Mobile payment apps filling value gaps: Integrating consumption values with initial trust and customer involvement

Debarun Chakraborty [a,*], Aaliyah Siddiqui [b], Mujahid Siddiqui [c], Nripendra P. Rana [d], Ganesh Dash [e]

[a] *Symbiosis Institute of Business Management Nagpur, Constituent of Symbiosis International (Deemed University), Pune, India*
[b] *Symbiosis Centre for Management Studies Nagpur, Constituent of Symbiosis International (Deemed University), Pune, India*
[c] *Dr. Ambedkar Institute of Management Studies and Research, Nagpur, India*
[d] *College of Business and Economics, Qatar University, Doha, Qatar*
[e] *College of Administrative and Financial Sciences, Saudi Electronic University, Riyadh, Saudi Arabia*

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ABSTRACT

This study aims to understand the consumption values that positively influence the adoption of mobile payment apps (MPAs). The theory of consumption values and two more constructs, initial trust (INT) and customer involvement (COI) are used to create a model tested using structural equation modeling with data collected from 880 Indian consumers. The results obtained from the analysis identified functional (FUV), conditional (COV), epistemic (EPV), and emotional (EMV) values having a significant positive impact on MPA adoption intention. While INT mediated all consumption values, COI positively moderated the relationship of FUV, EPV, and EMV with adoption intention. The critical contribution is using INT and COI to test the mediating and moderating effect utilizing the theory of consumption values. It explains factors contributing directly and indirectly to MPA adoption intention. The study results demonstrate that all consumption values except social value (SOV) positively influence MPA adoption intention. The cross-sectional data was collected during the pandemic from the urban population, which may not be generalizable with other developed nations. The study suggests that promoters of MPAs must focus more on FUV, COV, EPV, and EMV. Governments can promote MPAs with an increased focus on building trust through policy measures and special drives to increase trustworthiness in MPAs. Businesses could increase efforts to involve customers when introducing MPAs and collate critical information from customer touch points for improved consumer involvement. Through greater usage of MPAs, governments can substantially reduce the cost of printing and handling currency bills, saving taxpayers' money and diverting it to social spending.

1. Introduction

There has been rapid advancement in Internet technology during the past couple of decades. This has resulted in the creation of innovative services through various web-based portals and applications. The banking industry is witnessing enormous competition (YuSheng and Ibrahim, 2019) leading to several innovative service delivery solutions driven by technology. Financial institutions must find innovative solutions to the competition to stay ahead of the competition (Chung and Liang, 2020). Financial technology companies are at the forefront of offering multiple platforms, such as near-field communication and mobile and SMS banking. The next generation of payment technologies is internet-based platforms, such as those that use quick response (QR) codes and mobile payment apps (Chang et al., 2021; Singu and Chakraborty, 2021).

The value of payment transactions through internet-based platforms in India amounts to USD 25.5 billion transactions, ahead of US and China (Financial Express Online, 2021). The potentiality of the payment business has attracted many players in the Indian market, including large firms such as Paytm and Google Pay, which has opened a gateway for other global players to follow suit. This has given impetus to scholarships in consumer research on the technology adoption of payment

applications (Alkhowaiter, 2020; Bailey et al., 2017; Gupta et al., 2019; Hossain et al., 2020).

The Indian economy is largely cash-driven and most commercial transactions, more specifically those performed at the retailers' end, continued to be transacted through paper money (Singh et al., 2020). The Indian payment eco-system witnessed a major shift when the Government of India demonetized 85 percent of the country's currency notes in 2016. Thereafter, there was a slew of changes from the government towards the adoption of a digital payment system. This gave a push to the digital payment ecosystem which saw a major shift in the way retail transactions are carried out by consumers (Sinha et al., 2019). Major reforms came through the National Payments Corporation of India, which provided the backbone infrastructure to ease digital payments for retail consumers. Coupled with this was another set of reforms like *Jan Dhan*, a scheme for opening bank accounts of unbanked population, Unified payments Interface (UPI) which enabled ease of transfer of funds using QR codes (Patil et al., 2020). These measures have influenced the retail consumer's choice of making payments and have developed a negative perception towards cash transactions while creating a positive perception towards digital payments (Shree et al., 2021).

Previous scholarships of mobile payment apps (MPAs) adoption have focused on different aspects (Omigie et al., 2017). The vast majority of research has primarily used two models: The Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) model. Few studies have used the theory of consumption values in the context of payment apps (Gera et al., 2020). Previous studies suggest that MPA adoption must be tested using the theory of consumption values (Karjaluoto et al., 2021; Xiao et al., 2015). This study uses that theory to investigate the influence of consumption values on MPA adoption intention. One of the main reasons for consumer inhibition in adopting MPAs is lack of trust (Gao and Waechter, 2017; Liébana-Cabanillas et al., 2015; Sharma and Sharma, 2019). The absence of trust can adversely impact the adoption of online financial transactions (Omigie et al., 2017), and the initial trust model has been widely used in adoption studies (Shankar et al., 2020; N. Singh and Sinha, 2020). Furthermore, customer involvement has a significant role in the adoption of services (Gohary et al., 2016). Customer involvement amplifies initial trust and supports adoption intention (Parihar et al., 2019). This study accentuates the current understanding of MPA adoption. It plugs the literature gap, thus giving marketing professionals fresh insight by using initial trust and customer involvement as mediator and moderator, respectively. This study will generate insights for the professionals, practitioners as well as academic researchers to improve their understanding on consumption values and their interrelation with trust and customer involvement. From the perspective of theory, it expands the application of TCV into Mobile payment apps context and augments the literature. The empirical investigation using an extended model will also benfit the Mobile Payment apps marketers in developing retailing strategies for consumers. Furthermore, through the inclusion of trust in the studied model will further facilitate in developing appropriate strategies for expanding the market through increased discernment on the role of trust ion Mobile Payment apps. In this vein, this research seeks answers to the following questions: RQ 1. Which consumption values drive consumers' MPA adoption intention? RQ 2. Does initial trust mediate the association of consumption values with adoption intention? RQ 3. Does customer involvement moderate the association between consumption values and adoption intention?

1.1. Mobile payment apps

An MPA is a specifically designed software that operates on various devices supported by the internet (Pandey et al., 2018). It is used for executing financial payment for services using a mobile or computing device (Liao and Yang, 2020). An MPA allows consumers to make payments remotely and even make international transfers of funds

(Thuita, 2020). MPA payments mostly consist of transactions related to e-commerce and retail. These apps provide multiple benefits to users through their technological interface and are fast becoming a convenient mode of payment, including in developing countries (Mohammadi, 2015; Chakraborty, 2019). This has resulted in several banks using the MPA as a service delivery channel to their customers (Harris et al., 2016; Sharma et al., 2017), leading to improved services offered online (Karjaluoto et al., 2021; Yang et al., 2020). The increased usage of MPAs has reduced financial institutions' costs due to lower infrastructural requirements for ATMs and service branches (Świecka et al., 2021). There has been a steady rise in customer adoption of MPAs, but consumers have raised concerns around their value (Economic Times, ETBFSI, December 18, 2019). Some recent studies have explored consumer behavior with regards to MPAs and have dealt with a variety of dimensions. For example, Humbani & Wiese (2019), used Technology Readiness Index (TRI) and Expectation-Confirmation theory to explore the adoption and continuance intention of MPAs. Another study of Taiwanese consumers (Lee et al., 2020) studied the perceived ease of use and perceived usefulness along with the aspect of security and found significant relationships between the considered variables and usage behavior. A more recent study (Rafdinal and Senalasari, 2021) on the Indonesian consumer adoption of MPAs tested using TRI and Technology Acceptance Model (TAM) and found that TRI influenced the perceived usefulness and perceived ease of use. A study by Liao & Ho (2021), used clustering analysis for analyzing the studies in the context of MPAs and found that MPAs are critical for online business and consumers draw multiple consumption values while using MPAs.

2. Theoretical support

2.1. Consumption values theory

The theory of consumption values (TCV) offers a means to discern consumers' product and service choices (Sheth et al., 1991). The theory states five dimensions that determine a consumer's preferences: a) functional value, b) social value, c) emotional value, d) epistemic value, and e) conditional value. The TCV suggests three underlying principles: 1) consumer choice is driven by several consumption values, 2) each of the values may have a different effect on the consumer's choice, 3) each consumption value can act independently. The consumer makes choices based on the perceived consumption values derived from a purchase, and all or some of these values may influence their buying behavior. Combining these values contributes to the buying decision in different measures (Talwar et al., 2020a,b). This is implicit in various studies that used these values as independent constructs(Teng, 2018; Wang et al., 2018).

