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Consumption values and mobile banking services: understanding the urban–rural dichotomy in a developing economy

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Consumption values and mobile banking services: Understanding the urban-rural dichotomy in a developing economy

Abstract

Purpose: This study develops a theoretical model of consumption values regarding technology adoption of mobile banking (m-banking) services, with the financial services sector as the empirical context. The study's purpose is to evaluate whether consumption values' influence on trust and intention differs between urban vs. rural consumers.

Design/methodology/approach: The data for this study were gathered from 246 responses collected from individuals living in a country with a developing market, using a survey instrument. The six study hypotheses were tested using partial least squares structural equation modelling.

Findings: We found support for effects from functional, epistemic, and emotional value on intention. Functional and emotional value significantly influenced trust, while social and epistemic value did not. Social value was a significant moderator between functional value and intention. Consumers who were relatively unconcerned with social value were more motivated by functional value, while consumers who placed great emphasis on social value were motivated by epistemic value. Multi-group analysis showed that the effect from functional value on trust was stronger for urban than rural customers, while the effect from emotional value on trust was stronger for rural than urban customers.

Practical implications: Overall, functional value is the strongest predictor of trust and intention; therefore, bank managers are encouraged to promote m-banking services' functional value to increase trust and attract more users by promoting their companies' m-banking app. M-banking customers also can be classified based on the benefits in which they are most interested.

Originality/value: The study is one of the first attempts to demonstrate empirically how consumption values' dimensions drive m-banking use among different types of customers in a developing market context with a high m-banking penetration rate.

Keywords: Consumption values; intention to use; mobile banking services; trust; Mauritius

Introduction

Mobile banking (m-banking), also known as cell phone or portable banking, can be defined as the use of handheld devices to access banking information and/or conduct banking transactions via SMS messaging services, downloadable applications, and/or wireless application protocols to access financial and non-financial services (Karjaluoto *et al.,* 2019; Glavee-Geo *et al.,* 2017). M-banking provides financial institutions with an additional revenue source, increased customer base, and access to new markets, while for consumers, it offers greater convenience and easy access to financial information. M-banking services' growth has been correlated widely with convergence and the enormous growth of smart portable wireless devices worldwide. This convergence is driving companies from different industries and sub-sectors of the economy, such as banks and other financial institutions, to compete and collaborate (Lee *et al.,* 2015).

The usage of mobile device is increasing exponentially, and the mobile phones become more pervasive globally (Hayes *et al.,* 2020). Several market reports have forecasted increasing use of portable devices, including mobile phones, to conduct banking and other financial transactions. For example, the Global Systems for Mobile Communications Association-GSMA (2018) stated that the mobile communications industry contributed 4.5 percent to the

global gross domestic product (GDP) in 2017, adding USD 3.6 trillion in economic value. The report also estimated that the number of mobile Internet users would grow from 3.3 billion in 2017 to 5 billion by 2025. Juniper Research (2016), in turn, forecasted that by the end of 2021, over 2 billion users will have used its portable mobile devices for banking and payment purposes, compared with 1.2 billion users in 2016. This tremendous growth in mobile device use for banking and payment purposes is driven largely by growing numbers of digitally savvy consumers who are managing their financial affairs using multiple banking channels, commonly known as alternative delivery channels, including m-banking.

This study's context was Mauritius, a developing country and an island nation in the Indian Ocean. This setting was chosen because it provides a good representative country for developing and emerging economies due to its growing economy. Furthermore, Mauritius has one of the highest Internet penetration rates in the world (Internet World Stats, 2019) and one of the fastest mobile Internet speeds in Africa (IT News Africa, 2018). Six commercial banks in Mauritius provide multi-channel banking and payment services to their account holders, and more specifically, users of m-banking services have increased drastically over the past few years (Bank of Mauritius, 2018). In addition, no prior m-banking studies have been conducted on Mauritius; thus, we believe that our study provides a unique context.

Consumption values deal primarily with how customers value a product or service when they have it and/or are using it. Studies that have examined various dimensions of consumption values related to m-banking (Goh *et al.,* 2014) remain limited, and those that are available have not been confirmed widely. Customers' perceived consumption values about m-banking services are likely to affect their intention to use m-banking services (Omigie *et al.,* 2017). Trust is also important because customers are more willing to use a service if they trust their service providers and their m-banking services (Sharma and Sharma, 2019). Moreover, the theory of consumption values (TCV; Sheth *et al*., 1991) has been utilized widely with many different research topics. However, in the m-banking sector, this model has not been examined fully. Also, many extant studies have concentrated on adoption of m-banking, rather than on customers' perceived value or consumption-value approach. Recently, the Marketing Science Institute identified "customer value" as one of the top research priorities for 2020-2022.

Thus, this study highlights four main objectives. *First*, due to handheld devices' proliferation and increasing use of cell phones for banking, finance, and payment purposes, this study viewed m-banking as one of the key components of banks' multichannel banking strategy. *Second,* we developed a theoretical model of consumption values regarding technology adoption of m-banking services, with the financial services sector as the empirical context. *Third*, we evaluated whether consumption values' influence on trust and intention differs between urban vs. rural consumers. Thus, we sought to assess what motivates different consumer groups in adopting an innovative service. *Fourth*, we provided useful policy guidelines and suggestions that will be impactful as planning tools for businesses, fintech, the wider public (including local communities), governments, researchers, and other policymakers. Consequently, this paper seeks to stimulate discussions on how technological, social, and business environments may differ between various communities concerning consumption values and how knowledge of these differences can be useful for marketing strategy development segmentation, targeting, and positioning.

To achieve these objectives, this study addresses the following research questions:

RQ1: How do consumption values influence the adoption of m-banking services, as well as consumer trust in an m-banking service provider?

RQ2: Do urban and rural consumers differ in how consumption values influence their intention to adopt m-banking services?

This article proceeds as follows. We next discuss the study's theoretical background, conceptual framework, and hypotheses development, followed by the method and results, then a discussion of the study's findings. The article concludes by discussing the study's contributions, implications, and limitations, as well as future research directions.

Literature review and theoretical background
Technological acceptance model (TAM)
TAM is one of the most common frameworks used to investigate innovation adoption. In a literature review of theories used to predict m-banking adoption, nearly half (42%) of m-banking studies used TAM (Shaikh and Karjaluoto, 2015) as their main theoretical framework. TAM was developed by Davis (1989) and is based on the theory of reasoned action (Fishbein and Ajzen, 1975). The original TAM comprises two main predictors, perceived usefulness (PU) and perceived ease of use (PEOU), which together explain attitudes toward using technology and usage intention. Over time, several researchers have extended TAM by adding more components to predict, for instance, adoption of m-banking (Glavee-Geo *et al.*, 2015). Subsequently, Venkatesh and Davis (2000) devised TAM 2 by adding social influence to PU and PEOU, then Venkatesh and Bala (2008) developed TAM 3. The unified theory of acceptance and use of technology (UTAUT; Venkatesh *et al.*, 2003) is another extension of TAM and uses constructs such as performance expectancy (similar to perceived usefulness), effort expectancy (similar to perceived ease of use), social influence (similar to subjective norm), and facilitating conditions (similar to perceived behavioral control).

