

Merchant Adoption of Mobile Payment Technologies: A Qualitative Study

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Abstract:

Objective: Digital payments are currently on the rise and mobile payment systems have gained immense popularity amongst consumers in recent times. The government has actively pushed the case for digital payments, including mobile payment services, through a slew of measures and incentives. However, mobile payment system is yet to become popular amongst the merchants, especially small and micro retailers. This study makes an attempt to capture the awareness and perceptions of such small and micro retailers towards mobile payments systems in the region of Guwahati, Assam.

Methods: Awareness and perception of mobile payment technologies was assessed through interviews with 25 small and micro retailers across Guwahati.

Results: Overall, it was found that awareness varied across store owners depending on the age of the store owner, type of store and competition. While many were aware of mobile payment systems, factors such as preference of cash usage, tax implications, costs related to adoption, infrastructure requirements, training store personnel, and having customers who are habitual cash users were some of the factors which hindered the adoption of mobile payment systems. Merchants also perceived mobile payments to be risky due to security threats and close monitoring.

Conclusion: All stakeholders must assess the barriers faced by small and micro retailers in accepting mobile payments. Interventions designed to correct the existing system and remove fears from the minds of the retailers will go a long way in adoption of mobile payment solutions. The paper discusses the implications of the findings and provides direction for future research.

Keywords: mobile payment, merchant adoption, drivers, challenges, qualitative research, India

Introduction

Mobile phones have emerged as an indispensable part of our lives right from staying connected to the rest of the world to making financial transactions on the go. According to a 2019 report by McKinsey, the number of mobile phone subscriptions in India stands at 1.2 billion, mobile data users consume on an average 8.3 GB of data in a month and have downloaded more than 12 billion apps. Although digital adoption among businesses is uneven, there has been a surge in use of mobile phones and data by the Indian consumers. This rising trend of usage of mobile phones can also be observed for mobile payment systems for financial transactions. Use of mobile phones to pay for goods and services has been quite notable with no need for cash or card or any other banking institution (Cabanillas et. al., 2017; Dahlberg et. al., 2015, Chandra et. al., 2010). With the current public health crisis due to COVID-19, mobile payments have witnessed a 163 per cent rise to USD 287 billion in 2019 (Nariyanuri, 2020). The pandemic has brought about rapid changes in consumer behaviour thereby accelerating the use of mobile and digital payments ahead of card and cash payments. This increase in the use of mobile payments is not only convenient for the users but also facilitates positive business outcomes for the merchants (Congdon, 2016). In the Indian context, the Government has also given a significant push to promote digital payment solutions. Demonetization by the Indian government in the year 2016 was one such move which aimed to push people towards digital payment options by creating a scarcity of cash (Lakshmi, 2017). Other schemes, such as *Digi-Dhan Vyapar Yojana*, were also launched by the government to push consumers to use digital payment services. Several mobile payment applications have also been launched by private institutions in India such as Paytm, Google Pay, and PhonePe which led to a substantial increase in volume of mobile payments. As a matter of fact, digital payments are expected to grow to USD 1 trillion within the next five years owing to the colossal growth of mobile payments (Bose, 2018). India is aiming to establish itself as a major presence in the digital economy. Indian government has been at the forefront of revolutionizing the payment system and push towards a digital economy. The Reserve Bank of India (RBI) has ensured that the country is equipped with a state-of-the-art payment system to make mobile payments secure, fast and reliable.

With the proliferation of payment interfaces such as UPI, BHIM, BharatQR, and USSD, the government aims to push mobile payments even further.