Previous researchers (Kaur et al., 2020; Teng, 2018; Wang et al., 2018) found that technology users consume numerous services over the internet. Knowledge about these users will be incomplete without understanding the perceived values that drive their consumption (Sweeney and Soutar, 2001). Several studies have provided empirical evidence on online services using the TCV. For instance, those in the contexts of hedonic artifacts (Turel et al., 2010); virtual goods (Mäntymäki and Salo, 2015); mobile financial services (Omigie et al., 2017); mobile banking (Karjaluoto et al., 2021) and online TV clips (Yoon et al., 2021). The prior literature's studies based on the TCV establish its relevance to the consumption of online services. Hence this study adopts the TCV as the foundation for investigating MPA adoption. Table 1 shows previous studies using the TCV for online purchase intentions in various contexts.

2.2. Initial trust

Trust is an assurance that the likely action will be per the expectation of the other (Chin et al., 2020). Trust in the context of monetary exchange can be explained as the inclination of the customer to rely on the firm for causing the monetary exchange (Singh and Singh, 2021). Trust

Table 1
Previous studies on the theory of consumption values.

Author/s	Country	Context	Outcome
Turel et al. (2010)	USA	Hedonic digital artifacts (ring tones)	Functional values were a significant contributor, while social value did not contribute to the overall value of the hedonic digital artifact.
Mäntymäki & Salo (2015)	Finland	Virtual goods purchase	Emotional, functional, epistemic, and social values drove the purchase of virtual goods.
Omigie et al. (2017)	Kenya	Mobile financial services	Functional, epistemic, and conditional values influenced pre-adoption behavior and choice of online financial services.
Ali et al. (2019)	Pakistan	Green IT products	Functional, epistemic, social, emotional, conditional, and religious values influenced the consumer's adoption intention.
Wang et al. (2021)	China	Free gaming services	Functional and social values were found to predict purchase intentions.
(P. Kaur et al., 2020)	India	Food delivery apps	Epistemic, conditional, functional, and social values were found to impact purchase intentions positively.
Thongmak (2020)	Thailand	Online gaming	Emotional and functional values influenced players' intentions, while conditional and social values were significant for non-players.
Talwar et al. (2020)	India	Online travel agencies	Functional, social, epistemic, and conditional values were found to have a significant positive association with purchase intention.
Karjaluoto et al. (2021)	Mauritius	Mobile banking services	Functional, epistemic, and emotional values significantly influenced the usage intention of mobile banking services.

in e-commerce has been expressed as the consumer's confidence in the electronic transaction (V. Kumar and Ayodeji, 2021). Trust has been accorded a great deal of importance in e-commerce transactions due to the presence of inherent risk (Noreen et al., 2021). For this study, we can state that initial trust is a positive expectation of the MPA consumer.

Studies in the past have taken two fundamental approaches towards trust, namely psychological and behavioral. The psychological approach indicates the consumer's positive expectation (Loureiro et al., 2018), while the behavioral approach surmises trust to be an "inclination to rely on" (Baumeister et al., 2021). Moreover, trust is further bifurcated into initial trust and continuing trust (Talwar et al., 2020). Researchers have been keen on the dynamic nature of trust, reasoning on the initiation of trust to growth and the continuation of trust (Gao and Waechter, 2017). Initial trust is of particular significance to this study because monetary payment requires substantial risks to be assumed by the consumer. In the absence of initial trust, MPA usage is less probable due to the risk of financial loss. Perception of risk negatively influences initial trust, whereas positive initial trust promotes the adoption of services (Oliveira et al., 2016). Hence it is worthwhile to study whether initial trust mediates the effect of consumption values and MPA adoption.

2.3. Customer involvement

The concept of involvement was first offered by the proponents of social judgment theory (Sherif and Cantril, 1947). Charting an individual's change in attitude using the concept of ego involvement, the theory states that the higher the involvement of an individual, the more

difficult it is for them to accept an opposing view on any subject. If the individual is faced with a similar opinion to their own, they will likely amplify their belief and become more involved. The process of customer involvement provides valuable business benefits (Mustak, 2019) and has been frequently used to model customer behavior. Customer involvement is an individual's perceived significance of any object influenced by their values and needs (Cheung and To, 2021). It has also been categorized using three models: 1) situational involvement – where customer involvement is dependent on the context; 2) enduring involvement – where customer involvement is based on personal experiences and values; and 3) participation involvement – which is influenced by others' feedback and the responses received by the customer. Laurent and Kapferer (1985) studied the concept of customer involvement, who developed the customer involvement scale based on five dimensions: importance, interest, pleasure, risk probability, and symbolism. These dimensions have been tested in past studies (Parihar et al., 2019). Customers with greater involvement are expected to reflect intensely and evaluate a product, in contrast to less-involved customers (M. F. Y. Cheung and To, 2021).

Similarly, customer involvement also promotes greater time commitment of the customer (Khan et al., 2020). Customer involvement comprises an effort to evaluate products, a deeper thought process, and engagement in the transaction (Filieri and McLeay, 2013). These three dimensions of customer involvement are critical to the MPA context and were successfully used in a recent study in an e-banking context (Shankar et al., 2020). Hence this study has extended the use of this concept in the context of MPA adoption.

3. Hypotheses development

3.1. Functional value and initial trust

Functional value is related to the utility and the quality of a product or service (Sweeney and Soutar, 2001). Studies in the past have inter alia linked functional value with initial trust (Rana et al., 2015). The dimension of quality (related to functional value) has also been found to positively influence initial trust (Konuk, 2020). In the context of payments apps, functional value is derived through a variety of features like instant transfer of funds, ubiquitous usage of apps, and immediate account updates of transactions (Karjaluoto et al., 2021). These features enhance the usefulness of the MPAs and are associated with the functional values. Additionally, the reduced efforts by the consumer are also associated with the functionality and thus categorized as the functional value of MPAs.

Functional value positively influences trust and is considered a strong predictor of trust (Watanabe et al., 2020). In the context of MPAs, it is natural for the consumers to derive functional value through its utility for executing a secured monetary transaction. When the consumer's primary value, in the form of a transaction, is realized, it can be argued that initial trust in MPA plays an instrumental role. We, therefore, propose that:

H1a. Functional value positively influences initial trust in MPAs.

3.2. Functional value and mobile payment app adoption intention

The accomplishment of a task efficiently and with greater ease in comparison with the other available methods helps derive functional value for a consumer (Sheth et al., 1991). In the consumer behavior literature, the concept of functional value is equated with ease of use or convenience and has been extensively tested and established in several contexts (Berraies et al., 2017; Ray et al., 2021; Thye Goh et al., 2014; L. Wang et al., 2021). The technology acceptance model (Venkatesh and Davis, 2000) and the theory of consumption values (Sheth et al., 1991) have established the ability of functional value to influence consumers' choices, particularly concerning technology-enabled products and

services. Some studies in mobile banking have also confirmed the influence of functional value on the adoption of technology-enabled banking services (Berraies et al., 2017; Thye Goh et al., 2014). The MPAs offer greater value vide the payment transactions and are significant to its adoption intention. The utility of MPAs are not confined to single usage, but users perform multiple transactions (Moghavvemi et al., 2021), it is this increased usage that leads to adoption and we are therefore of the view that:

H1b. Functional value positively influences MPA adoption intention.

3.3. Conditional value and initial trust

Conditional value can help create trust in service because value perceptions and trust demonstrate positive interrelation (Parasuraman and Grewal, 2000). Moreover, in the context of MPAs, conditional value is driven by circumstances and situations. Therefore, usage is preceded by initial trust, more specifically for online financial transactions (Khare et al., 2020) and purchasing (Yang, 2016). The conditional value is particularly pertinent to the MPAs as monetary contingencies can present situations where consumers find it beneficial to use. This is evident in the recent study(Zolkepli et al., 2021), which found that conditional value is the main reason why consumers provide higher ratings to MPAs. This implies that conditional values can prompt initial trust. We, therefore, propose that:

H2a. Conditional value positively influences initial trust in MPAs.

3.4. Conditional value and mobile payment app adoption intention

The conditional value represents the perceived benefits obtained from a product or service that arise in certain circumstances or situations (Sheth et al., 1991). It refers to a product or service user's dependency on any specific context, such as a situation, time, or place. The literature indicates that the intention to adopt an e-service service is often dependent upon the product that is being purchased as well as bargains and offers provided by the seller (Ray et al., 2021). Many conditions influence the consumer's decision to adopt an MPA, such as making a secure payment, paying instantly without using cash, and avoiding having to physically queue (Sheth et al., 1991). Some contingencies and unexpected situations also drive the adoption of online financial payments while some conditions can dissuade a consumer's adoption intention (Omigie et al., 2017). We, therefore, see a strong reason that multiple conditional values can drive the adoption of MPAs and suggest the related proposition as:

H2b. – Conditional values positively influence MPA adoption intention.