Theory of consumption values (TCV)
TCV shares many similarities with TAM. Both theories attempt to explain behavioral intention. In addition, PU and PEOU are included in consumption values, with functional value similar to PU and emotional value closely associated with PEOU. The term *value*, which entails what a consumer derives from using a product or service, has been used interchangeably with *perceived value, customer value, consumption value*, and *consumer value* (Chen and Lin, 2019; Foroudi *et al.,* 2019). Considering its significance in increasing customer satisfaction, as well as influencing continuous usage and purchase intentions (Chen and Lin, 2019; Shapiro *et al.,* 2019), the concept of value has been of interest to marketing and information systems researchers, many of whom have elicited debatable interpretations about the definition of *perceived value*. For example, one highly cited definition of perceived value is a "consumer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given" (Zeithaml, 1988, p. 14). According to Holbrook and Hirschman (1982), consumption values are felt and derived by consumers during the consumption process, rather than during the purchase.

Sheth *et al.* (1991) assert that value which consumers associate with products or services is likely to influence their consumption behavior. Sheth *et al.'s* (1991) theory of consumption values (TCV) states that the multidimensional facet of consumption values helps consumers make a purchase decision about either a product or service, or using a particular brand. Their model suggests that five attributes affect consumers' choices:

1. *Functional value* generally is defined as the perceived benefit or utility that is acquired from an alternative's capacity for either functional, utilitarian, or physical performance (Kaur *et al.*, 2018).
2. *Social value* refers to a product's ability to evoke a social image, such as helping consumers gain recognition from groups (e.g., socioeconomic, cultural, and demographic groups).
3. *Emotional value* includes feelings and emotions derived from consumption of goods. These feelings can change a consumer's affective or emotional state either positively or negatively.
4. *Epistemic value* involves how the product can attract the consumer's curiosity or desire to learn something novel.
5. *Conditional value* is related to how choices are dependent on situations and/or circumstances. TCV states that numerous values are involved when consumers exercise choice, and such values are independent and situational. One main limitation of TCV is that it cannot be used to forecast the behavior of two or more people; however, this may not apply if the individuals form a group that has the same perceived values.

Extant research has expanded Sheth *et al.'s* (1991) theory, e.g., Sweeney and Soutar (2001) developed the perceived value model (PERVAL) using a 19-item measure that they applied to four dimensions of consumption values: functional; emotional; social; and monetary. Subsequently, Petrick (2002) introduced the perceived value of a service model (SERV-PERVAL), which has five dimensions: quality; emotional response; monetary price; behavioral price; and reputation. Sanchez *et al.* (2006) further extended TCV and developed GLOVAL. For the present study, TCV has been chosen as the main framework for consumption values because researchers have used it widely (Pura, 2005; Lee and Han, 2017). Additionally, findings by Roig *et al.* (2006), Ivanauskienė *et al.* (2012), and Heinonen (2004) show that TCV can be extended to the banking sector.

Conceptual framework and hypotheses development
The research model (Figure 1) proposes that consumption values directly affect intention to use m-banking services positively. Consumption values also are hypothesized as exerting a positive effect on trust in the service provider, which subsequently influences intention to use m-banking services. Though not hypothesized, we used social value as a moderator such that social value is expected to moderate the associations between functional, epistemic, and emotional values on intention. The goal is to test whether the effects from the three other values are dependent on social value. Our assumption and rationale are informed by theory. Considering that m-banking services are not visible, tangible products, social value's direct effect on intention would be less salient. According to Sheth *et al.* (1991, p. 161), "choices involving highly visible products…and goods or services are often driven by social value." Thus, we expect the direct effect from social value to be less pronounced while its interactive impact with other values could be enforcing or attenuating the effects from the other three values. We controlled the model for age, gender, frequency of use, and education.

[Insert Figure 1 about here]

Effect from consumption values (functional, social, epistemic, and emotional) on intention.
Value perception is crucial and widely suggested as being multidimensional (Wu *et al.*, 2018). Therefore, in the current study, consumption value is viewed as a multidimensional construct

comprising functional, social, epistemic, and emotional values. Sweeney and Soutar (2001) extended the definition of *functional value* and associated it with a commodity's performance and quality. Moreover, in the banking industry, m-banking apps provide many features, such as anytime and anywhere access, instant transaction records, and money transfers between individual accounts. As such, it is assumed that using mobile apps will enable consumers to derive a positive assessment of the service.

The decision to adopt m-banking services depends on the possession of salient functional attributes (Goh *et al.,* 2014). Functional value drives m-banking use due to the technical benefits that it offers (Berraies *et al.,* 2017). Evaluation of the service in terms of price and quality also is covered by functional value (Sweeney and Soutar, 2001). According to Berraies *et al.* (2017), when the gain that m-banking generates surpasses the cost associated with the service, functional value is high, and this perception of superior value compared with another substitute drives m-banking use. In addition, functional value also may arise as a result of the service's quality and performance (Sweeney and Soutar, 2001). When Goh *et al.* (2014) analyzed m-banking adoption, they found a direct relationship between utility and the likelihood of m-banking adoption, thereby concluding that functional value is the critical driver of intention to adopt.

Social value refers to emotional satisfaction, self-respect, self-esteem, and a sense of belonging that consumers get with the application (Jordan, 2008). Wu *et al.* (2018) found that both hedonic value and utilitarian value mediate the relationship between social value and purchase intention. Yang and Jolly (2009) show that social value positively affects behavioral intention to use or purchase mobile services, including mobile financial services. Epistemic value, relating to consumers' curiosity and/or need to learn, includes early adopters' behavior with a new product. In one online banking study, epistemic value positively affected intention due to the willingness to try a new product, which was mostly out of curiosity (Goh *et al.,* 2014). Hur *et al.* (2012) found epistemic value to be among the important factors that affect intention to use a new product. Emotional value relates to positive and enjoyable feelings that are stimulated during the use of m-banking applications (Berraies *et al.,* 2017). Emotional value triggers a consumer's emotional state and exerts a significant influence on impulse buying behavior (Yang *et al.,* 2015). Peng *et al.* (2014) emphasize that emotional value exists in terms of a mobile app's brand attachment. A branded app provides a more effective communication channel through which consumers can interact with the company and through which the company's image is enhanced via its features, offering more touchpoints to consumers with access to anywhere/anytime use. Therefore, brand attachment toward branded apps will encourage consumers to use them more often.