Although use of mobile payments is on the rise, it is also true that approximately 70 per cent of the transactions by value are conducted in cash (Rodrigues, 2018). Despite the incentives provided by the Government, mobile payments have been adopted by only 1-2 per cent of the entire merchant population (Singh and Sinha, 2020). Furthermore, the success of mobile payment systems relies heavily on the use of this technology by the merchants (Boden et. al., 2020; Singh and Sinha, 2020) and this has not led to the growth of mobile payments as expected (Verkijika, 2020). So far, most of the research on mobile payments have focused on issues such as consumer adoption of mobile payments, intention to use, and technological aspects of mobile payment services (Dahlberg et. al., 2015). Relatively fewer research has been done to understand the merchants' perspective on adoption of mobile payment systems (Verkijika, 2020; Lee, et. al., 2019; Dahlberg et. al., 2015). Singh and Sinha (2020) have highlighted the lack of research on mobile payment from merchants' perspective and the few studies that exist focus only on merchants in Indian metropolitan cities (Pal et. al., 2018). As such, the current research on mobile payments presents only one side of the story. To understand adoption of mobile payments in totality, it is important to understand the perspective of the merchants.

To address the gap, the present study conducted semi-structured interviews of 25 merchants in urban and semi-urban areas in Assam, India. The interview was conducted to determine their awareness about mobile payments and their perception of challenges in adopting mobile payment systems. Results of this study will help institutions and policymakers in understanding the merchants' perspective in terms of adoption of mobile payment systems. The study will uncover the challenges and barriers experienced by smaller merchants in non-metropolitan areas with respect to adoption of mobile payment systems which may give fresh insight into the problem being investigated. The paper is presented in five sections: (a) literature review; (b) purpose of the study; (c) methodology; (e) results; and (f) discussion and conclusion.

Literature review

Mobile payment and merchant adoption

Mobile payments can be broadly be considered as a form of electronic payment at the center of which lies a mobile device, most likely a smartphone or similar handheld device that can be operated without constraining the user's physical mobility. Various literatures have suggested definitions for mobile payments over the last decade. However, given the accelerated rate at which technology is evolving giving rise to host of wireless communication devices, including wearable gadgets the very definition of mobility needs to be reviewed and adapted to present a more comprehensive view. Some definitions have focused only on cell phones (Henkel, 2002) whereas subsequent definitions have incorporated all types of communication devices (Zmijewska, A. & Lawrence, E., 2006). At the core of almost all definitions of mobile payments is the 'transfer of monetary value' as the fundamental action being undertaken in the process. Researchers have extended the definitions to incorporate initiation and authorization phases of payments as well. Any payment where mobile devices connect users to a server, performs authentication and allows for authorization of payments, and confirms the completed transaction can be considered a mobile payment (Antovski, L. & Gusev, M., 2003). Mobile payments can be broadly categorized into two types of payments in the B2C context. The first type are the payments for purchases and second type are the payments of bills/invoice (Karnouskos, S. & Fokus, F., 2004). Mobile payments can also be classified as remote and proximity where remote refers to a transaction where there is no direct interaction between customer and merchant's POS system. Whereas, proximity involves contact between the customer and the merchant's POS system (Shen and Yazdanifard, 2015).

Dahlberg et al. described mobile payment as "payment for goods, services, and bills with a mobile device such as mobile phone, smart-phone, or personal digital assistant by taking advantage of wireless and other communication technologies" (Dahlberg, Mallat, & Ondrus, 2008). Ghezzi et al. summarized mobile payment as "a process in which at least one phase of the transaction is conducted using a mobile device (such as mobile phone, smartphone, PDA, or any wireless enabled device) capable of securely processing a financial transaction over a mobile network, or via various wireless technologies (NFC, Bluetooth, RFID, etc.)" (Ghezzi, A., Renga, F., Balocco, R., & Pescetto, P, 2010).

Research into merchant adoption of mobile payment technology has attempted to delve into the mindset of the merchants and uncover insights into their opinions and beliefs regarding mobile payments. Mallat and Tuunainen (2008) suggested that high setup costs, complexity of use, lack of standards and limited general acceptance are some of the key barriers to adoption of mobile payment technology by merchants. Mallat and Tuunainen (2008) also found that trust and security issues also act as barriers for small merchants.