3.5. Social value and initial trust

The presence of initial trust is recognized as a contributor to the success of online apps (Gao and Waechter, 2017; N. Singh and Sinha, 2020). While empirical evidence was found to be lacking in support of social value as a predictor of initial trust, contrastingly, the social value was found to influence commitment and thus positively influence trust in online transactions(Talwar et al., 2020). Social value has been proven to drive trust in the online shopping context (Wu et al., 2018). In respect of MPAs, the usage has a vast exposure to the social interactions of individuals. Much of the usage of MPAs is for socializing activities such as dining, entertainment (Lin et al., 2020), it is thus apparent that social value can potentially drive initial trust in the context of MPAs. This argument helps us propose the related proposition as:

H3a. Social value positively influences initial trust in MPAs.

3.6. Social value and mobile payment app adoption intention

The value derived from adopting a product that enhances the perceived social image of the consumer characterizes social value (Akram et al., 2021). Social value has been explained as the capability of a product or service to provide an association with a specific social group (Sheth et al., 1991). Social value has a correlative term, social norm, which influences the adoption of technology (Venkatesh et al., 2003). Social value has also been demonstrated to positively influence technology adoption (Adams et al., 2017). Consumers' intention to adopt MPAs can be equated with technology adoption because the service is delivered through technology-enabled devices. Furthermore, the intention to adopt mobile-based financial services is positively impacted by social value(Talwar et al., 2020). Social value is enhanced and positively influenced by the consumer's close associates, including family members, friends, and relatives(Yang et al., 2021). Considering the foregone discussion, we hypothesize as:

H3b. Social value positively influences MPA adoption intention.

3.7. Epistemic value and initial trust

Studies indicate the absence of trust in online transactions is due to their novelty and lack of personal interaction (Bashir et al., 2018). Yet, trust is considered critical for adoption in the context of online banking (Oliveira et al., 2016). The current literature does not examine epistemic value as a predictor of initial trust, although other factors influencing initial trust are reviewed in the context of online transactions (Korgaonkar and Karson, 2007; Xu et al., 2014; Yu and Asgarkhani, 2015). MPAs provide novelty and a new experience to the consumer, which is a value that appeals to them. Hence, the corresponding hypothesis is stated as:

H4a. Epistemic value positively influences initial trust in MPAs.

3.8. Epistemic value and mobile payment app adoption intention

The ability of a service to satiate the consumer's inquisitive instincts and demonstrate uniqueness in its usage is perceived as epistemic value by the consumer (Sheth et al., 1991). In the context of online transactions, epistemic value is the urge to acquire unique experiences and fulfill the consumer's cognitive development. This experience depends on the need for an online transaction and the motivation to understand a new mode of making use of such services (Kaur et al., 2021). Epistemic value is a deterministic antecedent of consumers' choice to adopt or decline the use of a service (Karjaluoto et al., 2021). Similarly, the epistemic value was an important factor influencing the purchase of a new product. Epistemic value can drive the consumer to new products and services, and epistemic value in turn is driven by the consumer's curiosity, particularly in the online banking context (Thye Goh et al., 2014). Relying on this argument we propose that:

H4b. Epistemic value positively influences MPA adoption intention.

3.9. Emotional value and initial trust

The feelings derived from the usage of a product or service can alter the affective state, either positively or negatively(Yrjölä et al., 2019). Emotional value is the outcome of positive feelings and can influence the trust formation process. Positive emotions can increase initial trust, and negative emotions can decrease it (Larasati et al., 2019). In the context of online purchase behavior, the derived values positively influence trust formation (Su et al., 2019) Furthermore, emotions can operate as devices to enhance trust and can predict the behavior of individuals (Kumar and Shah, 2021). Perceived values are a driver of initial trust in many studies in the online transaction context (e.g. Kim et al., 2017; Yang et al., 2018). Emotions as a driver of adoption intention have been

well established in other studies and some studies(Chopdar et al., 2018) while some more studies in a similar context have also provided evidence of a positive influence on consumers emotional response towards the online payment systems (Alalwan et al., 2018). We, therefore, state the related hypothesis to the above discussion as:

H5a. Emotional value positively influences initial trust in MPAs.

3.10. Emotional value and mobile payment app adoption intention

Emotional value is a result of a socio-psychological response generated from the usage of a product that arouses emotions (Sheth et al., 1991). This perceived value is responsible for triggering a buying decision, which may be impulsive (Yang, 2016). Emotional value stimulates positive feelings, which provide pleasure and enjoyment to the user of online banking (Berraies et al., 2017). The ability of MPAs to cause a positive emotional response can be attributed to the ease of use and convenience that they offer to consumers. Interest in the technology and hassle-free usage delivers an emotional response in consumers. Several related studies have established emotional value as a factor demonstrating a strong influence on the intention to adopt mobile services (Turel et al., 2010; Watjatrakul, 2020). We believe that the ability to make payments swiftly and easily can be an emotionally fulfilling experience for the consumer and hence hypothesize as:

H5b. Emotional value positively influences MPA adoption intention.

3.11. Initial trust and mobile payment app adoption intention

One of the foremost explanations of trust can be stated, as the customer's optimistic outlook towards a product or service provider (Baumeister et al., 2021). This expectation can be interpreted in the form of three beliefs: ability, benevolence, and integrity (Palvia, 2009). Ability can be explained as the provider's technical expertise to fulfill the promise made to the customer; benevolence is the provider's mindful protection of the customer's interests; and integrity is the provider's commitment to its obligations (Watjatrakul, 2020).

Initial trust is first-stage trust followed by cumulative trust in the dyad of trust (Kim et al., 2017). It establishes an initial trust to form customers' adoption intention (Patil et al., 2020). There is widespread support of initial trust as the antecedent of adoption intention in many studies (Rajaobelina et al., 2018; Shareef et al., 2018; N. Singh and Sinha, 2020). In the context of MPAs, it can be presumed that initial trust substantially supports customers' adoption intention.

H6. Initial trust positively influences MPA adoption intention.

3.12. Mediating effect of initial trust

The technique of mediation analysis is employed to understand the occurrence of any specific behavior. The mediation analysis reveals why behavior happens and how does it happen (MacKinnon et al., 2020). In this manner, the mediation analysis provides additional benefits of providing a deeper understanding of the influence from confounding variables of a behavior. This allows the researchers to move one step ahead and probe deeper into the occurrence of a behavior. We propose that using initial trust as a mediator can help better explain the consumer's behavior of MPAs. We, therefore, explore the previous studies of all variables of the study to analyze the mediating effect of trust. Trust has a major role in the user's adoption of online services (Mou et al., 2017). It can be ranked under the two orders of trust - initial trust and cumulative trust (Kim et al., 2009). Trust is also equated with the aspect of the online source's dependability (Mohd Suki and Mohd Suki, 2017); perceived integrity and perceived risk are the two primary factors that drive trust in the online context (Kaur and Arora, 2021), while ability, benevolence, and integrity are the three dimensions of initial trust in the context of online transactions (Oliveira et al., 2017). Studies of initial

trust have been increasing due to its growing significance in online transactions (Kimiagari and Baei, 2021; Talwar et al., 2020; Yang, 2016; Zhou, 2012). The latest study established that initial trust positively influences the intention to adopt online banking (Kimiagari and Baei, 2021)We, therefore, tested the mediating effect of initial trust on consumption values and the intention to adopt MPAs.

The first value is functional value, which explains the utilitarian aspect of the MPA. If the customer can save time and reduce effort and find it easy to learn its functions, they can form the intention to adopt the MPA (Berraies et al., 2017; Ray et al., 2021; L. Wang et al., 2021). The second value is conditional value, which is perceived in certain contingent situations, such as time availability, avoiding long queues to make a payment, and performing a cashless transaction (Sheth et al., 1991; H.-Y. Wang et al., 2013). Under these circumstances, the customer is motivated to adopt the MPA. The third consumption value that can trigger MPA adoption intention is social value. The consumer's inner urge to be identified with a specific social group and influences from their social circle, including friends and family members, promotes their adoption intention (Adams et al., 2017; Gao and Waechter, 2017). The fourth consumption value is epistemic value, which is derived from the perceived novelty and uniqueness offered by the service. This gives the customer a fulfilling experience and leads to adoption intention (Thye Goh et al., 2014). The last consumption value is emotional value, which is triggered by the enjoyment and pleasure derived by the user and leads to adoption intention (Karjaluoto et al., 2021; Watjatrakul, 2020). The discussions lead to the following set of propositions:

H7a. The initial trust in mobile payment apps mediates the relationship of functional value and intention to adopt MPA.

H7b. The initial trust in mobile payment apps mediates the relationship of conditional value and intention to adopt MPA.