Furthermore, emotional value is related to perceived enjoyment while using m-banking. Emotional value positively influences intention (Chemingui, 2013). Based on the above arguments, we hypothesize:

H1: Functional (H1a), social (H1b), epistemic (H1c), and emotional (H1d) values directly affect intention positively.

Consumption values and trust in service providers. Lin (2011) asserts, given that m-banking is a newer technology, that consumers may be hesitant to adopt and trust such services for conducting transactions fully. Oliveira *et al.* (2014) found that trust is an essential factor in reducing consumers' concerns over adoption of m-banking. Curiosity is the main reason for purchasing novel technology products (Sheth *et al.,* 1991), and m-banking is no exception. Thus, it can be argued that epistemic value affects consumers' trust in m-banking service

providers. Several studies on m-banking trust and perceived value have shown that trust has a strong positive relationship with perceived value (Harris and Goode, 2004). For instance, Chiu *et al.* (2017) found that trust influences behavioral intention to use only m-banking services. Similarly, in the Tunisian context, it was found that customers' perceived value positively affected their electronic trust while using m-banking applications (Berraies *et al.*, 2017). Regarding consumption values, trust positively affects conditional, emotional, and functional values significantly.

Berraies *et al.* (2017) investigated m-banking and consumers' e-trust. Functional value was found to be a key predictor of consumers' trust. The same sentiments were echoed by Ritter and Walter (2008), who stated that function fulfilment drives trust. Social value is expected to affect commitment and, thus, trust in an online context (Hsieh and Shannon, 2005). Wu *et al.* (2018) found that social value also was an antecedent of trust, while Pura (2005) could not find empirical evidence concerning social value's effect on commitment. In light of the above, we hypothesize:

H2: Functional (H2a), social (H2b), epistemic (H2c), and emotional (H2d) values directly affect trust positively.

Trust's effect on intention to use. Skvarciany and Jureviciene (2017) asserted that it is important for m-banking service providers to gain consumers' trust because it is likely to affect usage intention. Usually, banks aim to improve their relationships with customers by gaining their trust. Because face-to-face interaction is not possible in m-banking, and all transactions occur electronically, certain issues – such as the risks & security involved, costs, and convenience – may affect users' adoption of such systems. Skvarciany and Jureviciene (2017) assert that customer characteristics (age, propensity for trust, social influence, and computer literacy) exert the most significant influence on trust, and that among sub-factors, convenience/practicality of using an m-banking application is the most important element in the trust-building process. Therefore, willingness to use m-banking services depends entirely on customer trust. Lee and Chung (2009), in their study on the impact of three factors (information, system, and service) related to quality regarding trust and customer satisfaction, proposed that banks which provide m-banking services should devise positive strategies, such as giving customers access to accurate and reliable information, to gain their trust instead of mainly focusing on aesthetics, such as improving their design interface.

In the same vein, Zhou (2011) argued that both structural assurance and information quality significantly influence users' initial trust. Gu *et al.* (2009) argued that when customers trust a banking institution, they are more willing to use that institution's m-banking services. From their findings, structural assurance was the most significant antecedent of trust and, thus, of intention to use m-banking services. Bashir and Madhavaiah's (2015) research on Internet banking adoption found that for customers to assess m-banking services positively and use them, users must be able to trust the system. This aligns with the work of Hanafizadeh *et al.* (2014), who stated that, along with mobile phone producers and telecommunications providers, banks must emphasize their security measures to persuade more users of their trustworthiness. In view of this, our third hypothesis, which links trust to intention, states the following:

H3: Trust directly affects intention to use positively.

Consumer type (urban vs. rural) and consumption values. Other studies (e.g., Mayer *et al.,* 1995; Berraies *et al.,* 2017) suggest that different consumer segments may have different motivations and dispositions to use a technology/innovation. For example, Generation Y individuals are referred to as digital natives because they were born into and live in today's highly digital environment. Most researchers agree that social value is essential for digital savvy, in contrast to previous generations (Olivier and Lee, 2010; Berraies *et al.,* 2017). Similarly, it has been argued that urban and rural customers have different consumption patterns and attitudes toward products (McEachern and Warnaby, 2006; Schopphoven, 1991). Rural and urban consumers, to ameliorate their standards of living, use different products, which possibly could be due to their differing needs (Sun and Wu, 2004). This reveals that these two customer groups derive utility from different products, implying that products' functional value differs according to customer type. Similarly, Warnaby (2006) argued that food purchase behaviors differ between urban and rural customers. Sun and Wu (2004), while analyzing the rural-urban divide in the Chinese market, found that customers' attitudes in these two groups differed in all aspects of the marketing mix, with differences in needs accounting for such results. Consumers may try something new or switch brands because of boredom, or they may want to try something different (Cheng *et al.,* 2009). Maggioni *et al.* (2020) found that consumer cross-channel behavior is different among market segments, and that switching behavior is more prevalent among youngsters. In understanding strategic behavior in online hotel booking, Masiero *et al.* (2020) claim that consumer segments behave differently, allowing for a better understanding of consumer preferences. Furthermore, while Carey *et al.* (2011) concluded that urban and rural customers' attitudes are distinct, in light of the above discussion, we hypothesized the following:

H4: The positive effect from *functional value on trust* in service providers differs by consumer type, such that the effect is *stronger for urban consumers than it is for rural consumers*.

H5: The positive effect from *emotional value on trust* in service providers differs by consumer type, such that the effect is *stronger for rural consumers than it is for urban consumers*.

H6: The positive effect from *epistemic value on intention to use* differs by consumer type, such that the effect is *stronger for rural consumers than it is for urban consumers*.

Method
Research setting: M-banking in Mauritius
Mauritius is an island state located off the southeast coast of Africa, with a population of approximately 1.3 million (Statistics Mauritius, 2018). According to the World Bank (2018), the rural population, as a percentage of the total population was 59.2% in 2018 as compared to 56.1% in 1990. The population growth rate is estimated to be 6% for the urban population, while population growth of 14% is expected for the rural population (World Bank, 2018).

