 0.000). Psychological engagement with mobile apps also leads to continued intention to use (t-value 22.044, p-value 0.000). However, enjoyment was not significantly affecting psychological engagement (t- value 0.587, p-value 0.558). The results are presented in Table 5.

Table 5
HYPOTHESIS TESTS

Hypothesis	IV	DV	Beta coefficient	t-value	p- value	Result
H_1	Convenience	Psychological Engagement	0.237	4.88-	0	**Supported**
H_2	Enjoyment	Psychological Engagement	0.027	0.587	0.558	Not supported
H_3	Perceived Safety	Psychological Engagement	0.2	3.775	0	**Supported**
H_4	Social Interaction	Psychological Engagement	0.267	5.172	0	**Supported**
H_5	Perceived Usefulness	Psychological Engagement	0.183	3.447	0.001	**Supported**
H_6	Psychological Engagement	Continued Intention to Use	0.786	22.044	0	**Supported**

DISCUSSION

This study aimed to develop a model of the process of mobile app engagement by exploring the existing literature and validating it by structural equation modeling. Various drivers for mobile app engagement have been explored, resulting in continued intention to use mobile apps. This study contributes to the existing literature by highlighting the various user motivations and app characteristics that engage a user psychologically. This psychological engagement was then found to translate into the behavioral manifestations of engagement by developing the intention to continually use the app.

Thus, the hypothesized model validates the multi-dimensionality of consumer engagement as proposed in the previous studies (Brodie et al., 2011; Hollebeek et al., 2014). Perceived usefulness, being adapted from the Technology Acceptance Model (TAM) is a significant variable in technology adoption (Davis, 1989). In line with the existing literature, the current study further signifies the importance of perceived usefulness in continued intention to use mobile apps. Enjoyment was not found as a significant driver of app engagement. While the previous research emphasizes the importance of this aspect (McLean, 2018); this study does not support it. A possible reason behind this result might be that the most prevalent apps among the sample population had an interactive interface (social media apps) and hence are used for interaction purposes. This seems understandable as social interaction was found to be one of the significant drivers of engagement. These users might have considered enjoyment as the subset of such social interaction rather than considering it to be a separate variable altogether.

The existing literature on consumer engagement does not emphasize the affective and psychological facets but rather has focused more on the behavioral dimensions (Ng et al., 2020). This study filled this gap by exploring the psychological dimension. Significant work has been done in consumer engagement in different contexts (Hollebeek, 2011; Brodie et al., 2013; Kim et al., 2013a), but mobile app engagement is a relatively new area. Thus, this study contributes to the field by adding to the body of literature by conceptualizing and validating the framework for the drivers and consequences that will facilitate the marketers to understand the consumer's attitude and perception.

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Limitations and Future Research

Although the findings advance the understanding of mobile app engagement, there are certain limitations to this study. However, some of them may be seen as future research avenues. Firstly, this study is conducted in a single cultural context and on the population that uses mobile apps daily. Researchers are encouraged to test the model in a different culture where the population has fewer mobile apps. The data was collected from Delhi/National Capital Region (NCR), a metro city; sampling from non-metro cities or small towns might differ in findings.

Additionally, the data collected used self-report measures that may be inaccurate and retrospective. Therefore, future researchers must employ a different methodology, such as focus groups or diary accounting. It will be interesting to see whether the results will align with the current study or differ.

This study has shown user motivations as drivers for mobile app engagement. Still, it will be interesting to see the moderating effect of consumer dispositions such as Big Five personality traits and other consumer-technology interaction factors such as technological readiness or customer capabilities on consumer engagement. The study is limited to measuring behavioral engagement with continued intention to use. Future research is required to explore the other outcomes such as willingness to purchase or willingness to recommend, as the existing literature also outlines these factors as consequences (Stocchi et al., 2018).

CONCLUSION

The continued use of mobile apps has become a big challenge for companies, as 71 percent of mobile apps are discontinued after 90 days. This study provides the marketers with the drivers that motivate the users to use mobile apps continuously. The study breaks down the engagement process to segregate the user motivations and the app-specific characteristics that engage a user with a mobile app. Thus, this will help the marketers to correctly target the motivations and probe the users to engage with their app. The app characteristics, important for engaging the users, will provide a direction to the app developers to design effective interfaces that the users resonate with. The multidimensionality of the engagement process is also an indication to the practitioners' to first invest in generating affective and cognitive responses from the customers, which will convert into various engagement behaviors.

Asian countries, like China and India, are a few countries with the greatest number of smartphone users. Thus, businesses in these emerging countries have a huge opportunity to approach the customers through cost-effective ways of mobile marketing and e-commerce. The findings of this study provide a path to the practitioners' to efficiently motivate the customers to engage with their mobile apps and encourage app stickiness. The model proposed also provides a sequential process which will aid these businesses to probe at the right stage to generate maximum returns. Although, the findings didn't provide any sales metrics, they do point towards the users' intention to continuously use the app, which might convert into sales.

Theoretically, the study extends the literature on mobile app usage by highlighting how the user' intention to continually use the app evolves. The consumer behavior literature is also expanded by highlighting the underlying motivations of the app users to engage with the app and continue using it. Lastly, the contribution to the customer engagement domain is made by

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corroborating the multi-dimensionality of engagement process and decodifying the app engagement phenomenon.

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