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Mobile Shopping Adoption:
Insights into Attitude, Intentions and Flow Experience

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ABSTRACT

The purpose of this study is to predict the intentions of Indian consumers" to adopt mobile shopping (M-shopping). This study uses extended technology acceptance model (TAM) by assimilating flow theory and its dimension (curiosity), into it to explain the consumers" intention to adopt shopping on mobile (M-shopping) in Indian context. A conceptual model is drawn which will evaluate the combined effect of these two theories on attitude and intentions of Indian consumers. Present study propose that flow experience toward mobile shopping is influenced by perceived usefulness and perceived ease of use. Further, this study seeks to check the impact of flow and its dimension (curiosity) on attitude and intention to experience mobile shopping. Current study also proposes that flow acts as a full mediator between perceived ease of use and attitude, which further leads to intention. Data for the study will be collected from 442 indian online shoppers. A seven point liker scale will be used to measure the perception and attitude of respondents towards adoption of mobile shopping. The items of the questionnaire will be adopted from well established studies. The structured questionnaire will be segregated into two parts. First part will measure the perception of respondents and other part will collect information about demographics of the respondents. This study will add the literature of mobile shopping especially in Indian context, as there is a dearth of studies in the adoption of mobile shopping. This study completes with managerial implications and future research avenues.

Keywords: Technology Adoption model, Intentions, Flow theory, Curiosity, and Mobile shopping.

INTRODUCTION:

The mobile shopping domain is changing at a very fast pace due to which it has attracted the attention of academicians as well as industry (Fuentes and Svingstedt, 2017). Today‟s era is witnessing the rapid growth of mobile commerce (M-commerce) and in its applications like smart travelling service, mobile payments and mobile shopping (M-shopping) (Shang and Wu, 2017). Mobile devices, especially smartphones are transforming the way consumers‟ shop online (Grob., 2015a,b; Kourouthanassis and Giaglis, 2012). The growing popularity of mobile phones and upgraded internet connectivity have paved a way for the industry of mobile shopping (Madan and Yadav, 2018).

Mobile shopping has become an essential part of the lives of modern consumers (Madan & Yadav, 2018). Boyle (2013) found that "consumers are using their smartphones for shopping, whenever a shopping idea strikes them". The total number of subscribers is increased by 953.80 million as of October 2017 (TRAI 2017). India is a developing nation and emerging as a country with more than 1.2 billion people using smartphone for shopping. India is the second largest global market, which expected an exponential growth rate of 650 million in 2019 (Mahapatra, 2017). By the year 2020, it is estimated that out of total world population 70% of people will be

doing shopping through their smart devices (Gupta and Arora, 2017).This scenario representing India as a well-established market for online companies. Myntra is one of the prominent fashion store is strategizing to become only mobile market place (Mahapatra, 2017). India‟s another largest e-commerce corporation Flipkart is witnessing 50 million mobile apps installations by the year of 2016 (Gupta and Arora, 2017).

Like Myntra, many other e-commerce giants like Amazon, Ebay, Agros and Snapdeal developed their mobile applications to grab the market share (Marriott et al., 2017; Gupta and Arora, 2017). Now a days smartphones are not restricted for shopping only, but also used for searching information about products and services (Marriott et al., 2017).

The popularity of mobile shopping is increasing day by day and it becomes an alternative method for searching and buying goods online but instead of being in the scenario for more than 14 years the acceptance level of M-shopping is quite low (Marriott & Williams., 2018 and Grob, 2015). Despite of its increased functionality, easy to use mobile shopping applications, M-shopping remains the least desirable way of shopping online, hence surfaces a low adoption rate (Marriott et al., 2017).

Further literature reveals that perceived risk, anxiety, trust and security are some factors, which hinders consumers to adopt mobile shopping. One other factor that is mobile payments is also resisting consumers from adopting mobile shopping. (Gupta and Arora, 2017). Therefore, there is a necessity to study elements, which leads to the adoption of this way of shopping i.e mobile shopping. To fulfill this need technology acceptance model is used here, which is a versatile and reliable model used by many researchers to understand how consumers adopt different technologies (Gefen et al., 2003; Liao et al., 2007; Cho & Fiorito., 2009; Smith et al., 2014; and Chang and Chong., 2013).