The Mauritian banking sector comprises 20 banks that offer a multitude of traditional and value-added banking and payment services, including, but not limited to, Internet banking, point-of-sale banking, m-banking, etc. The Mauritius Commercial Bank and the State Bank of Mauritius were pioneers in launching m-banking services in 2011 and 2012, respectively. However, several other banks also have started offering m-banking services. To date, six banks and one non-bank have added m-banking to their services, while 16 banks offer Internet banking services. The number of registered mobile money accounts increased from 0.5 account per

person to nearly 1 account per person for people ages 15 and above between 2013 and 2017 (Bank of Mauritius, 2018). Similarly, m-banking transactions' value experienced unprecedented growth of 83% between 2017 and 2018, reaching Rs 658 million (Bank of Mauritius, 2018).

Measurement, questionnaire design, and data collection
Consumption values were assessed by dividing them into four dimensions, for which the survey question statements were adapted from Omigie *et al.* (2017). The items representing intention to use m-banking were adapted from Hanafizadeh *et al.* (2012) and Goh *et al.* (2014), and those representing trust were adapted from Gu *et al.* (2009) and Hanafizadeh *et al.* (2012). We used four values with the assumption that these four differ between urban and rural customers. However, urban and rural customers may have the same undifferentiated situation (condition) when faced with the choice to use m-banking. According to Sheth *et al.* (1991, p. 163), one or more "consumption values may have little influence." Thus, the present study focuses on four values. Table 1 presents the measurement model with the indicators and their means, standard deviations, and factor loadings.

[Insert Table 1 about here]

As a first step, the readability of the items included in the survey instrument was validated using 10 respondents to ensure that they fully comprehended the survey questions and to determine whether any changes were needed. To achieve face validity, a high-ranking officer of a commercial bank in Mauritius who is familiar with the context of m-banking verified the initial questionnaire.

The sample population for this study comprised people registered for m-banking services that only their local banks provided. A prerequisite of inclusion was that these users have mobile phones. Because of the large population size and time, financial, and accessibility constraints, convenience sampling was adopted, consistent with other studies (Wu and Wang, 2005; Afshan and Sharif, 2016).

Data for this study were collected using an on-site data collection methodology. The site chosen was an administrative town called Ebene. Ebene is located in the center of the country, 15 kilometers south of the capital Port-Louis. People from various rural and urban areas of the country converge to work in Ebene, which is home to several businesses operating in all the sub-sectors of the Mauritian economy including banking institutions.

The registered m-banking customers were the study's target for the survey. First, we sought permission from the management of various organizations in Ebene. Each organization provided a list of its employees, who then were chosen randomly for survey administration. One of the authors helped administer the questionnaire to the respondents at their workplaces. In addition to the workplaces, the data were also collected from the people visiting Ebene for work, trade, and business. Altogether, 300 questionnaires were administered. After a three-week completion period, 246 usable responses were obtained, resulting in a response rate of 82 percent. Out of these 246 responses, urban users accounted for 53% of the sample, while the remaining 47% having a rural background. The gender split was almost even (52% female). Around 66 percent of the sample ranged in age from 18 to 28, while only 1.5 percent were age 50 and above. Around 80 percent of respondents used m-banking up to four times per week. Regarding participants' education level, 85 percent had a tertiary education, with

the remainder having been educated at the secondary level. Table 2 provides a detailed demographic description of the sample.

[Insert Table 2 about here]

Results

Measurement model, convergence, and discriminant validity

The analysis of the proposed model was based on 28 items (indicators) using the variance-based partial least squares (PLS) technique (Wold, 1985) and Ringle *et al.'s* SmartPLS 3 method (2015). We assessed the measurement model with an emphasis on factor loadings, item reliability, and convergence and discriminant validity. All the factor loadings were higher than 0.7 and significant ($p < 0.001$), except for FUNV6 and TRUV6, which had loadings of 0.651 and 0.538, respectively (both loadings were significant, at $p < 0.001$) (see Table 1). According to Barclay *et al.* (1995), factor loadings of at least 0.5 are viewed as acceptable. We evaluated internal consistency using Fornell and Larcker's (1981) composite reliability index and other reliability criteria. The results showed that all the constructs' measures were reliable and valid. The results presented in Table 3 show that the average variance extracted from each construct was higher than the critical value of 0.5, while all the construct reliabilities (i.e., Cronbach's α, ρ_A coefficients, and ρ_C composite reliability) had values above 0.7 (Hair *et al.,* 2016; Sarstedt *et al.,* 2017). We assessed discriminant validity based on Fornell and Larcker's (1981) criterion. The results in Table 3 also show that discriminant validity was achieved. Furthermore, we used Henseler *et al.'s* (2015) heterotrait-monotrait (HTMT) ratio of correlations criterion. The analysis revealed that all the HTMT values were significantly lower than 0.90, which provided additional evidence of our measures' discriminant validity. We also assessed nonresponse bias by comparing the responses from the first 25% of respondents with those from the last 25% and found no significant difference between the two groups ($p > 0.05$), indicating that nonresponse bias was unlikely to have occurred.

Common method variance

Common method variance (CMV) occurs when the estimates of the relationships between two or more constructs are biased because they are measured using the same method (Podsakoff and Organ, 1986). CMV is affected by several factors, including social desirability and survey measurement procedures (Podsakoff and Organ, 1986; Podsakoff, 2003; Rindfleisch *et al.,* 2008; Podsakoff *et al.,* 2012; Hulland *et al.,* 2018; Jordan and Troth, 2020). We used an *a priori* method to minimize CMV's influence (Hulland *et al.,* 2018): First, in the questionnaire's design, we included a cover letter with an introductory opening that concealed the study's true purpose. Second, we arranged the sequence of the questionnaire items in a random order and ensured that the dependent and independent variables in the survey were separated. Third, we pre-tested the questionnaire to avoid ambiguous scale items that could be difficult to understand and interpret. Taking these steps prior to administering the survey helped limit the potential for CMV.

[Insert Table 3 about here]

Structural model evaluation and multi-group analysis

The research model (see Figure 1) was estimated using SmartPLS 3 (Ringle *et al.,* 2015), based on the entire data set (n = 246). We added three interaction effects to the original research model before estimation. As an initial evaluation step, we assessed the structural model for collinearity (Hair *et al.,* 2016) by examining the variance inflation factor (VIF) values of all the predictor constructs in the model. We found all the VIF values to be below

the more conservative threshold of 3.3 (Diamantopoulos and Siguaw, 2006) and concluded that collinearity was not at critical levels (Table 4). Next, we assessed the significance and relevance of the path coefficients based on the results from the bootstrapping procedure with 10,000 subsamples (Franke and Sarstedt, 2019). Regarding the control variables, the effects from age, gender, and education on intention to use m-banking were insignificant ($p > 0.05$); however, the frequency of m-banking use ($\beta = 0.10$, $p < 0.05$) exerted a small, though significant, impact on intention to use, as could be expected.