A study conducted by Apanasevic (2013) revealed that the presence of several alternative mobile payment solutions leads to the problem of gaining a critical mass of users which ultimately deter merchants' from adopting the technology. It was also found that sizeable investments are required for multi-store retailers

which is a deterrent for adoption of mobile payment technology. Hayashi and Bradford (2014) highlighted that, merchants in the US prefer bar code or QR code over NFC technology for mobile payment. However, merchants are also worried about putting customers in complex payment situations by introducing mobile payments that they may not be familiar with. The merchants also revealed that while mobile payments are secure, mobile devices may not be secured enough.

In another study conducted by Guo and Bouwman (2016) upon Chinese merchants revealed that, merchants consider several factors such as organizational factor, technological factor, demand and environmental factors before adopting mobile payment technology. Thoi (2016) studied Swedish merchants which showed that merchants take proactive steps such as learning from fellow merchants, willingness to grow customer base and acquiring knowledge of mobile payment systems which can act as drivers of mobile payment technology adoption. Moghavvemi et. al. (2021) found that in the context of Malaysia, technological incompatibility, complexity, cost of investment, and lack of critical mass are some of the factors which deter merchants from adopting mobile payment technology.

Mobile payment and merchant adoption in India

India has been promoting digital payments and the Digital India programme is the flagship programme of the Government of India. The vision of the programme is to transform India in to a digitally empowered society and one of its chief objectives is to create a cashless economy. In order to promote cashless transactions and create a less cash society several modes of digital payments have been made available such as banking cards, UPI, mobile wallets, point of sale (POS), and mobile and internet banking.

In a bid to make India cashless, the National Payments Corporation of India (NPCI) has developed BHIM (Bharat Interface for Money) which is an initiative to enable fast, secure, reliable cashless payments through mobile phones. It is based on Unified Payment Interface (UPI) to directly facilitate e-payments to the bank. The government has initiated a slew of platforms and incentives to promote cashless transactions in India. As a matter of fact, the number of mobile payments is on the rise in India. A report by S&P Global revealed that mobile payments witnessed a 163 per cent rise to USD 287 billion in 2019. Mobile payments are expected to witness the maximum growth at 58 per cent from Rs. 25 lakh crore to Rs. 245 lakh crore (Soni, 2021). Although individuals are switching from cash to digital transactions, however, merchant adoption of digital payment technologies including mobile payment systems remain dismal as 70 per cent of the transactions by volume are still conducted in cash (Rodrigues, 2018).

Krishnan and Siegel (2017) conducted a study on 200 families in the Mumbai slum and found that 80 per cent of the families were aware of cashless payment methods, but only 12 per cent of the families knew a merchant who offered cashless transactions. Pal et. al. (2018) reported a decrease in the use of digital payment methods once new banknotes became available after demonetization.

Seethamraju and Diatha (2018) found that merchants' perceived loss of control cost of technologies, customer's low socio-economic background, suppliers influence, tax and security implications, bureaucracy and lack of trust in the regulatory and external environment are some of the barriers in adoption of mobile payment technologies.

Ligon et. al. (2019) in a study on small-scale merchants in Jaipur found that adoption of mobile payment technology is actually feasible and inexpensive. However, low rates of adoption were explained to be a result of demand-side factors or taxes. Merchants' perceived lack of customers wanting to pay digitally was found to be a major barrier to adoption along with concerns that records of mobile payments might increase tax liability.

Vashistha et. al. (2019) found that Indian merchants viewed mobile payments as an unnecessary burden for their business. Merchants expressed concerns such as integrating mobile payments into their workflow which is designed for handling cash payments, use of the transaction data by corrupt officials.

Purpose of the study

Research on merchant adoption of mobile payments in India is at a very nascent stage and very few studies have been conducted to assess the problem at hand mostly focusing on merchants in metropolitan cities (Vashistha et. al., 2019) let alone Assam. Small retail stores operate through the entire country and such stores are commonly managed by owners themselves or through additional helper, have limited stock and are small in size (Ramakrishnan, 2010). Such retail stores usually have less capital investment and are owned by families (Yun et. al., 2012). These small retail stores cater to the local requirements of the locality by operating like a small supermarket (Sinha et. al., 2015) and have low levels of technical and accounting standardization (Maruyama and Trung, 2007). Small retail stores are also characterized by dependence on cash-based transactions and easy credit terms to customers (Yun et. al., 2012). Research on small retail stores so far have focused on issues related to business models, consumer's preference, supply chain management practices, impact of retail giants, and customer loyalty (Goswami and Mishra, 2009). There is a paucity of research on