H7c. The initial trust in mobile payment apps mediates the relationship of social value and intention to adopt MPA.

H7d. The initial trust in mobile payment apps mediates the relationship of epistemic value and intention to adopt MPA.

H7e. The initial trust in mobile payment apps mediates the relationship of emotional value and intention to adopt MPA.

3.13. Moderating effect of consumer involvement

There are situations in which the relationship between two variables is not always constant, but is influenced by another construct (Hayes, 2018). This third variable, termed as moderating variable, alters the strength and in certain cases the direction of the relations of the other two variables (Hair et al., 2021). In any hypothesized model, moderation analysis provides significant information on the effect of an external variable which can be age, gender, income, or even a construct. We posit that customer involvement can influence the relationship of various other constructs and therefore treat it as a moderator and perform moderation analysis. Consumer involvement shapes the customer's attitude, which tends to vary depending on the degree of involvement (Algharabat et al., 2018). Customer involvement, in essence, is the perceived importance a customer accords to a product or service considering personal values, choice, interest, and needs (Gohary et al., 2016). Recent and earlier literature also proves that a customer's initial trust can be augmented through enhanced customer involvement (Doherty and Kurz, 1996; Kinley et al., 2010; Parihar et al., 2019). The customer's level of involvement determines the extent to which they will apply cognitive capabilities to evaluate a service (Liébana-Cabanillas et al., 2015). It can be differentiated into three types: product involvement, purchase involvement, and advertising involvement (Kim et al., 2017). This study considers product involvement, where the values derived by the customer determine their adoption intention. In this context, we propose that the effect of perceived consumption values on

adoption intention will be moderated by customer involvement. As the number of studies exploring the moderating effect of customer involvement continues to rise, we measure the moderating effect of customer involvement between the adoption intention and consumption values. Hence state the corresponding hypotheses as:

H8a. Customer involvement positively moderates the association between functional value and MPA adoption intention.

H8b. Customer involvement positively moderates the association between conditional value and MPA adoption intention.

H8c. Customer involvement positively moderates the association between social value and MPA adoption intention.

H8d. Customer involvement positively moderates the association between epistemic value and MPA adoption intention.

H8e. Customer involvement positively moderates the association between emotional value and MPA adoption intention.

H8f. Customer involvement positively moderates the association between initial trust and MPA adoption intention.

3.14. Control variables

We use demographic characteristics of age, educational qualifications, gender, income, and household size as control variables in this study. Several past researchers have established a strong correlation between consumers' payment behavior and demographic characteristics (Connolly and Stavins, 2015). In the context of payment instruments, it is also established that demographics assume greater significance when these are used as control variables. The behavior of women was found to differ due to the social, cognitive, and biological diversity (Sun et al., 2009). Demographic variables have also been found to significantly influence the adoption intention of mobile payment in other studies (Rouibah et al., 2016). Thus we propose to use the demographic variables of age, educational qualifications, gender, household size, and income when studying MPA adoption intention.

The hypothesized research model is presented in Fig. 1.

4. Methods

4.1. Data collection

An online survey using a structured questionnaire was carried out by email. Thirty-two items were used in the questionnaire, taken from confirmed measures in the current literature on mobile payment app adoption (Table 5). In the absence of mobile payment apps sampling frame for the Indian population, non-probability judgmental sampling was used following the current studies. For qualifying to participate in the survey, two judgment criteria were used. First, the respondent must have been familiar with mobile payment apps for at least two years, and second, s/he must have done the transaction through mobile payment apps within the last three months. After removing outliers and incomplete responses, 880 completed and valid responses were included for empirical analysis. The email contained a summary of the study, as well as a statement about the respondents' voluntary participation and anonymity. The sample is representative because the sample size is 880,

Table 2
Measurement of study variables.

Factors	Items	EFA	CFA	SEM	Cronbach's Alpha
FUV	FUV3	0.805	0.854	0.854	0.924
	FUV5	0.778	0.843	0.843	
	FUV2	0.765	0.859	0.859	
	FUV4	0.746	0.803	0.803	
	FUV1	0.732	0.853	0.853	
SOV	SOV1	0.877	0.933	0.933	0.954
	SOV3	0.850	0.909	0.909	
	SOV2	0.845	0.923	0.923	
	SOV4	0.830	0.899	0.899	
EMV	EMV3	0.836	0.892	0.892	0.918
	EMV2	0.806	0.875	0.875	
	EMV1	0.778	0.843	0.843	
	EMV4	0.732	0.827	0.827	
EPV	EPV1	0.860	0.886	0.886	0.902
	EPV2	0.825	0.88	0.88	
	EPV3	0.746	0.783	0.783	
	EPV4	0.726	0.791	0.791	
COV	COV3	0.808	0.894	0.894	0.94
	COV2	0.782	0.918	0.918	
	COV1	0.733	0.941	0.941	
	COV4	0.653	0.818	0.818	
OAA	OAA1	0.777	0.904	0.904	0.878
	OAA3	0.760	0.805	0.805	
	OAA2	0.700	0.739	0.739	
	OAA4	0.693	0.748	0.748	
INT	INT2	0.742	0.901	0.901	0.922
	INT3	0.695	0.881	0.881	
	INT1	0.672	0.877	0.877	
	INT4	0.616	0.802	0.802	

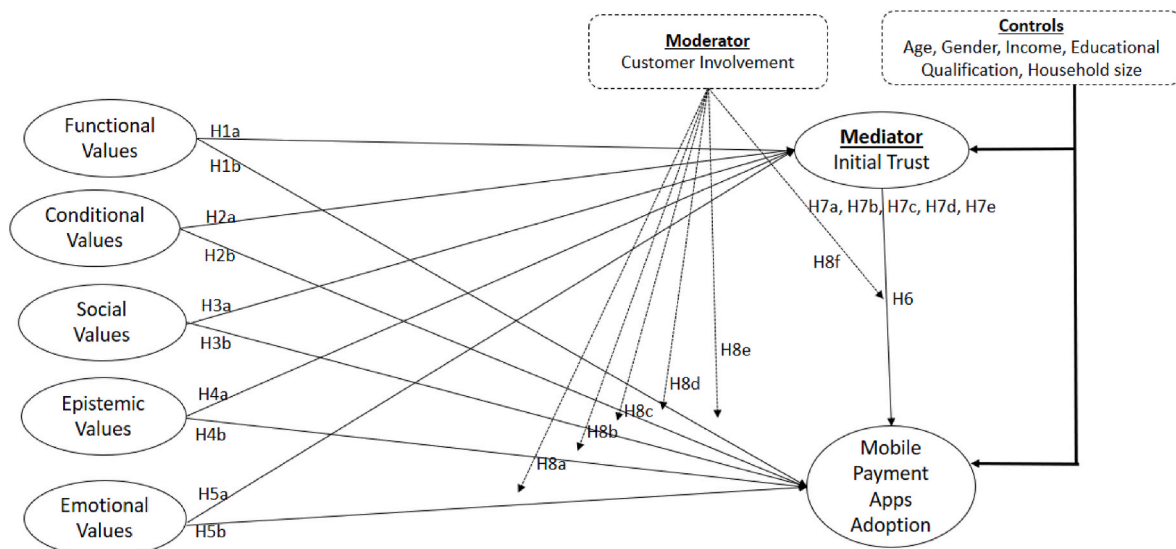**Fig. 1.** Hypothesized research model.

Table 3
Demographic profile.

Demographic Measures	Category	Frequency	Percentage
Age	25–30 years	263	30%
	31–35 years	213	24%
	36–40 years	154	18%
	41–45 years	89	10%
	46–50 years	58	7%
	51–60 years	103	12%
Household size	only one member	199	23%
	two members	261	30%
	three members	201	23%
	four members	131	15%
	five members	71	8%
	six members	7	1%
	seven members	8	1%
	eight members and more	2	0%
Gender	Male	512	58%
	Female	368	42%
Educational Qualification	Completed high school	184	21%
	pursuing/completed professional degree/vocational school	67	8%
	pursuing/completed bachelor's degree	447	51%
	pursuing/completed master's degree	154	18%
	pursuing/completed doctorate (PhD or equivalent)	28	3%
Monthly income	Less than 400 USD	324	37%
	401 - 533 USD	191	22%
	534–666 USD	121	14%
	667–799 USD	80	9%
	800–932 USD	42	5%
	933 and more USD	122	14%

which is large, and the respondents' variability was present. Table 3 shows the age groups, gender income levels, educational qualifications, and occupation levels from which the responses were gathered.