We hypothesized that consumption values (functional, social, epistemic, and emotional) directly affect intention to use positively. We found support for the effect from the functional (H1a: $\beta = 0.35$, $p < 0.001$, $f^2 = 0.13$), epistemic (H1c: $\beta = 0.18$, $p < 0.01$, $f^2 = 0.05$), and emotional (H1d: $\beta = 0.19$, $p < 0.05$, $f^2 = 0.04$) values on intention to use. However, no support for the effect from social value (H1b: $\beta = 0.06$, ns) on intention to use was found. We also hypothesized that consumption values directly impact consumer trust regarding the use of m-banking services positively. We found support for the positive impact from functional (H2a: $\beta = 0.63$, $p < 0.001$, $f^2 = 0.55$) and emotional (H2d: $\beta = 0.21$, $p < 0.05$, $f^2 = 0.04$) values on trust. The effects from social (H2b: $\beta = -0.10$, ns) and epistemic (H2c: $\beta = 0.01$, ns) values on trust were insignificant. The third hypothesis, which states that consumer trust affects intention to use positively, was supported (H3: $\beta = 0.17$, $p < 0.05$, $f^2 = 0.04$).

We found one unique significant indirect association: Trust was a significant mediator between functional value and intention to use m-banking (indirect effect = 0.11, $p < 0.05$). No significant difference was observed between urban and rural segments in relation to trust's mediating role between functional value and intention to use m-banking (see Table 5). Thus, trust's mediating role between functional value and intention to use m-banking is independent of customer segment. Although we did not hypothesize for moderation, we added and examined three interactions as part of the model estimation to investigate any contingency effects. The results (Table 4) show that interactions between functional and social values on intention to use (functional x social: $\beta = -0.20$, $p < 0.01$, two-tailed) and between epistemic and social values on intention to use (epistemic x social: $\beta = 0.11$, $p < 0.10$, two-tailed) were significant. However, the interaction between emotional and social value on intention to use was insignificant (emotional x social: $\beta = 0.01$, $p > 0.10$). In interpreting the moderation effects, we suggest that in general ($n = 246$), the effect from emotional value on intention to use m-banking is irrespective of any other value. However, the effects from functional value and epistemic value on intention to use are contingent on social value.

[Insert Table 4 about here]
[Insert Table 5 about here]

To test hypotheses H4–H6, we conducted a multigroup analysis to detect possible differences between the two subsamples of urban ($n = 116$) and rural ($n = 130$) customer segments. Both rural ($\beta_1 = 0.26$, $p < 0.05$) and urban ($\beta_2 = 0.43$, $p < 0.001$) customers were motivated significantly by the functional value of using m-banking. No significant differences were detected between the two groups, but the analysis showed significant differences (H4: $\beta_1-\beta_2 = 0.22$, $p < 0.05$) between the two groups regarding the effect from functional value on trust, which was found to be significantly greater for the urban customer segment ($\beta_2 = 0.78$, $p < 0.001$) than it was for the rural customer segment ($\beta_1 = 0.56$, $p < 0.001$). In addition, our analysis supported H5 and H6. The positive effect from emotional value on trust differed (H5: $\beta_1-\beta_2 = 0.40$, $p < 0.01$) by consumer type, with the effect being stronger for rural consumers ($\beta_1 = 0.37$, $p < 0.01$) than it was for urban consumers ($\beta_2 = -0.03$, $p > 0.05$).

Finally, rural consumers ($\beta_1 = 0.28$, $p < 0.01$) were motivated more by epistemic value in using m-banking than were urban consumers ($\beta_2 = -0.001$, $p > 0.05$), which led to significant differences between both groups (H6: β_1-$\beta_2 = 0.28$, $p < 0.01$). Interestingly, our analysis showed significant differences between urban and rural consumers regarding social value's moderating role in the association between epistemic value and intention to use. As stated earlier, the interaction between epistemic and social values (epistemic x social: $\beta = 0.11$, $p < 0.10$, two-tailed) on intention to use was significant for the entire sample (n = 246). The multigroup analysis showed that significant differences (β_1-$\beta_2 = 0.31$, $p < 0.05$) exist between the two segments (see Table 4). Thus, urban consumers who are motivated by the social value of using m-banking are more motivated by the epistemic value of using m-banking than are rural consumers. Subsequently, the effect from epistemic value on intention to use m-banking is strengthened to a greater degree under conditions of high social value for urban consumers than it is for rural consumers.

Discussion
Theoretical contributions
It is logical to assume that different consumer segments would have differing motivations to consume a product or service, but the mechanisms underlying these differences are less known. This study contributes to the literature on consumption values and innovation adoption by filling this knowledge gap using m-banking as an empirical context. In addition, this study contributes to services marketing literature in explaining why certain groups of consumers (urban vs. rural) use a specific product or service. For example, our study found significant differences between urban and rural customer segments in relation to epistemic value's effect on intention to use m-banking. Thus, while epistemic value alone influences rural consumers regarding intention to use, for urban consumer, social value strengthens epistemic value in using m-banking.

Our findings also show that consumers who otherwise might be viewed as homogenous are differentially motivated to consume goods and services. The theoretical implication is that seemingly homogenous groups of consumers could be differently motivated in their consumption behavior. The differential motivation in value could impact service co-creation. This is very important in services marketing, in which creation and consumption of services are inseparable, and value co-creation is dominant logic in service science. This is in line with Vargo *et al.'s* (2008) service-dominant logic, in which the customer is always a co-creator of value, and value is always uniquely and phenomenologically determined by the beneficiary. For example, inaccurately stating a beneficiary's name and other details in a money-transfer transaction could lead to delays in the transaction, thereby impacting service delivery and the customer experience.

Regarding consumption of mobile financial services, functional value is suggested as the most important driver of intention to use. Thus, the ability to undertake a mobile financial service as a basic function is what motivates consumers to both use and trust the service. The implication is that within the realm of service being the fundamental basis of exchange, the functional value of m-banking services is one of the fundamental bases of exchange in m-banking.

Our analysis showed that trust is a significant mediator between functional value and intention to use m-banking for the full data set, with no differences between urban and rural consumers regarding this indirect effect. Trust's important role in the use of mobile financial services has

been acknowledged in previous studies (e.g., Gu *et al.*, 2009; Hanafizadeh *et al.*, 2014; Bashir and Madhavaiah, 2015; Ritter and Walter, 2008). However, this role's mechanism has been unclear in the literature. Thus, functional value's impact in driving the use of m-banking services lies in trust in the services' "safety and security." This is an interesting contribution, linking functional value to intention to use.