small retail stores with respect to adoption of digital payment technologies (Hagberg et. al., 2016; Seethamraju and Diatha, 2018). Despite the efforts to popularize cashless transactions, adoption of such technologies, including mobile payment technology, by small retail stores remains low in the Indian context. The present study aims to cover this gap in research by determining the perceived challenges or barriers in adoption of mobile payments technology by small retail stores. From the review of literature, it is evident that studies have mostly focused on customer adoption of mobile payment services (Dahlberg et. al., 2015). While consumer adoption is important to the success of mobile payments systems in the country, merchant adoption of mobile payment services will ensure that dependence on cash transactions decreases. The continued low adoption rate of mobile payment services by small and micro retailers, therefore, needs to be thoroughly investigated. It is important to uncover the challenges and problems such retailers face in adopting to mobile payment technology.

Small and micro retailers often work in diverse settings and their ways of conducting business is not uniform. In addition to this, merchants also have diverse opinions and perceptions about mobile payment technology. As such, a uniform set of factors cannot be tested to understand their adoption behaviour. Due to differences in perceptions, the research issue becomes subjective which can be tested well only through a qualitative method. The purpose of the paper is therefore that of qualitatively investigating the merchants' perspective on adoption of mobile payment services. The study specifically seeks to understand the awareness of merchants and the challenges they face. The study basically sought answers to the following research questions:

RQ1: How aware are merchants about mobile payment systems?

RQ2: What are the challenges faced by retailers to accept mobile payments?

RQ3: What are the perceived risks involved in accepting mobile payments?

Methodology

To gain insight into merchants' perspective on the adoption of mobile payment systems and explore their awareness and challenges they face, a qualitative study was adopted. The qualitative study was based on phenomenological design which attempted to uncover the individual experiences of the merchants on the problem being investigated. In particular, semi-structured interview was used to collect information about the phenomena under investigation. Semi-structured interview was chosen because it lets the researcher explore the perception and motivation of respondents and also helps in clarification and further probing, if required (Louise and While, 1994). Semi-structured interview helps in bringing up key topics and issues to covered during the interview while also allowing the researcher to bring up other related topics and issues or to delve deeper into a particular issue which arise during the course of the interview.

Identification of the research questions and objectives of the study was done through review of literature. Based on the review, questions were developed for the interview. The questions were framed in a way that respondents could not answer them in a simple 'yes' or 'no'. The semi-structured interview schedule consisted of two parts. The first part comprised of questions related to the background of the respondents' business. The second part consisted of eight questions on mobile payments to determine the awareness of the respondents and their perception of challenges and barriers.

Participants

For the study, purposive sampling was used and researchers selected small locally owned and operated retail outlets in and around Guwahati city in Assam. The rationale for choosing the said sample was to determine the challenges faced by such small business owners in adopting mobile payment systems.

The research gap identified in the earlier section also highlights the fact that so far researchers have focused on merchants in metropolitan cities thus excluding small merchants from smaller cities. Therefore, the sample chosen represented small merchants from urban and semi-urban areas in and around Guwahati city of Assam. A total of 25 merchants were interviewed for the study.

Data collection and analysis

The researchers approached the respondents and explained to them the purpose of the study. The respondents were also assured about the confidentiality of their data. Interviews were conducted only after obtaining consent from the participants. The discussion began with general questions related to business and demographic profile to build a rapport with the respondent. Once the rapport was established, only then questions related to mobile payment systems were asked. Participants were encouraged to share and describe their experiences rather than answering with simple 'yes' and 'no'. Each interview took approximately 30 to 40 minutes to complete. The interviews were audio recorded and then transcribed into a worksheet for ease of visualization and analysis.