The survey was circulated in March–June 2021 among 2174 people. A total of 903 responses were received initially, out of which 880 responses were selected, which did not have any missing values. Table 3 presents the respondent's demographic profile. The responses were collected on a five-point Likert scale, ranging from strongly agree to strongly disagree, with "strongly agree" being five and "strongly disagree" being one. Earlier, the scale was given to teaching staff members from the digital marketing domain to obtain their comments and suggestions. It was then tested among 37 users of mobile payment apps. These steps helped to rectify the errors in the questionnaire and thus helped to refine and develop it.

4.2. Data analysis & results

A two-step path was employed to analyze the data, using SPSS v 26 and AMOS v 26. Confirmatory factor analysis was used to examine the measurement model, followed by structural equation modeling. Cleansing, checking, and correcting the data were undertaken for missing and invalid data along with skewness, kurtosis, and multi-collinearity. The outcome of the process was the dataset of 880 responses, which was advanced for further, detailed analysis and investigation. Following the results obtained, it was observed that the skewness and kurtosis items used in the scale were well found within the recommended limits. It was established that the data were distributed normally (Hair et al., 2021).

4.2.1. Common method bias

For analysis of the common method bias, we used Harman's single factor test. The appropriate constructs of the study were assessed for preliminary checks in SPSS. According to the test results, 39.604% of the total variance was explained by a single factor. This was well below the threshold value of 50%. Hence it was concluded the common method bias was absent from the data used in the study.

4.2.2. Data normalcy

The data's normalcy must first be established. In this case, there were no missing or unengaged replies in the dataset. The analysis of skewness and kurtosis demonstrated the values well within the tolerance limits of $+3$ to -3. The descriptive statistics of constructs used in the study are presented in Table 4. Lastly, we ran a multicollinearity test which showed that all resulting values were below the three-point cut-off. Overall, no anomalies were noticed, and the data were deemed suitable for analysis. The 880 people who took the survey were utilized to put the proposed research paradigm to the test.

4.2.3. Measurement model

A confirmatory factor analysis was performed after testing for common method bias to measure the fit indices, validity, and reliability. The values of factor loadings are more than 0.7 (Table 2), depicting that the factor loading of each item was eligible to conduct further research. Furthermore, model fit indices returned by the measurement model were as follows: χ^2/degrees of freedom = 3.102; TLI = 0.962, CFI = 0.966 and RMSEA = 0.049. These values determined an admissible measurement model fit (Tabachnick and Fidell, 2007).

Table 6 displays the composite reliability (CR) values of constructs used in the study. The CR values have been estimated above the threshold value of 0.70. The estimated values affirm internal reliability and convergent validity. Besides, the average variance explained (AVE) was estimated to be greater than 0.50, which helps establish the convergent validity. It was also found that the maximum shared

Table 4
Mean, SD & Correlation of demographics & study variables.

VAR	Mean	SD	COV	SOV	EPV	EMV	FUV	INT	OAA	Age	Hou size	Gender	Edu Qual	Hous inc
COV	3.2534	1.22578	1											
SOV	3.1795	1.21583	.482**	1										
EPV	3.0472	1.02064	.386**	.203**	1									
EMV	3.1318	1.0556	.462**	.455**	.214**	1								
FUV	3.4291	1.00015	.521**	.338**	.424**	.301**	1							
INT	3.275	1.1363	.625**	.472**	.438**	.493**	.557**	1						
OAA	3.2511	1.00397	.464**	.333**	.315**	.395**	.414**	.491**	1					
Age	2.7443	1.67137	0.026	0.059	0.023	0.048	0.046	.073*	0.034	1				
Hou size	2.633	1.34682	0.033	−0.009	0.042	0.002	−0.006	−0.036	−0.012	−0.033	1			
Gender	1.4182	0.49354	−0.012	−0.007	0.011	0.003	−0.012	−0.003	−0.002	0.008	−0.048	1		
Edu Qual	2.7443	1.07271	0.047	−0.029	−0.011	0.029	−0.014	0.040	−0.035	−0.050	-.168**	0.037	1	
Hous inc	2.6489	1.76055	−0.009	−0.054	−0.010	−0.037	-.075*	-.068*	−0.062	−0.038	.173**	−0.002	.166**	1

*p < .050.

**p < .010.

***p < .001.

Table 5
Constructs, items & sources.

Construct		Items	Source
Functional Value (FUV)	FUV1	I think mobile payment apps require less effort in comparison to other payment methods.	Sheth et al. (1991)
	FUV2	I think mobile payment apps are reliable.	
	FUV3	I think mobile payment apps help in quicker payments in comparison to other payment systems	
	FUV4	I think operating mobile payment apps can be learned quickly.	
	FUV5	I think mobile payment apps are good as they reduce my efforts.	
Social Value (SOV)	SOV1	I think using mobile payment apps will help improve my social image.	(Sheth et al., 1991; Sweeney and Soutar, 2001)
	SOV2	The people who are important to me use mobile payment apps.	
	SOV3	I think professionals use mobile payment apps	
	SOV4	I think using mobile payment apps will help feel more acceptable.	
Emotional value (EMV)	EMV1	I feel relaxed while using mobile payment apps	Sheth et al. (1991)
	EMV2	I enjoy using mobile payment apps.	
	EMV3	Using mobile payment apps gives me pleasure.	
	EMV4	Using mobile payment apps is interesting for me.	
Epistemic Value (EPV)	EPV1	I am fascinated by mobile payment apps	Sheth et al. (1991)
	EPV2	I am curious about people who use mobile payment apps	
	EPV3	I am interested in seeking novel information about mobile payment apps.	
	EPV4	I feel using mobile payment apps helps me acquire knowledge.	
Conditional Value (COV)	COV1	I believe I will use mobile payment apps when I have to make instant payments.	(Omigie et al., 2017; Sheth et al., 1991)
	COV2	I believe I will use mobile payment apps when I don't want to stand in a queue for payments.	
	COV3	I believe I will use mobile payment apps whenever there is a need for cashless transactions.	
	COV4	I believe I will use mobile payment when secured transactions are required to be made.	
Initial Trust (INT)	INT1	I feel that there are sufficient legal provisions concerning mobile payment apps.	Singh et al. (2020)
	INT2	I feel that mobile payment apps possess sufficient expertise for providing services.	
	INT3	I feel that the mobile payment apps are honest in dealing with their customers	
	INT4	I feel confident about the privacy provided by mobile payment apps	

Table 5 (*continued*)

Construct		Items	Source
Consumer Involvement (COI)	COI1	I put in a lot of effort to evaluate mobile payment apps.	Filieri & McLeay (2013)
	COI2	I think deeply about the mobile payment apps	
	COI3	I am personally involved in transactions related to mobile payment apps.	
Mobile payment Apps Adoption Intention (OAA)	OAA1	I now use mobile payment apps for payments	Kim et al. (2009)
	OAA2	If I have access to mobile payment apps, I intend to use them.	
	OAA3	I intend to use the mobile payment apps in the next six months	
	OAA4	Five (5) years from now, I intend to use mobile payment apps.	

variance was smaller than that of the AVE values of constructs, which confirmed the discriminant validity.

Furthermore, the square root of the AVE values for each of the constructs was more than the inter-correlations with the various constructs. All the specifics referring to reliability and validity are shown in Table 6. The prescribed values of the item loadings were greater than the threshold value of 0.5. Later the discriminant validity was estimated using the heterotrait-monotrait (HTMT) method. Table 7 represents the HTMT values, which were estimated to be lesser than the recommended (Henseler et al., 2015) threshold value of 0.85. This further established the discriminant validity.

4.2.4. Analysis of the structural model

An analysis of the structural model was performed for testing the hypotheses, and found it to possess satisfactory model fit indices ($\chi2$/degrees of freedom = 3.102; TLI = 0.962, CFI = 0.966 and RMSEA = 0.049). From the results (Table 8), it can be concluded that functional value (H1a: ß = 0.251, p < .001), conditional value (H2a: ß = 0.291, p < .001), social value (H3a: ß = 0.125, p < .001), epistemic value (H4a: ß = 0.163, p < .001), and emotional value (H5a: ß = 0.209, p < .001) have a significant impact on initial trust.

Regarding MPA adoption, functional value (H1b: ß = 0.158, p < .001), conditional value (H2b: ß = 0.169, p < .001), epistemic value (H4b: ß = 0.075, p < .05), and emotional value (H5b: ß = 0.186, p < .001) were significant, while social value (H3b: ß = 0.025, p > .05) was not related to it. Likewise, initial trust was positively associated with MPA adoption. Thus the hypotheses H1a, H2a, H3a, H4a, H5a, H1b, H2b, H4b, H5b, and H6 were confirmed to be supported, while H3b was not supported. The model explained 60% variance in initial trust and 40% variance in MPA adoption (Table 8 and Fig. 2).

4.2.5. Mediation analysis

Using Model 4 in the PROCESS macro in SPSS, mediation analysis was performed for the constructs. The results showed that initial trust partially mediated MPA adoption. The total, direct, and indirect relations between the study constructs are stated in Tables 9 and 10. Thus hypotheses H7a, H7b, H7c, H7d, and H7e were supported.