The technology acceptance model believes to be a strong model to explain the users‟ intentions to adopt new technology, which further predict their actual usage behavior (Agrebi & Jallas., 2015). TAM is mostly used model in the setting of online shopping (Gefen et al., 2003; Pinto et al., 2017; Liao et al., 2006 and Chang and Chong, 2013). The theory of technology acceptance is centered on two main constructs, which are PU and PEOU, which predict the attitude and intention towards the acceptance of new technology (Harris & Fig, 2000 and Carter et al., 2012). Numerous studies demonstrate that attitude toward new technologies is positively affected by PU and PEOU which, further leads to intention and actual usage.

Moreover, literature also revealed that TAM is now a days used across a wide variety of fields including RFID applications (Smith et al., 2014; and Nascimento et al., 2018); apparel shopping (Cho and Fiorito, 2009); online shopping (Liao et al., 2006, Chan and Chong, 2013) etc.

There are some studies in past, which used TAM in the field of mobile contexts, to evaluate the attitude and intention to adopt mobile technologies like mobile payments (Bailey et al., 2017); adoption of mobile coupons (Ha & Im., 2014) and M-commerce (Yang, 2005; Kuo and Yen, 2009). Some other studies which deals with this theory in the field of mobile are mobile wallets (Shin, 2009); mobile banking (Luarn & Lin, 2005) and mobile marketing (Sultan et al., 2009).

Further, present study assimilates the flow theory and its dimension in TAM to better, understand consumers intention to adopt new technologies (M-shopping). Csikzenmihalyi originated the concept of flow theory in 1975. It is defined as “the holistic sensation that people feel when they act with total involvement” (Csikzenmihalyi, 1975; Ozkara et al., 2017). Many studies in past examines the concept of flow in virtual settings (Novak & Kohler, 1998; Webster and Trevino, 1995) including shopping (Novak et al., 2000; Koufaris, 2002; Hoffman and Novak, 1996). Flow theory was basically, designed for web based and information technology environments (Hsu and Lu., 2004).

However, there are some studies, which have used flow theory in the context of mobile context. Literature exposes some studies, which examined flow experience in adoption of mobile gaming (Ha et al., 2007; Zhou, 2011; Tao & Liu, 2014 and Zhou, 2013) and mobile TV (Jung et al., 2009). Though, there is only one study in past by Chen et al., 2018 that has studied the concept of flow in mobile shopping context. Some studies in past that assimilated flow and TAM theory in online surroundings discovered that there is an inconsistent relationship between these two theories. Few studies demonstrate that flow is stimulated by PEOU (Jung et al. 2009; Holsapple and Wu, 2008), while literature has some studies which reveals the opposite result i.e PEOU causes the flow experience. Higher the PEOU of a person higher will be the state of flow experienced by person in activity he or she is doing (Hsu & Lu, 2004; Ha et al., 2007; Harris & Figg, 2000; Zhou, 2013; Hsu et al., 2013;Chen et al., 2018).

A study conducted by Hoffman & Novak in 2009, demonstrate that flow acts differently in mobile environments and in other contexts like web-based and online settings. So, the effect of flow is still under researched in mobile shopping context (Sohn, 2017 and Chen et al., 2018). The current study seeks to cover this gap by applying integrated model of TAM and flow in mobile shopping contexts and examine whether attitude and intentions of

consumers will affected by the integration of these two theories.

REVIEW OF LITERATURE:

Theory Building:

Technology acceptance model is an influential model developed by Davis (1989) that predicts intention of the consumers‟ to adopt various novel technologies (Natarajan et al., 2018; Arning & Ziefle, 2007; Djamasbi et al., 2010; Agrebi and Jallias.,2015). The basic theory from which technology acceptance model, is evolved was theory of reasoned action developed by (Fishebin &Ajzen, 1975).This Theory is concerned with elements of intended behaviors, which determine attitude and intentions of consumers towards new technologies (Lu et al., 2003 and Wong et al., 2015). Further TPB explains one more construct namely Perceived behavior control that deals with the intentions of consumer regarding acceptance of various new technologies.

The classical model of technology acceptance was developed by Davis (1989) to predict the adoption of new technology within organization (Natarajan et al., 2018), but its flexible structure has permitted its applications in the adoption of various other technologies as well (Manzano et al., 2009). Technology acceptance model worked on two primary beliefs, which are perceived ease of use (PEOU) and perceived usefulness (PU) (Joo & Sang, 2013). According to the theory of TAM perceived ease of use (PEOU) is the "degree to which a person believes that using a particular system would be free of effort" and perceived usefulness (PU) is the "degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989 p. 320).