The collected data was analyzed using thematic content analysis. Thematic analysis is the process by which the data is assigned “codes” which reflects the crux of observations and thus leads to clarity in the analysis process (Boyatzis, 1998). Data was manually coded without the use of any computer software or program. Manual coding gives the advantage of gaining deeper insights from the data as compared to the use of automated software (Onwuegbuzie et. al., 2009). In the first step the data was translated to English and transferred into a worksheet in order to clearly display each individual participants’ experiences and perceptions. In the second step, the comments of the participants were read and re-read in order to eliminate responses which were unclear and indistinguishable or not related to the discussion at all. This helped in filtering out data which was not relevant to the research. In the third step the text was read to identify recurring themes. The meaning of these identified themes was then analyzed and sub-themes were detected.

Results

This section presents the findings of the study illustrating the awareness and perceptions of merchants towards mobile payment systems. The first part of the study assessed the profile of each store in terms of nature of business, years of operation, number of staff, types of payments accepted in the store, and their preferred mode of payment.

Various small and micro retailers were included in the sample such as kirana stores, grocery stores, restaurant and sweet shop, pharmacy, hardware store, garment store, stationery store, and electronic item store. Years of operation of the stores varies considerably with one store being operational for 1 year and another one being in operation for the last 30 years. Most of the stores had 1 or 2 staff with restaurant having 7 staff which is the highest. Among the 25 merchants, 16 merchants accepted mobile payments alongside cash payment. Only one merchant accepted three modes of payment, viz., cash, card and mobile payment. However, when asked about the preferred mode of payment, 18 merchants said they prefer cash payments, whereas 2 merchants said they prefer both cash and mobile payments, and another 2 merchants said they prefer mobile payments.

Awareness of mobile payment systems

RQ1 sought to determine the awareness of mobile payment systems amongst the merchants’ who were interviewed. Interview participants were asked how aware are they about mobile payment systems? Awareness is conceived here as having complete knowledge and information of mobile payment systems. Not surprisingly, all users of mobile payment services, which is 64 per cent of the total interview participants, were aware of mobile payment systems and how they work. Below are some comments from merchants:

“I am well versed with mobile payments and have been using it in my store since the last two years” – 31 years, Male

“I have been accepting payments from my customers using PhonePe and GPay. I am well aware of the system and how it works. I in fact taught my father also who sits in the store in the morning hours” – 27 years, Male

Rest of the merchants who did not use mobile payment systems, which is 36 per cent of the total merchants interviewed, were somewhat aware of mobile payments though they did not have the full knowledge of how the system works. This was confirmed from the following comments:

“I have heard about mobile payments but have not used it myself” – 49 years, Male

“Everyone has been talking about mobile payments these days. I am not fully aware as to how payments are actually made, but I know it is done through a mobile phone” – 57 years, Male

Complete awareness regarding mobile payments came with use of the system whereas non-users were not fully aware of the system. While awareness is dependent upon usage, it is important to note that even non-users had some knowledge of mobile payments. This may be explained by the popularity mobile payment has gained over the years which has accelerated in recent times due to the pandemic.

Challenges faced by retailers

RQ2 explored the challenges faced by retailers to accept mobile payments. Respondents who did not use mobile payment systems were asked what challenges they face in adopting mobile payments while respondents who used mobile payment but preferred cash were asked what challenges they face in accepting mobile payments.

Cash dependent ecosystem

One of the most recurring themes that emerged from the interview responses was the fact that the entire ecosystem of small and micro retailers is heavily dependent on cash. The respondents indicated that payment to staff and suppliers have to be made in cash. Accepting mobile payments does not help them in maintaining cash in the store and this creates a problem for them. The most representative statements were:

"Mobile payments are easier said than done. I have to pay my staff in cash. They do not take mobile payments. So, what is the point of accepting mobile payment from customers when on the other hand I need cash in hand" – 35 years, Male

"Our suppliers prefer cash to settle transactions. In such a cash dependent environment it is difficult for us to quickly adopt and accept mobile payments" – 41 years, Female

"I have been accepting mobile payments for quite some time now. However, I need to keep cash in hand to pay my suppliers and workers. So, this cannot be said to be a cashless economy" – 31 years, Male

Cash dependent ecosystem was also reported by Pal et. al . (2018) in their study of digital payment systems with respect to street shops. The same factor has also emerged in studies of retailers' adoption of mobile payment services by Moghavvemi et. al. (2020). It is therefore, clear that if merchants have to use mobile payment technology, then all the intermediaries in the ecosystem also need to adopt mobile payment technology.