4.2.6. Moderation effect analysis

The moderation effect was analyzed to explore how consumer involvement moderates the relationship between the five consumption values and MPA adoption. The results revealed that customer involvement positively moderated the relationship between functional value, epistemic value, emotional value, and MPA adoption (Table 11). The moderation analysis indicated that customer involvement of medium and high epistemic value presented high MPA adoption intention, as

Table 6
Validity and reliability results.

	CR	AVE	MSV	Max R(H)	FUV	COV	SOV	EPV	EMV	INT	OAA
FUV	0.924	0.71	0.363	0.926	**0.843**						
COV	0.941	0.799	0.445	0.95	0.560***	**0.894**					
SOV	0.954	0.839	0.265	0.955	0.359***	0.514***	**0.916**				
EPV	0.903	0.7	0.222	0.912	0.464***	0.407***	0.216***	**0.836**			
EMV	0.919	0.739	0.285	0.922	0.327***	0.502***	0.483***	0.223***	**0.86**		
INT	0.923	0.75	0.445	0.928	0.603***	0.667***	0.501***	0.471***	0.534***	**0.866**	
OAA	0.877	0.642	0.307	0.898	0.477***	0.527***	0.374***	0.358***	0.458***	0.554***	**0.801**

$*p < .050.$
$**p < .010.$
$***p < .001.$

Table 7
HTMT analysis.

	FUV	COV	SOV	EPV	EMV	INT	OAA
FUV							
COV	0.558						
SOV	0.36	0.508					
EPV	0.464	0.42	0.219				
EMV	0.326	0.497	0.486	0.235			
INT	0.603	0.673	0.503	0.48	0.535		
OAA	0.458	0.51	0.363	0.354	0.439	0.546	

Discriminant validity threshold values are 0.850 (strict) and 0.900 (liberal).

Table 8
Results of hypothesis testing.

Hypothesis	Path			Estimate	P	Support
H1a	INT	<—	FUV	0.251	<0.001	Yes
H2a	INT	<—	COV	0.291	<0.001	Yes
H3a	INT	<—	SOV	0.125	<0.001	Yes
H4a	INT	<—	EPV	0.163	<0.001	Yes
H5a	INT	<—	EMV	0.209	<0.001	Yes
H1b	OAA	<—	FUV	0.158	<0.001	Yes
H2b	OAA	<—	COV	0.169	<0.001	Yes
H3b	OAA	<—	SOV	0.025	>.05	No
H4b	OAA	<—	EPV	0.075	<.05	Yes
H5b	OAA	<—	EMV	0.186	<0.001	Yes
H6	OAA	<—	INT	0.198	<0.001	Yes

presented in Fig. 3. Also, customer involvement of medium and high levels of emotional value exhibited high MPA adoption intention, as displayed in Fig. 4. Customer involvement of medium and high levels of functional value demonstrated high MPA adoption intention, as demonstrated in Fig. 5. On the whole, customer involvement exhibited an identical kind of association between functional value, epistemic value, emotional value, and MPA adoption. Thus, hypotheses H8a, H8b, and H8e were supported.

4.2.7. Control variables

The findings demonstrated that none of the socio-demographic variables studied, such as age, gender, educational qualification, household size, and household income, had a statistically significant confounding effect on the dependent variable of initial trust and mobile payment apps adoption intention. There was no controlling influence on initial trust and mobile payment apps' adoption intention from the variables considered. Thus any of the socio-demographic variables increases, the initial trust, and mobile payment apps adoption intention is not influenced.

5. Discussion

This research intended to examine how the hypothesized factors influence consumers' intention to adopt mobile payment apps using the theory of consumption values. We further probed the moderating effect of customer involvement on consumption values and initial trust. We also tested the mediating effect of initial trust on the association between consumption values and MPA adoption intention. The findings demonstrate that all the consumption values significantly impact initial trust. The findings agree with other studies S. Kim et al. (2017); Konuk (2020); Oliveira et al. (2016); Watanabe et al. (2020); S. Yang et al. (2018). The consumers of MPAs are perhaps well acquainted with the technology and its security features. Improved financial inclusion has reduced reluctance and broken down the barriers to MPA usage. The perceived values result from the benefits that these apps provide, such as the ability for consumers to travel without carrying cash, making instant transfers, seeing quick balance updates, and their high utility in an emergency. Similarly, one major advantage is that MPAs are a self-service technology, are simple to operate, provide money-saving schemes (Meuter et al., 2000), and can be used at a location and time desired by the consumer. Moreover, the user experience is also enhanced while using the MPAs (Liao and Yang, 2020). In the context of consumers in India, their preferences are shifting to mobile payments from traditional banking due to the convenience (Jebarajakirthy and Shankar, 2021) and speed of transactions. The consumers of MPAs also experience higher satisfaction in performing online financial transactions (Verkijika and Neneh, 2021).

The measurement of consumption values' impact on MPA adoption intention revealed that functional, conditional, epistemic, and emotional values have a significant effect, whereas social value does not. The finding related to the identified values is in agreement with other studies (Berraies et al., 2017; Karjaluoto et al., 2021; Omigie et al., 2017; Ray et al., 2021; Talwar et al., 2020; Kumar et al., 2021; Thye Goh et al., 2014; Turel et al., 2010; Watjatrakul, 2020; F. Yang et al., 2021; Chakraborty et al., 2022). In respect of the influence of social value on adoption intention our study could not confirm the findings of other studies (Talwar et al., 2020; F. Yang et al., 2021), but agrees with the findings of Baabdullah (2018). The relevance of social value in online transactions has declined due to increased usage by the general population and the activity no longer being considered elitist. Moreover, this study was conducted during the times of pandemic where the social interactions were restricted, this could be a major reason for the absence of social values in the context of MPAs. Additionally, the significance of all other factors grew during this period due to increased reliance on ordering online and making digital payments, thus increasing the usage of MPAs (Beaunoyer et al., 2020; Dayanandan and Many, 2021). The functional value of MPAs has gained more significance due to the utilitarian and monetary benefits associated with the apps. Value-added services are also being embedded in MPAs, increasing their utilitarian value (Shaikh et al., 2020). Conditional values were found to influence MPA adoption intention positively. This finding agrees with many studies in the context of different online transactions (Shaikh and Karjaluoto, 2015; Zolkepli et al., 2021). In this study, conditional values were related to instant payments, avoiding long queues for payment, and performing cashless and secure transactions. These conditions are in complete harmony with time-constrained lifestyles, and hence conditional values are a significant driver of MPA adoption intention.
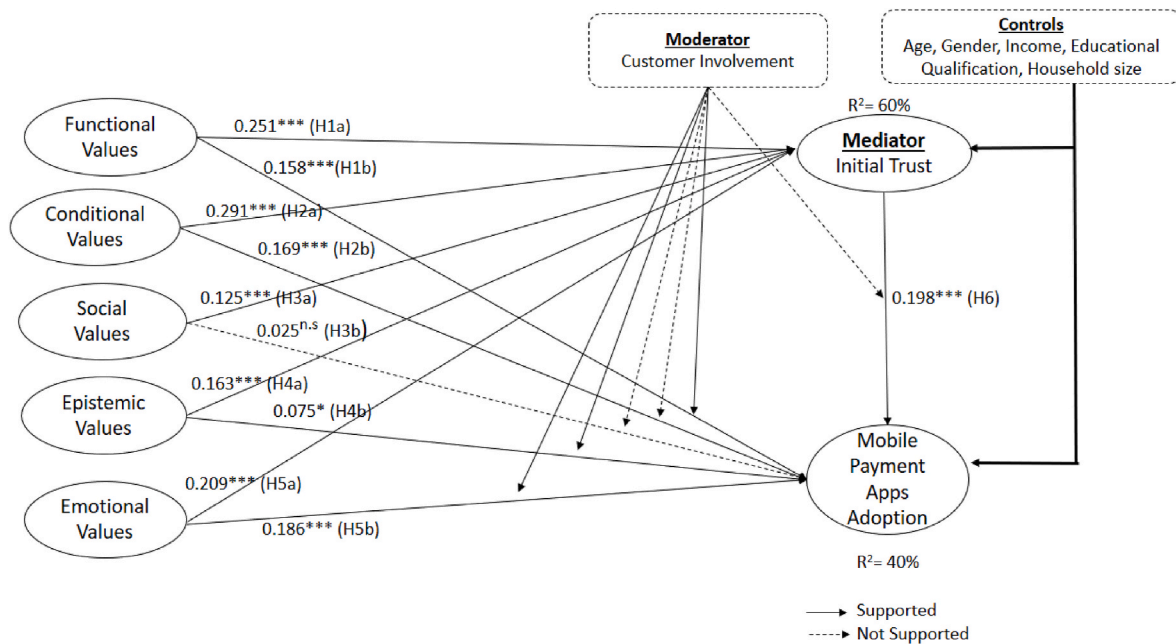
Fig. 2. Hypotheses testing results.