We used social value as a moderator such that social value moderates the association between functional, epistemic, and emotional values on intention to use. Our findings provide some support for social value's moderating role. M-banking is not a visible tangible service or product (Sheth *et al.*, 1991, p. 161). The theoretical implication is that choosing less-visible products, goods, or services is often not driven by social value consistent with Sheth *et al.* (1991). However, choosing such products, goods, and services is reinforced or attenuated by social value. Social value's moderating role provides empirical evidence to show that, while consumption values can make a differential contribution in any given consumer choice behavior situation, some of the values may be either salient or inconspicuous and may encourage interdependency and contingency relationships between consumption values and intention to use or actual behavior.

Finally, the integration of consumption values with the concept of intention shows that the adoption and use of technology could be explained alternatively by consumer psychology. Complementing consumer psychology theories with information systems and innovation adoption theories provides for a fuller explanation of the mechanisms that a consumer navigates to adopt a service or product (in terms of a new technological innovation). For example, our findings reveal that trust partially mediates the effects from functional value on intention to use mobile financial technology.

Implications for practice/management
Our results carry several implications from both operational and marketing perspectives. The empirical findings demonstrate how consumption values impact both intention to use and trust by using the consumer m-banking market in Mauritius as the empirical setting. This is critical because the operationalization of TCV and its empirical testing may help "determine what specific consumption values in specific choice contexts can greatly enhance marketing efficiency" (Sheth *et al.,* 1991, p. 163).

From our analysis, functional value had the strongest influence on intention to use, followed by epistemic value. The functional advantage of the convenience of using m-banking provides a strong impetus for the service (e.g., no queuing at branches and, thus, wasting unnecessary time and effort). Therefore, customers who are seeking convenience would be more likely to use m-banking services than traditional banking services. Trust also motivates m-banking users. The managerial implication is that banks always should act in their customers' best interests by providing professional and reliable services, as well as fulfilling "moment of truth" service expectations and promises. Providing a reliable and trustworthy service is key to the adoption and continued use of a service. In the context of mobile money services, Namahoot and Laohavichien (2017) found that the service element of quality is a driver of continuous use. In line with the present study, the service elements of trustworthiness, professionalism, and security are key to the adoption of m-banking in developing countries. This is equally important due to the variability of service offers, which stem from the technological and infrastructural challenges that are common in most developing countries.

Another important practical application of the study's findings is that customers look for products and services from different perspectives depending on what type of benefits they want from the service or product. Benefit segmentation can help m-banking service providers identify customers on the basis of their consumption values and benefits sought. Benefit segmentation is a key behavioral segmentation strategy, as it helps companies appropriately identify and target customers based on their buying behavior. Therefore, behavioral segmentation should be a key component of the market segmentation process among m-banking service providers.

A major route to success in most developing and emerging markets is expanding market size by bringing large numbers of non-users into the consumption fold (Sinha and Sheth, 2018). The market heterogeneity between urban and rural segments of the population implies that service providers need to have a better understanding of heterogenous consumer segments' psychology and choice processes to plan effective marketing strategies. In formulating marketing strategies, product and service affordability and accessibility to various segments should be considered. Acceptability – which includes how a service satisfies the functional, epistemic, emotional, and social values of various segments – when coupled with building brand identity and awareness, can help expand the m-banking consumer market.

Concerning the integrity of banking and financial systems, emergent security challenges, such as hacking and digital fraud (among other cybercrimes), pose extreme challenges to both the adoption and use of innovative services, such as m-banking. Thus, banks, other financial institutions, and service providers should work regularly to improve their services' security features. The more secure a bank or its banking services are, the more convinced and willing users will be to use such services. In addition, customers' curiosity to discover something new drives them to use m-banking. Therefore, banks should innovate their mobile service offers constantly to keep customers engaged and increase usage.

Customers also seem to value their status among their friends, relatives, and society as a whole. They obtain a sense of belonging when using m-banking. The implication here is that banks, other financial institutions, and service providers should develop marketing communication strategies that reinforce the social status of those using the service, which will translate into more customers using the service. This is important because our results show that social value strengthens the association between epistemic value and intention to use m-banking among urban customers. The implication here is that urban and rural consumers require distinct communication styles, i.e., urban and rural consumers should be treated separately through different marketing strategies via segmenting, targeting, and positioning of m-banking services to suit each group's needs.

Furthermore, for the city dweller (urban), the functional value of using m-banking (e.g., the decision to use m-banking is based on the ease of sending money in a safe and fast manner) was greater than it was for the rural consumer segment. Similarly, for the rural consumer segment, the epistemic value (e.g., the novelty of instantly receiving money or the utility of paying bills on a handheld mobile device) of using m-banking was found to be greater than it was for the urban consumer. The implication here is that different consumer segments are driven by differing motivations and consumer values that affect cause-effect relationships among consumer segments.

Limitations and future research directions

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This study is not without limitations. First, we considered that the sample comprises young and frequent users of cell phones. Future research on m-banking could include a more diverse portfolio of participants, including different age groups, professions, and a generally wider demographic distribution. A diverse sample would provide a broader representation of the population and make the findings more generalizable.

Second, another limitation is the technology, i.e., m-banking. We understand that mobile financial services comprise three major domains: m-banking; mobile payments; and mobile money. Future research could examine other domains, such as mobile money, when examining consumer behavior, attitudes, and choices for mobile-based services in a developing-country context, where the availability and provision of banking channels (e.g., branch networks, ATMs, Internet access) has been a challenge for such nations' financial institutions and government agencies due to the heavy deployment and maintenance costs involved.

Third, the use of wearable devices has been attracting attention from consumers. Future research could examine the use of such wearables for banking and payment purposes using a variety of methods, such as experimentation, simulation, etc. Extant studies that have used these methods to examine wearables remain sparse.

Fourth, we want to encourage more research and re-examination of Sheth *et al.'s* (1991) TCV. Researchers should include consumption values in their models and supplement them with other concepts and frameworks that have the potential to provide an alternative explanation of TCV. For example, some concepts – such as performance, monetary, and self-gratification values – can be integrated within TCV, TAM, and UTAUT.

Fifth, to further expand this study, longitudinal designs could explore variations over a certain period, instead of limiting the phenomenon under study to only one point in time through cross-sectional research.

Sixth, conducting research amid the ongoing COVID-19 pandemic has presented a gigantic challenge for many countries that have been impacted economically in every sector of their economies, including banking and finance. Although these countries have suffered huge economic losses, they also have been motivated to develop and deploy various digital or remote solutions. How this has benefitted or challenged the banking industry has yet to be uncovered. Future research could examine the implications from COVID-19 on banks' multichannel strategies and whether and how they have survived and/or thrived during the pandemic.