Habitual cash using customers

Some of the merchants reported that their customers do not use mobile payment themselves. At the same time, merchants who had installed mobile payment system in their shop reported that only few customers use mobile payment services and many customers are not even aware of mobile payment systems. Merchants who have not adopted mobile payment technology mentioned that since the need itself has not arisen, they have not adopted the same. Seethamraju and Diatha (2018) in their study also found that customers purchasing from small and micro retail stores are mostly daily wage earners and have no advantage in going digital. The most representative statements were:

"Almost all of my customers pay me in cash. So, I never felt the need for mobile payments systems" – 53 years, Male

"So far, none of my customers have asked me if I accept mobile payments. All of them pay me in cash" – 46 years, Male

"Although I have mobile payment option in my shop, very few customers make use of it. It is mostly the younger generation who uses mobile payments. Sometimes, when I ask customers to pay through mobile due to unavailability of change, they (customers) are not even aware of it" – 31 years, Male

Tax accountability

Another challenge that emerged from the responses was tax accountability of the small merchants when transactions are recorded. As small and micro retailers work with low margins, retailers and suppliers alike are hesitant to carry out digital transactions due to tax implications. Above all, merchants claimed that the entire business chain is heavily dependent on cash and their suppliers do not accept mobile payments, or any other form of digital payments, due to increased tax liability. This tax implication has been highlighted in previous studies as well (Seethamraju and Diatha, 2018; Vasistha et. al., 2020). Some merchants indicated that they will not be able to sustain their business if they have to pay more taxes than what they are currently paying. Below are some of the representative comments from the merchants:

"Our suppliers do not use mobile payments or even card payments because they have to pay increased taxes as all transactions are recorded digitally" – 46 years, Male

"We have very small businesses and we operate on very low margins. If we have to pay more taxes then our business itself will not survive. We can think about mobile payments if there is some tax relief for us" – 55 years, Male

Costs related to adoption

Merchants also indicated that there is a cost in adopting a certain new technology. Since their margins are already low, they are skeptical in investing in new technology. Merchants who have already adopted mobile payment technology revealed that it was not easy for them as they had to get a smartphone and internet connection. Merchants expressed the fact that though costs related to adoption of mobile payments is far less than cards, but owing to their small scale and small percentage of people using mobile payments, they have to think twice about adopting mobile payments.

Several merchants also indicated that they are charged by the mobile payment service providers for settlement of transactions and that serves as a major deterrent to adopt mobile payments. Below are some representative statements reported by the merchants:

"Activation cost and installation of mobile payment does not cost anything. But I had to invest my money in smartphone and internet connection. And even though I am accepting mobile payments, more than 75 per cent of the transaction happen in cash" – 36 years, Male

"What is the use of accepting mobile payments where every transaction settlement will charge me say a 40 paisa? It is better that I accept cash and save those 40 paisa" – 57 years, Male

Training store personnel

Another important aspect that emerged from the interview was the fact that merchants had to train their store personnel to use mobile payment. Most of the merchants indicated that when they are not present in the store, their staff handle transactions. While their staff are adept at handling cash transactions, accepting mobile payments is not their forte. Merchants who accept mobile payments in their stores said that they invested significant amount of time training their staff to accept mobile payments which is frustrating for them. They also mentioned that most of the staff are not literate enough to understand everything and they are skeptical of errors in the transactions.