Various studies used this theoretically sound model in contexts like internet shopping (Manzano et al., 2009); mobile coupons adoption (HA and Im, 2014), mobile banking (Luarn and Lin., 2005); and M-commerce (Yang, 2005 & Kuo and Yen, 2009). Previous studies used this robust model in different phenomenon like apparel Shopping (Cho and Fiorito, 2009); mobile payments (Bailey et al., 2017); RFID applications (Smith et al., 2014); mobile wallets (shin, 2009) and mobile marketing (Sultan et al., 2009);.

Perceived ease of use (PEOU and Perceived usefulness (PU):

Davis (1989) defined PEOU as "the degree to which a person believes that using a particular system would be free of efforts". PEOU is a state where people believe that shopping over mobile is very easy. PU as "the degree to which a person believes that using a particular technology will increase his or her job performance". In the framework of our study PU is a state where people believe that shopping over mobile is useful for them.

Literature reveals that both PEOU and PU positively affect attitude towards adoption of new technologies (Aggarwal and Prasad 1998; Davis and Venkatesh 1996; Venkatesh and Morris 2000 and Davis et al., 1989). Previous studies on technology acceptance model confirmed the positive linkage between perceived usefulness and perceived ease of use (Van Der Heijden, 2003). Davis and Venkatesh proposes that PEOU got more importance due to its great impact on the intentions of adoption of new technologies while the PU is also considered to be equally important as PEOU (Natarajan et al., 2018).

A study conducted on online games by Hsu and Lu (2004) confirmed that perceived ease of use positively affect the flow experience while playing games online (Chen et al., 2018). Literature also confirmed the fact that TAM is a versatile model to conduct study in the domain of electronic commerce, mobile commerce, mobile wallets, instant messaging etc. so, it is necessary to examine the influence of PU on the intention to adopt shopping on mobile because it is a very important subset of m-commerce (Natarajan et al., 2018). As Davis (1989), posits that if user feel that some system is simple to use and required less effort then they are likely to be use and adopt that particular technology or system.

Further, Lu and Su (2009) posits that the willingness of a person to gather information about products and services on mobile phone can be describe as useful, pleasant and fun such things triggers flow experience. Literature posits that the mobile applications, which have greater perceived ease of use are more acceptable; generate positive emotions, thus leads to flow (Chen et al., 2018).

Some theories in past propose flow as an antecedent to PU and PEOU in the adoption of online games and Mobile TV. Based on aforementioned observations following hypotheses are proposed.

H_1 Flow is significantly influenced by PU of mobile shopping.
H_2 Flow is significantly influenced by PEOU of mobile shopping.
H_3 Intention to adopt mobile shopping is significantly influenced by PU.
H_4 PEOU of mobile shopping is positively influenced by PU.

Attitude and Behavioral Intention:

Ajzen and Fishben (1975) classified the construct of attitude in to two parts i.e "attitude toward the object and attitude toward the behavior". The second part discusses the evaluation of a particular behavior. This evaluation of behavior leads to the intention. As literature proved that, attitude and intention are directly linked to each other. Attitude involves the likes of a person toward a given object (Chen et al., 2017). Literature supported the fact that attitude affects behavioral intentions which further leads to actual behavior (Davis, 1989; Madden et al., 1992 and Davis 1993).

Moreover, literature discovers that behavioral intention is significantly, influenced by subjective norms and attitude because both these constructs are direct determining factors of behavioral intention (Gumussoy et al., 2007). Previous studies posits that flow experience stimulate learning and improve attitude and behavior. When customers engaged in the activity of shopping online, they may revisit the website for repurchase again (Cyr and Bonnani, 2005).

A study by Korzaan in (2003) confirmed the fact that pleasing experience felt while shopping online increases positivity in attitude, that leads to stimulate self-efficacy, which further influences consumers‟ future intentions (Chen et al., 2018). Previous study posits that positive attitude affect purchase intention positively in the field of mobile shopping and negative experience contribute to the inconsistent result (Dabholkar and Sheng, 2009; Bandura, 1986; Chen et al., 2018).

H_5 Attitude toward mobile shopping is significantly influenced by flow.

H_6 Intentions to use mobile shopping services is significantly influenced by attitude.

Flow Theory:

Csikszethmihalyi originated flow theory in 1975. Flow experience is "a holistic sensation that people feel when they act with total involvement" (Koufaris, 2002). Literature reveals that flow works as a possible metric of online shopping experience. Previous studies used this multidimensional construct in phenomena‟s like computer mediated environments and information technologies such as world wide web navigating behavior (Novak and Kohler, 1998; Webster and Trevino, 1995; Kim and Han, 2014).