Conclusion
In this study, we sought to investigate in what ways consumption values influence the adoption of m-banking technology, and we also examined whether urban and rural consumer segments differ regarding consumption values. We discussed our findings in terms of theory development and consumer marketing strategy development. We discussed several implications of the study and highlighted our contributions to TCV. We argued that consumers are differentially motivated to consume goods and services, which aligned with Sheth *et al.* (1991). This study also makes an empirical contribution by showing how consumption values impact both intention to use and trust. We suggested that the integration of consumption values with the concept of intention shows that the adoption and use of technology could be alternatively explained by consumer psychology. Supplementing

consumer psychology theories with information systems and innovation/technology adoption theories provides a fuller exposition on consumer choice behavior. Furthermore, we argued that some values might be either salient or inconspicuous and, thus, encourage interdependency and contingent relationships between consumption values and other explanatory variables. Thus, we argued that consumption values could be dependent on each other, especially in choice situations.

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List of Figures

Figure 1 Research model

Consumption Values

Figure 1 Research model
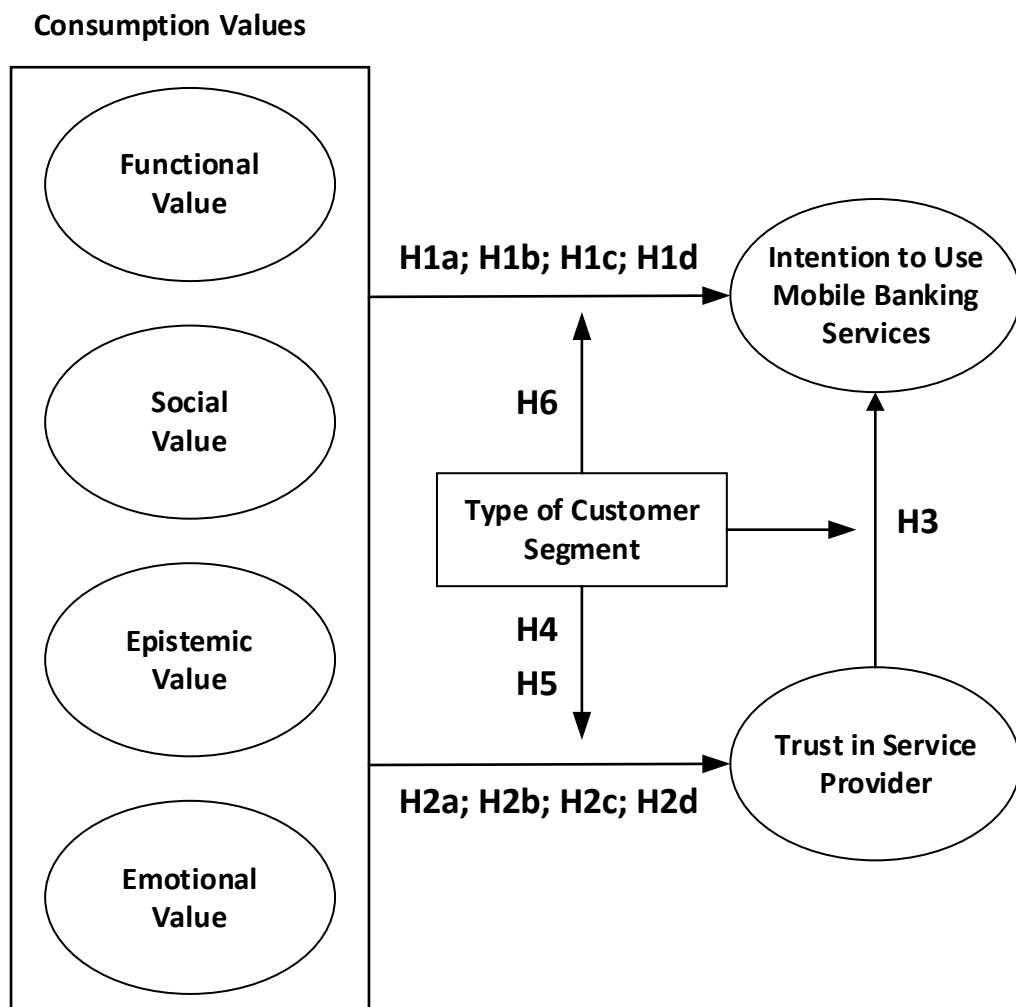
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Table 1. Construct, indicators, descriptive statistics and loadings

Construct	Indicators	M	SD	Loading
Functional value (Omigie et al., 2017)	Mobile banking services provide an efficient way to manage my time (FUNV1).	4.10	0.79	0.804***
	Mobile banking services reduce the effort and time needed for a particular purpose (FUNV2).	4.06	0.87	0.793***
	Mobile banking services are of high quality (FUNV3).	3.56	0.85	0.790***
	Mobile banking services are useful to me (FUNV4).	4.02	0.84	0.809***
	I feel that mobile banking services guard my privacy (FUNV5).	3.48	0.94	0.758***
	I think mobile banking services have adequate security features (FUNV6).	3.46	0.92	0.651***
Social value (Omigie et al., 2017)	Using mobile banking services makes me feel more acceptable and active in society (SOCV1).	3.02	1.03	0.875***
	Using mobile banking services gives me a better image and higher social status (SOCV2).	2.78	1.02	0.862***
	Using mobile banking services allows me to contribute to society and my community (SOCV3).	3.03	1.01	0.850***
	I think that using mobile banking services improves interactions with my colleagues (SOCV4).	2.87	1.06	0.891***
Epistemic value (Omigie et al., 2017)	I use mobile banking services because I always am curious to try something new (EPIV1).	3.23	0.99	0.812***
	I use mobile banking services because I like to get in on the latest technology trends (EPIV2).	3.38	1.02	0.893***
	I use mobile banking services because I like having a versatile life (EPI3).	3.34	0.94	0.908***
Emotional value (Omigie et al., 2017)	I feel free to use mobile banking services whenever I want (EMOV1).	3.96	0.87	0.751***
	Using mobile banking services allows me to express my personality (EMOV2).	2.81	0.94	0.765***
	I think that using mobile banking services makes me feel fashionable (EMOV3).	2.90	0.98	0.734***
	I think that using mobile banking services helps me live and work satisfactorily (EMOV4).	3.27	0.90	0.796***
Intention to use (Hanafizadeh et al., 2012; Goh et al., 2014)	I intend to use mobile banking services in the future (INTV1).	4.04	0.83	0.882***
	During the next six months, I intend to use mobile banking services frequently (INTV2).	3.81	0.93	0.811***
	I would recommend mobile banking services to friends or relatives (INTV3).	3.97	0.88	0.908***
	I always will use mobile banking services whenever I need to make banking transactions (INTV4).	3.38	1.04	0.734***
	I use mobile banking services whenever I have access to a web-enabled mobile phone (INTV5).	3.78	0.91	0.818***
Trust in service provider (Gu et al., 2009; Hanafizadeh et al., 2012)	I believe that my mobile banking service provider is trustworthy (TRUV1).	3.65	0.74	0.824***
	I believe that my mobile banking service provider is professional (TRUV2).	3.79	0.84	0.889***
	I believe that my mobile banking service provider acts with good intentions (TRUV3).	3.78	0.75	0.825***
	I trust that my mobile banking service provider ensures that its mobile banking services are secure (TRUV4).	3.72	0.79	0.893***
	I have no reservations about transferring funds using mobile banking service TRUV5).	3.66	0.94	0.730***
	I am prepared to give/share private information about using my mobile banking portal (TRUV6).	3.04	1.05	0.538***