Table 9
A mediation analysis.

COV → INT → OAA						
	β	se	t	p	LLCI	ULCI
COV → INT	.5796	.0244	23.7415	.0000	.5317	.6276
INT → OAA	.2919	.0324	9.0089	.0000	.2283	.3555
COV→ OAA (Direct Effect)	.2109	.0300	7.0222	.0000	.1520	.2699
COV → OAA (Total Effect)	.3801	.0245	15.5234	.0000	.3320	.4281
SOV → INT → OAA						
SOV → INT	.4413	.0278	15.8726	.0000	.3867	.4959
INT → OAA	.3800	.0292	13.0025	.0000	.3226	.4373
SOV→ OAA (Direct Effect)	.1072	.0273	3.9256	.0001	.0536	.1608
SOV→ OAA (Total Effect)	.2749	.0263	10.4610	.0000	.2233	.3265
EPV → INT → OAA						
EPV → INT	.4874	.0338	14.4300	.0000	.4211	.5537
INT → OAA	.3863	.0287	13.4754	.0000	.3300	.4425
EPV→ OAA (Direct Effect)	.1217	.0319	3.8125	.0001	.0590	.1843
EPV → OAA (Total Effect)	.3100	.0315	9.8384	.0000	.2481	.3718
EMV → INT → OAA						
EMV → INT	.5305	.0316	16.7822	.0000	.4685	.5925
INT → OAA	.3463	.0293	11.8389	.0000	.2889	.4037
EMV→ OAA (Direct Effect)	.1919	.0315	6.0938	.0000	.1301	.2537
SOV → OAA (Total Effect)	.3756	.0295	12.7363	.0000	.3177	.4335
FUV → INT → OAA						
FUV → INT	.6332	.0318	19.8904	.0000	.5707	.6957
INT → OAA	.3341	.0307	10.8823	.0000	.2739	.3944
FUV→ OAA (Direct Effect)	.2039	.0349	5.8435	.0000	.1354	.2723
FUV → OAA (Total Effect)	.4154	.0308	13.4704	.0000	.3549	.4760

Table 10
Indirect effects between dependent and independent variables.

| Indirect Effects	Hypothesis	β	se	LLCI	ULCI	Mediation?
FUV→ INT → OAA	H7a	.2116	.0240	.1654	.2604	Partial
COV→ INT → OAA	H7b	.1692	.0234	.1260	.2166	Partial
SOV→ INT → OAA	H7c	.1677	.0170	.1358	.2014	Partial
EPV→ INT → OAA	H7d	.1883	.0192	.1529	.2275	Partial
EMV→ INT → OAA	H7e	.1837	.0183	.1490	.2212	Partial

understandable because new features, such as QR codes, expense-tracking dashboards, chatbots, and enhanced privacy, contribute to MPAs' epistemic value creation. Emotional value was also found to influence MPA adoption intention significantly. This conforms to the findings of many previous studies (Berraies et al., 2017; Turel et al., 2010; Watjatrakul, 2020). The emotional dimensions in this study were feeling relaxed, feeling joyful, and having a pleasurable and exciting experience. These explain that feelings derived from using MPAs can lead to adoption intention.

This study also examined the mediating effect of initial trust on the relationship between consumption values and MPA adoption intention. All the proposed mediating relations (H7a, H7b, H7c, H7d, and H7e) were supported in results obtained in the mediation analysis. Our proposition that initial trust will mediate the relationship between consumption values comprising functional, conditional, social, epistemic, and emotional values was based on several studies in similar contexts (Kimiagari and Baei, 2021; Talwar et al., 2020; Watjatrakul, 2020). A conceivable explanation of this phenomenon is that consumption values help build initial trust, which leads to the formation of adoption intention in MPAs. An interesting observation concerning social value is that it does not directly relate to adoption intention but finds support through the mediation influence of initial trust.

Further, we examined the moderation effect of customer involvement on consumption values and initial trust. Three hypotheses (H8a, H8b, and H8e) were found to be supported, which means that consumer involvement moderates the relationship between functional value,

Epistemic value was also found to have a positive impact on MPA adoption intention. This validates the results of several other researchers (Chopdar et al., 2018; S. Singh et al., 2018; Wang et al., 2013). The facets of epistemic value to which consumers responded were curiosity, novelty, and fascination. Consumers deriving epistemic value is

Table 11
Moderation analysis.

Moderator is Customer Involvement (COI)									
Path			β	se	t	p	LLCI	ULCI	Moderation?	Hypothesis
EMV	→	OAA	-.0825	.0235	−3.5028	.0005	-.1287	-.0363	Yes	H8a
EPV	→	OAA	-.0705	.0241	−2.9227	.0036	-.1178	-.0231	Yes	H8b
SOV	→	OAA	-.0208	.0202	−1.0300	.3033	-.0605	.0189	No	H8c
COV	→	OAA	.0240	.0216	1.1111	.2668	-.0184	.0664	No	H8d
FUV	→	OAA	.0645	.0252	2.5564	.0107	.0150	.1141	Yes	H8e
INT	→	OAA	-.0038	.0224	-.1713	.8640	-.0478	.0401	No	H8f
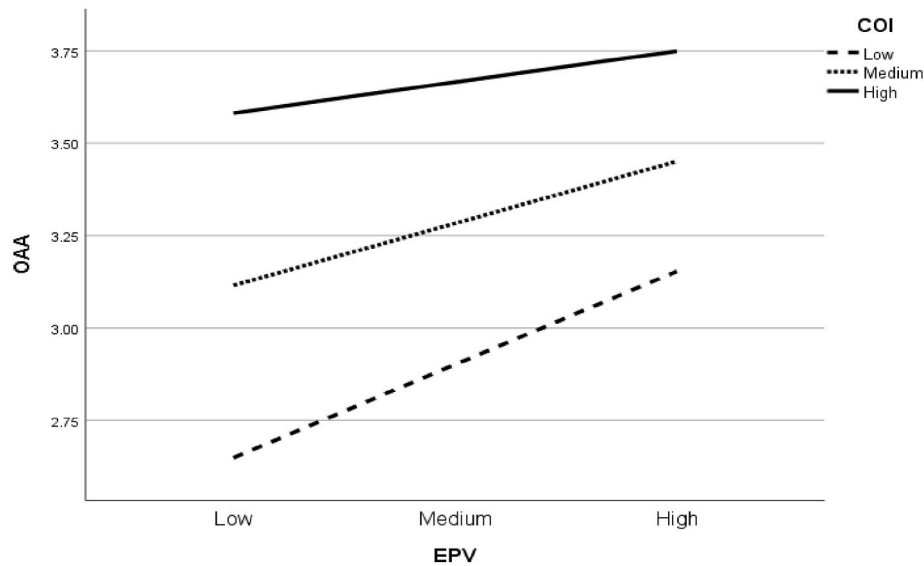
Fig. 3. Moderating effect of customer involvement on the relationship between epistemic value and mobile payment app adoption.
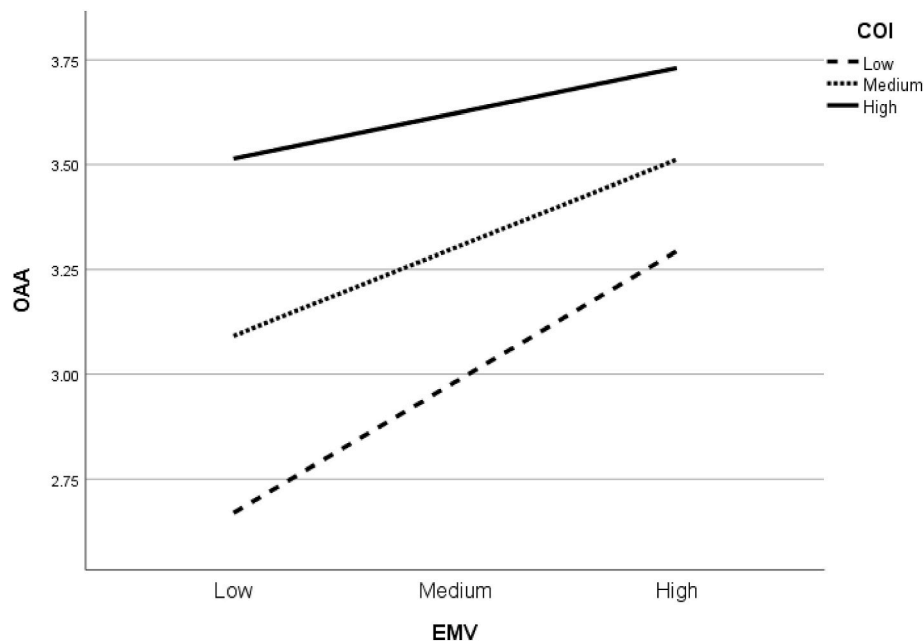
Fig. 4. Moderating effect of customer involvement on the relationship between emotional value and mobile payment app adoption.

emotional, and value epistemic value. The finding implies that consumers who demonstrate high and medium levels of these three consumption values have higher MPA adoption intention.