Hoffman and Novak (1996), explains that in flow experience user become mentally engrossed in some activity like browsing a website. It is an experience in which, a person completely indulged in some activity by filtering out inappropriate feelings and perceptions and simply focused on the activity he or she is undertaking (Csikszethmihalyi, 1975and Chen et al., 2018).

Csikszethmihalyi (1975) inventor of this study stated flow as a multidimensional construct. It consists of different dimensions such as feedback, focus, control, goal clarity, loss of self-consciousness and challenges matching skills. Due to its multi dimensionality, literature posited it as a complex concept. A research by Lutz and G in (1994) explains that, "in flow time seems to stand still while people engaged in a consumption event." In 2009, Hoffman and Novak conducted a study and reveals that online flow can be experience when someone feels very much spellbound in some activity.

Flow is a tricky concept and consists of dimensions including concentration enjoyment, and perceived control (Koufaris, 2002). Literature uncovers the fact that concentration, enjoyment and control are widely used dimensions in various studies (Koufaris, 2002 & Zhou, 2013). Many studies used this concept in examining the information system user behavior in the area of online shopping (Hsu, Wu and Chen., 2013); Mobile purchase (Gao et al., 2015); e-learning (Ho and Kuo, 2010), virtual community (Davison Yah, and Mo 2013).

Previous studies provide empirical support for the notion that flow experience influences intentions regarding use of websites, revisiting websites and even purchase intentions are also influenced by this construct (luna et al., 2002, 2003, Koufaris 2002; Kim et al., 2014; Luna et al., 2003; Kim et al., 2014; Agarwal and Karahanna 2000). This phenomenal theory has been used in different contexts like examining user behavior in mobile contexts (Gao et al., 2015; Wong et al., 2015), mobile banking (Zhou, 2012), mobile TV (Jung et al., 2009) and mobile payment (Zhou; 2013).

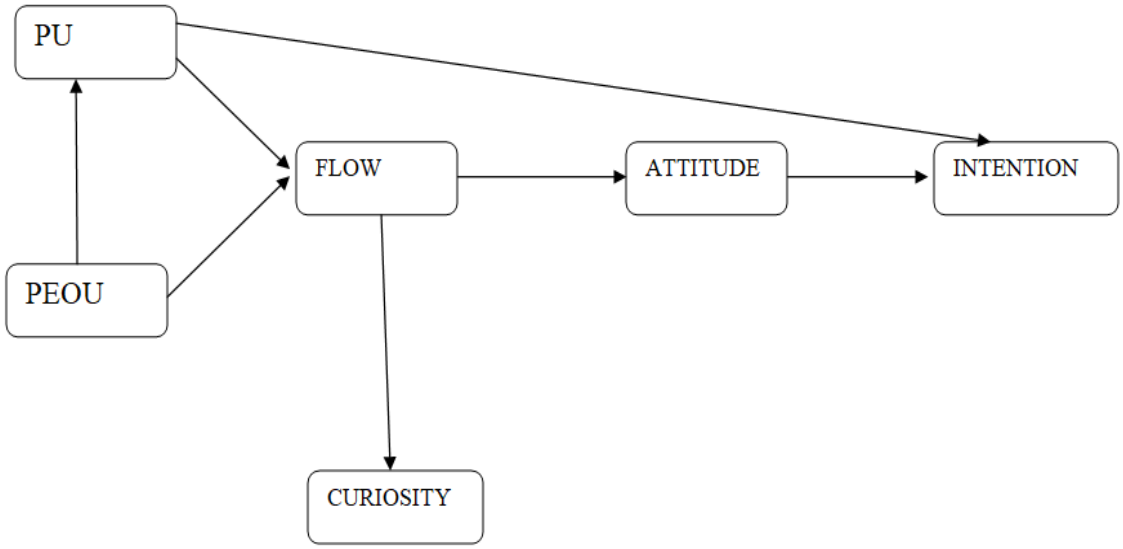
In the area of marketing, many studies examined the impact of flow in various contexts. However, this is the first study, which is examining the integrated model of Flow and TAM theory in adoption of mobile shopping in Indian context.