"I trained my staff to use mobile payment system when I am not in the store. But I still receive calls from my staff as they sometimes get stuck" – 33 years, Male

Resistance to change

Most of the merchants who are not using mobile payments said that they are used to handling cash and are not open to trying new technology. Most of the non-user merchants said that handling cash is easier for them. Their entire systems are designed for cash based transactions, rather than digital transactions which includes mobile payment systems also. This is evident from the following responses:

"I have heard about mobile payment systems but I don't want to try. I am comfortable handling cash" – 55 years, Male

"I have been running this store for almost two decades now. I don't have the habit of working with technology. Customers pay in cash and I am happy with the way it is" – 65 years, Male

Infrastructure constraints

The last theme emerging out of RQ2 was infrastructure constraints, which is related to server problems experienced by the merchants quite often. In particular, merchants mentioned that server problems, transaction failures and delayed payment notification creates confusion and makes the payment process slow. This recurring theme is represented in the following comments of the interview participants:

"One of the problems I have been facing while using mobile payment is frequent server problem and a delay in payment notification. This is frustrating" – 30 years, Male

"Most often there are transaction failure. While mobile payment is supposed to make the transactions faster, the reverse is happening here" – 27 years, Male

Perceived risks

RQ3 investigated the risks perceived by the merchants in using mobile payment technology. Apart from the challenges identified, perceived risks determine the risk factors as perceived by the merchants. Two important themes emerged from this analysis, namely, privacy concerns and security concerns which are described below.

Privacy concerns

Some of the merchants indicated that they are not comfortable sharing their personal information mobile payment service providers. They expressed fear that their personal information could be misused or given away to other parties thereby exposing themselves to unnecessary risks as embedded in the following comments:

"I am not comfortable giving away my personal details to mobile payment service providers. Who is going to assure confidentiality of my personal information?" – 49 years, Male

"What if my data gets in the hands of wrong people? All my money would be gone in a matter of seconds" – 53 years, Male

Security concerns

Apart from expressing their doubts related to confidentiality of their personal data, merchants also expressed a general concern regarding the security of mobile payments. Many merchants perceived mobile payments to insecure and believed that it exposed them to risks.

"I don't feel mobile transactions are safe enough. There are no chances of errors or mistakes in case of cash payments as compared to mobile payments" – 43 years, Male

"I have heard attackers can steal payment data and take away money. I don't feel mobile payments are secure" – 65 years, Male

Discussion and conclusion

Mobile payments have garnered considerable attention of researchers and general public alike in recent times. While mobile payments are seen as a way towards a cashless economy, people have their fair share of problems and perceptions of mobile payment systems. While researchers in the past have already explored adoption of mobile payment systems by customers, very few studies have focused on adoption of mobile payment technology by merchants. The Indian government has been pushing the country towards a cashless economy with the Digital India movement. However, the way forward to a cashless economy is when both customers as well as merchants adopt mobile payment and other digital payment systems. This study explored the adoption of mobile payment technology by small and micro retailers and specifically attempted to understand their awareness of mobile payment technology, barriers in adopting mobile payments, and their perceived risks in using mobile payments. Using a qualitative framework, the researchers conducted semi-structured interviews of 25 small and micro retailers to understand their perspective of mobile payment systems.

Analysis of the interview responses revealed that 64 per cent of the interviewed respondents were already using mobile payment system in their stores. In terms of awareness, the users of mobile payments are fully aware of how the system works. It was also found that even the non-user merchants were also aware of mobile payments though not fully. Thus, none of the respondents were completely unaware of mobile payments.

The initial analysis of the data also revealed that though 64 per cent of the merchants were accepting mobile payments, approximately 72 per cent of the respondents indicated that they prefer cash payments. This indicates that even if merchants accept mobile payments, they prefer to settle transactions in cash rather than through mobile payments. In order to determine the reasons for preferring cash over mobile payments the researchers attempted to understand the barriers and risk perception of the merchants towards mobile payment systems. One of the important themes that emerged from the analysis of the interview responses was the fact that the entire ecosystem of small and micro retailers is cash dependent. As such, they found it troublesome to accept mobile payments as they had to pay cash to their staff and suppliers. The next theme that emerged was the fact that most of their customers are habitual cash users. And even though they accept mobile payment, very few customers used mobile payments. The merchants mentioned that mobile payments were generally used by customers who are young and that was a very small fraction of their total customers.