6. Theoretical implications

On the theoretical front, this study complements the literature on internet-based payment methods and consumer behavior. Whereas
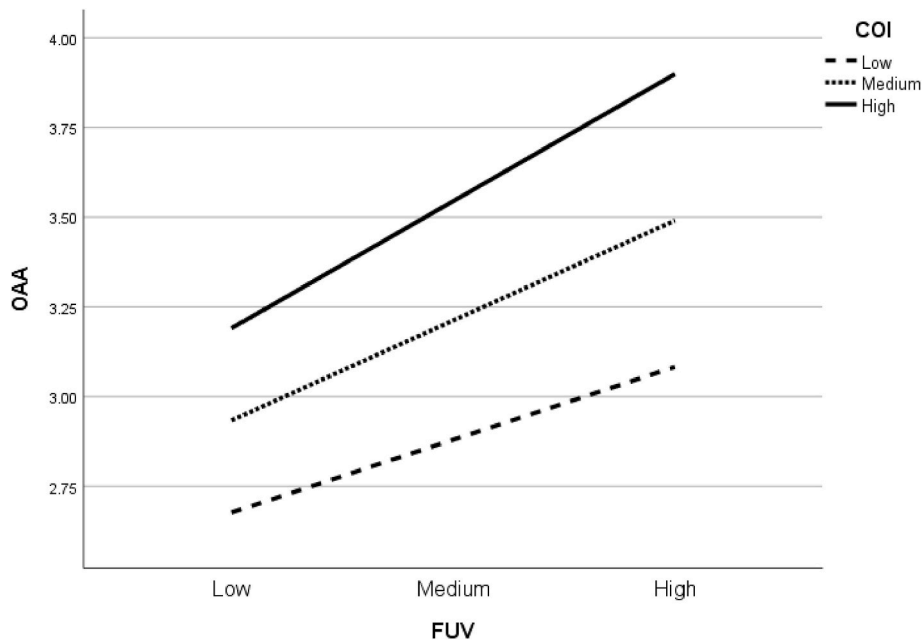
Fig. 5. Moderating effect of customer involvement on the relationship between functional value and mobile payment app adoption.

studies of the adoption of internet-based payment methods have been conducted in the past, the proposed model in this study incorporated initial trust and customer involvement and tested the mediation-moderation effect of these variables. This brings new insights from a developing nation's perspective on MPA adoption intention. In this vein, this study has empirically validated the model using Consumption value theory by combining the constructs of initial trust and customer involvement and presenting a value-driven theoretical framework for testing technology-based applications in general and financial transaction-related information systems in particular. The development of an improved framework also sets a new direction for looking beyond the conventional theories for the study of consumer behavior in the information systems context. This is evident from the vast literature in similar or related contexts which have predominantly used TAM and UTUAT frameworks. The test of direct and indirect influence of initial trust and customer involvement demonstrates some unique directions for a theoretical extension. The study investigates initial trust's mediating effect on M-payment Apps adoption, which helps to establish the interplay between consumption values and M-payment Apps adoption through initial trust. The moderating effect of Customer involvement is not visible in the association between Social value as well as Conditional value and the adoption intention, whereas, this effect is observed in the association with the other three values. Therefore the linkage between consumption values and adoption intention of MPAs varies depending on the Customer involvement. This significant effect of customer involvement opens avenues to further the academic exploration of consumer behavior. The current study also adds to the body of knowledge on consumption value theory by applying it to the very relevant situation of M-payment apps.

7. Practical implications

Complementing theoretical contributions, this study also has important practical implications. Mobile payment apps constitute an innovative method of payment, be it for online or bricks-and-mortar trade. Practitioners in the field of MPAs are well acquainted with the role of consumption values in adoption intention, yet they seek to understand the values that significantly influence adoption intention. This study highlights the values that are significant to consumers. These can help practitioners build products that further enhance these values in

MPAs. The construct of customer involvement helps to develop an understanding that the involvement of customers can have a bearing on adoption. This information can help firms focus on increasing customer involvement through necessary measures, such as product evaluation, increased feedback on products, and gamification, to engage with customers in a more meaningful manner.

This study suggests that initial trust in adoption is crucial, which has implications for both corporate entities and governments. The governments of many countries want to push ahead with the plan of cashless transactions to reduce the use of cash by consumers, banks, and financial intuitions to lower costs. This study provides a useful signal for governments to build initial trust among consumers to increase the adoption rate of MPAs. Corporates' marketing communications can emphasize the trust factor associated with MPAs to increase customers' initial trust and attract more users. Furthermore, the mediating role of trust can provide vital cues in the adoption of MPAs. The mediation effect revealed that even social value has a positive influence on adoption intention when mediated by trust. This signals the prominence ascribed to trust by consumers in MPA adoption. Thus practitioners can work on enhancing trust through increased protection features including advanced intelligent systems and tools. The possibility of live video chats with a bank executive, in case the consumer raises concerns over the security or safety of the transaction can further augment the trust in MPAs. The ability of MPAs to deliver trustworthy financial transactions must be often used in marketing communications. This research also provided deeper insights on the role of functional value, which has emerged as the biggest influencer on initial trust. The practitioners can use this finding to add functional value through enhanced utility by adding features such as obtaining Loans, Investment advisory and Investment Management, easing the purchase of financial assets using MPAs, etc. Increased usage of Artificial Intelligence can also enhance the functional features currently being offered by the MPAs.

8. Social implications

The social implications of this study emanate from the fact that it relates to the common people who make payment transactions using a variety of internet-based methods. This study provides vital information on how consumers perceive consumption values. The dimensions of initial trust and customer involvement can help policymakers enhance

the usage of MPAs, thus reducing the government's cost of printing and handling currency bills, which at present runs into millions of dollars. This would lessen the burden on the exchequer and save taxpayers' money for use in social spending.

9. Conclusion

Mobile payment apps have grown in the past few years and have great potential for building a large customer base over the next decade. This study attempted to understand the role of consumption values in predicting the adoption of MPAs. Although previous studies have also investigated adoption intention, this study investigated the direct and indirect effects of initial trust and customer involvement through a mediation-moderation analysis. The results demonstrate that except for social value, all the other consumption values – functional, conditional, epistemic, and emotional – influence MPA adoption intention. However, when verified for indirect influence through initial trust, the social value was also confirmed to influence adoption intention significantly. The moderation effect of customer involvement was investigated. The results show that consumers with medium and high functional, epistemic, and emotional values have a high propensity towards adoption intention. In contrast, social, conditional values, and initial trust customers did not demonstrate the adoption intention. These findings enhance the understanding of an internet-based payment method used by an increasing number of consumers worldwide. This study makes many recommendations for further development of theory and extension of the proposed model. The consumer behavior dimension of the study provides information for practitioners and firms engaged in the design and marketing of mobile payments apps.

10. Limitations and future scope

While this study provides the consumption values that drive the adoption of MPAs, it has some limitations. First, the study was conducted in India; hence generalizations with developed countries and other culturally distinct nations cannot be made. Thus the study must be extended in other geographies to strengthen the findings further. Second, the data collection was done during a period in which the Covid-19 pandemic was prevalent, and mobile-based payments were a preferred mode of making payments; hence the results of the study may be influenced by this extraordinary situation. Studies can be conducted in normal market situations to overcome this limitation to discover the difference in consumer sentiments. Third, the study used cross-sectional data for analysis. The results might not reflect consumer choices over a longer period; hence, longitudinal data studies could be undertaken to measure changes in consumer choices over time. Fourth, the study used initial trust as a mediating variable and customer involvement as a moderating variable; new research can extend this study for measuring the indirect effect of other such variables. Fifth, the 37 pre-test samples are small in size to verify the reliability and validity of the data. Future researchers can look into it and they can increase the pre-test sample size. Last, it is also imperative to mention that Indian consumers have shown a growing inclination towards the usage of PayTM as indicated in the recent studies (Joshi et al., 2019). With the financial inclusion measures of the present government, PayTM has registered phenomenal growth, riding on the digital payments wave in the country (Mehta et al., 2021). This may have skewed the responses provided by the large number of consumers using digital wallets offered by Paytm.

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