Curiosity:

Moon and Kim 2001 defines curiosity where "individual remain curious and try to achieve technology competence while engaged in an action". It has been observed that till, date very few researches have studied the effect of curiosity. Some studies in past examined this dimension of flow in quantitative researches and conclude that curiosity positively affect the intention regarding use of hedonic information systems (Lowry et al., 2012;

Pace, 2004 and Ozkara et al., 2017).
One qualitative research examines curiosity in virtual item purchase context and reveals that it is not a important forecaster of flow in that specific context (Guo & Barnes, 2009). Previous studies by Moon & Kim 2001; Aggarwal & Karahanna 2000 and Hsu & Lu 2004, employ curiosity in the area of web sites and conclude that it can lead to flow in navigating the websites.
Further literature reveal that uncertainty of the individual is also increased by increasing curiosity during online shopping process (Reeve, 1994) which further leads to divert individual from purchasing and negatively affect the purchase intention.
H_7 Curiosity is negatively affecting attitude and intentions towards adoption of mobile shopping.

Proposed Model:
The present study proposes the following conceptual model that will examine the integrated effect of TAM theory and flow experience on intention to adopt mobile shopping.



Conceptual model used in this study

RESEARCH METHODOLOGY:

The primary objective of the current research is to understand the predictive power of technology acceptance model. This study assimilates flow experience in to technology acceptance model to predict intention of Indian consumers‟ to adopt mobile shopping. The data for the research problem will be collected from 442 Indian online shoppers. The scale used in this study will be of seven point (Likert scale), ranging from "very strongly agree" (VSA) to "very strongly disagree" (VSD). Further the reliability of the items will be examined by pilot study. The questionnaire will be distributed into two sections. First section deals with the intentions of consumers regarding items to accept mobile shopping. Second part will consists of information regarding demographic details of respondents. Coefficient alpha and reliability test will be done to evaluate the consistency of the results measured. Further, the relationships between the proposed variables will be examined by using technique of structural equation modeling (SEM).

FINDINGS AND DISCUSSIONS:

Previous research reveals that there is a sufficient literature found in the area of mobile commerce; however, studies in the area of mobile shopping are limited. Many studies have used TAM and flow experience in different contexts like online environments, web based environments but there is only one study, that examine these two distinct theories in the domain of mobile shopping. It is vital to examine the intention of consumers‟ in the area of mobile shopping because M-shopping is subset of M-commerce.
The current research seeks to observe the integrated effect of TAM and flow theory on attitude and intentions of consumers for adopting mobile shopping. Second objective is to check the impact of flow and its dimension (curiosity) on attitude and intentions on mobile shopping experience.
This study is evaluating the impact of flow in the area of mobile shopping environment and found that flow positively affects attitude toward mobile shopping therefore influencing purchase intentions. Consumer‟s positive

attitude towards mobile shopping leads consumers to use mobile applications that further stimulate flow experience, which further leads to the adoption of mobile shopping services (Chen et al., 2018).
Literature demonstrates that easy to use technology helps consumers to experience flow. Moreover, literature reveals that flow acts as a full mediator between perceived usefulness (PU) and attitude and it partly mediates the correlation between perceived ease of use (PEOU) and attitude of mobile shopping (Chen et al., 2018).

THEORETICAL IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH:

Current study thoroughly examines the literature and develops a conceptual model, which provides insights into how flow and dimensions mediates the relationship between PU, PEOU, attitude and intention towards mobile shopping. Present study provides valuable implications for marketer, academicians and researchers. The conceptual model provide information about the adoption beliefs of the consumers and how these beliefs can help companies and advertisers to place their product and services in market and make consumers to adopt their product.
Marketers should try to provide easy and simple mobile applications to consumers to increase the adoption rate of mobile shopping. Therefore, marketer should design well-defined and easy platform so that customers do not hesitate to use these services and enter in to a state of flow.
Managers should make the transaction procedure easy because customers are using mobile shopping services on their smartphones and making payment online is a critical issue for customers. Further marketers should place their services in market with appropriate information so that consumer adoption beliefs can be shaped about new online services provided to them. Current study is contributing to the literature of M-commerce by revealing the influence of the flow theory on technology acceptance model in the adoption of mobile shopping.
This study has some limitations also. Present study is conducted to evaluate intention of mobile consumers to adopt mobile shopping. In this study, flow experince is examined with other dimension i.e curiosity though there are studies in the past that include other dimensions like time distortion, telepresence and intrinsic interest. Thus, it would be a great area for research to implement these dimensions in model to examine influence of these variables on intentions and attitude of consumers. Furthermore, the conceptual model proposed in this paper can be tested empirically in future.

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