Note: M = Mean; SD = Standard Deviation   ****Significant at p < 0.001 level (two-tailed test)*
#Question items were measured on a 5-point Likert-scale

Table 2 Demographic characteristics of respondents (n=246)

Demographic characteristics	Frequency	Percent
Gender		
Male	118	48.0
Female	128	52.0
Age		
18-28	162	65.9
29-39	67	27.2
40-49	13	5.3
50-59	3	1.2
60 and above	1	0.4
Education		
Secondary	36	14.6
Tertiary	210	85.4
Occupation		
Professional	43	17.5
Managerial	37	15.0
Clerical worker	58	23.6
Administrative	30	12.2
Self-employed	9	3.7
Student	47	19.1
Other	22	8.9
Residence		
Rural	116	47.2
Urban	130	52.8
Frequency of using m-banking (times per week)		
Once	101	41.1
2-4	98	39.8
5-7	29	11.8
More than 7	18	7.3
Time spent on mobile phone (per day)		
Below 1 hour	33	12.2
1-5 hours	88	35.8
6-10 hours	84	34.1
11-15 hours	40	16.3
16-20 hours	4	1.6

Table 3 Average variance extracted (AVE), reliability and discriminant validity (n=246)

Construct	AVE	Cronbach's alpha α	Coefficient ρ_A	Composite reliability ρ_C	1	2	3	4	5	6
Functional value (1)	0.59	0.86	0.87	0.89	**0.77**					
Social value (2)	0.75	0.89	0.90	0.92	0.37	**0.87**				
Epistemic value (3)	0.76	0.84	0.91	0.90	0.45	0.52	**0.87**			
Emotional value (4)	0.58	0.78	0.82	0.85	0.56	0.68	0.61	**0.76**		
Intention (5)	0.69	0.89	0.90	0.92	0.73	0.43	0.53	0.61	**0.83**	
Trust (6)	0.63	0.87	0.89	0.91	0.71	0.28	0.37	0.49	0.629	**0.79**

Note: Bold numbers on the diagonal shows the square root of the AVEs; Numbers below the diagonal represent construct correlations

Table 4 Structural model results and t-statistic for the full dataset and multi-group analysis

Criterion	Combined (n=246) R^2	Predictors	Combined (n=246)			Rural (n=130)		Urban (n=116)		$\beta_1 - \beta_2$	t-value
			Path coefficient (β)	t-value#	Effect size (f^2)	Path coefficient (β_1)	t-value	Path coefficient (β_2)	t-value		
Intention to use mobile banking	0.67	Functional value	0.35***	4.163	0.126	0.26*	2.46	0.43***	3.619	0.17	1.066
		Social value	0.06	0.953	0.005	0.06	0.589	0.04	0.597	0.02	0.117
		Epistemic value	0.18**	3.156	0.052	0.28**	3.265	-0.001	0.015	0.28	2.571*
		Emotional value	0.19*	2.372	0.036	0.08	0.597	0.30***	3.462	0.22	1.363
		Emotional value x social value	0.01	0.135		0.07	0.718	-0.08	0.831	0.15	1.087
		Epistemic value x social value	0.11a	1.735	0.016	-0.05	0.537	0.26***	3.590	0.31	2.489*
		Functional value x social value	-0.20**	2.868	0.049	-0.17	1.963	-0.23*	2.281	0.06	0.442
		Trust	0.17*	2.390	0.041	0.33**	3.032	0.11	1.407	0.22	1.591
		Age	0.02	0.388		-0.01	0.165	-0.003	0.053	0.01	0.099
		Gender	-0.03	0.839	0.003	0.01	0.179	-0.087	1.770	0.09	1.245
		Usage frequency	0.10*	2.397	0.024	0.03	0.392	0.16**	2.637	0.13	1.568
		Education	0.07	1.605	0.012	-0.02	0.201	0.08	1.735	0.10	0.970
Trust	0.52	Functional value	0.63***	10.48	0.551	0.56***	7.667	0.78***	11.022	0.22	2.153*
		Social value	-0.10	1.531	0.011	-0.07	0.732	-0.14	1.382	0.07	0.517
		Epistemic value	0.01	0.198		-0.04	0.451	0.09	1.152	0.13	1.113
		Emotional value	0.21*	2.157	0.036	0.37**	3.168	-0.03	0.271	0.40	2.360*

Notes: # Based on 10000 bootstrapping samples, Effect size (f^2) of zero are not shown.
*** Significant at $p<0.001$ level   **Significant at $p<0.01$ *Significant at $p<0.05$ (two-tailed test)
a Significant at $p<0.10$ (two-tailed test)

Table 5 Test of indirect effect

Relationship	Combined (n=246)		Rural (n=130)		Urban (n=116)		$\beta_1 - \beta_2$	t-value
	Indirect effect (β)	t-value	Indirect effect (β_1)	t-value	Indirect effect (β_2)	t-value		
Emotional value → TRUST → Intention to use	0.036	1.50	0.122	1.95	-0.004	0.24	0.126	1.86 ns
Epistemic value → TRUST → Intention to use	0.002	0.18	-0.013	0.45	0.010	0.92	0.023	0.73 ns
Functional value → TRUST → Intention to use	**0.108 ***	**2.46**	**0.187****	**3.16**	**0.088**	**1.37**	**0.099**	**1.14ns**
Social value → TRUST → Intention to use	-0.018	1.18	-0.022	0.71	-0.015	0.99	0.007	0.19 ns

**Significant at p<0.01　　*Significant at p<0.05 (two-tailed test)　　　ns non-significance relation for the test of differences between rural and urban segments