Additionally, it was found that merchants were concerned about the record of transactions in case of mobile payments and its eventual tax implication. They mentioned that since they operate on lesser margins, they do not want to come under the scrutiny of tax officials due to mobile payments. Merchants also revealed that adoption is not feasible for them as they have to pay charges to the mobile payment service providers and this affects their margins. Some merchants also revealed that they had to buy smartphones in order to support mobile payments. Respondents also revealed that their staff also had to understand and learn how mobile payment works and as they are not literate enough, they had to invest a lot of time in training them. Furthermore, frequent server problems and resulting transaction failures make them prefer cash transactions. The last theme that emerged was merchant's resistance to change. Merchants revealed that they are expert cash handlers and are not interested in adopting any new technology.

Apart from these challenges, the study also revealed that merchants perceive that adoption of mobile payment system is not safe. They perceive that providing their personal information to mobile payment service providers is not safe and that their personal data might be misused. In addition to this, merchants also perceive that mobile payment transactions are risky and chances of frauds are very high.

From a practical standpoint, the findings of the study have some important implications. In order to push the cause for mobile payments, concerns of the merchants need to be addressed. Small and micro retailers operate with a low margin and therefore the regulators need to keep this view in mind while promoting mobile payments. The findings from the study suggest that most of the merchants are already accepting mobile payments but prefer cash. And the results of the study have highlighted that it is not the problem of motivation in most cases. Attention also needs to be paid to the fact that the entire ecosystem of small and micro retailers runs on cash. Therefore, in order for merchants to adopt mobile payments, it is equally important that other stakeholders of the ecosystem also support mobile payments. Consequently, all stakeholders (government, mobile payment service providers, banks) need to understand the barriers faced by small and micro retailers and formulate policies to enable them to adopt mobile payment systems. The findings from this research can be used to improve the overall mobile payment scenario and thereby promote a cashless economy.

It is important to note that Southeast Asia has emerged as the world's fastest growing mobile wallet market in the year 2021 (Lee, 2021). Mobile wallets have already overtaken credit cards and this is pushing the Southeast Asian region towards a digital economy. Much of the growth in mobile wallets has been attributed to the pandemic as it pushed the use of contactless payments. India too has been focusing on creating a cashless economy by pushing the cause for digital payments, especially, mobile payments. The stakeholders must

intervene in order to address the challenges and barriers identified in the study which will help the country ride on growth wave of mobile payments.

The present study attempted to explore the barriers and risks as perceived by merchants owning small and micro retail stores. As the study attempted to uncover their perceptions, an exploratory design was adopted and qualitative method of data collection and analysis was employed. However, future studies may focus on conducting conclusive research by adopting quantitative techniques and determine the antecedents of mobile payment adoption by small and micro retailers. Studies may also focus on systematically modeling the impact of drivers and barriers on mobile payment adoption by small and micro retailers. The limitation of the current research was a qualitative framework and small sample size. Future studies may focus on larger sample sizes and quantitative approach so that the findings may be generalized to a greater extent. Future research studies may also focus on the outcomes of adoption of mobile payment technology by merchants. Such a study will be able to highlight the benefits and costs associated with adoption of mobile payments technology by merchants.

The current study by adopting a qualitative research design uncovered the barriers or challenges in adoption of mobile payments by small and micro retailers. The study highlighted that heavy cash dependent ecosystem, habitual cash using customers, costs of adopting new technology, tax implication, infrastructure constraints, and resistance to change are some of the major barriers which come in the way of adoption of mobile payments by merchants. The study also highlighted that merchants' viewed cash transactions as safe whereas mobile payments as unsafe and risky. Very little research has been conducted to understand the adoption of mobile payments by small and micro retailers. This study by exploring the barriers and risks as perceived by those retailers addressed the gap in research and contributed to the existing body of knowledge. The findings of the study have practical implications also as the identified barriers may be studied more in depth by concerned stakeholders to increase the penetration and usage of mobile payments by small and micro retailers.

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