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Abstract

Entry of large supermarkets and online retailers, and widespread adoption of digital technologies are threatening the business models of small retail convenient stores in India. Using a qualitative methodology and the Technology-Organization-Environment framework, this study, investigated the challenges faced by these small retail stores in the context of a deliberate governmental push towards digital payments and increasing competition from large supermarkets and online retailers. Perceived loss of control, costs 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 the challenges identified in the study. In addition, poor physical and digital infrastructure, inadequate access to and poor reliability of digital technologies, and the costs are constraining the adoption of digital technologies.

Keywords Digital payments, Small retail stores, TOE, Adoption

1   INTRODUCTION

Increasing competition from online retailers and large supermarkets and digitalization is rapidly changing the retailing landscape and hastening the decline and adaptation of small retail grocery stores (Corkery 2017, Peterson 2017). Although digital and mobile technologies are widely deployed in the retail sector, their uptake by the small retail stores, termed as 'kirana' stores in India is relatively slow. Next to agriculture, this sub-set of retail sector in India employs about 12 million people and contributes to 12% of GDP (Sinha et al 2015). Despite urbanization and the advent of supermarket chains and online retailers, these small retail stores still control 98% of the grocery retail market in India (KIE 2016). With most retail sales still taking place in physical stores and a huge economic significance of these small retail stores in India, the implications of digitalization for them are noteworthy. Though adoption is slow, there have been cases of adjustments, adaptations and new retailing concepts that have strengthened the role of the physical store (Hagberg and Fuentes 2018).

Small retail stores do not value technology as an enabler and are generally slow in adopting digital technologies (Corkery 2017; Peterson et al 2017; Ramakrishnan 2010). With their unrelenting focus on efficiency, large retailers and e-Commerce players have exhausted all the avenues of improving cost efficiencies and revenue generation. Small retailers, to survive, must take advantage of the digital technologies and refocus on flexibility and new forms of customer engagement enabled by those technologies. With declining market share and increasing competition, can these small retail stores cope with the emerging digitalization challenge? This study investigates the challenges these small retail stores face in the adoption of digital technologies in a developing country like India. It aims to analyse the costs and benefits of digitalization for small retail stores and will identify organizational, technological and environmental challenges faced by them. This paper first presents a review of the literature that explains the adoption of digital technologies in the retail sector and then explain the theoretical framework and research methodology adopted in this study. This is followed by the analysis of data and discussion of findings. The final section discusses the study's implications, limitations and conclusions.

2   LITERATURE REVIEW

Retail convenience grocery stores, similar to corner stores in Australia and other Western countries, are called 'kirana' stores in India. They are commonly owner managed with little hired help, small in size, and stock a very limited number of items (Ramakrishnan 2010). Spread across the country in cities, towns and villages and conveniently located in residential areas, these small retail stores stock products according to the needs of local consumers (Sathish and Raju 2010). Typically, they store a small range of essential food items, grains, processed food, dry goods, drinks, toys, fresh food, personal care items and household items (Maruyama and Trung 207) within an area less than 500 square feet (Goswami and Mishra 2009). Stocking around 1000 to 8000 SKUs of branded, unbranded and local products, these small retail stores localize their merchandise based on the ethnicity of their trading area in a diverse country like India and are more a source of livelihood for many owners rather than a vocation (Rani 2013). These stores are similar to corner grocery stores in western countries, which exist to meet emergency and fill-in requirements. These are significant, given that India has the highest retail density in the world with one retail store per 100 people (Kalhan and Franz 2009). Next to agriculture, this sub-set of the retail sector in India employs 12 million people and contributes to 12% of GDP (Sinha et al. 2015). Despite urbanization and the advent of supermarket chains and online retailers, these small retail stores still control 98% of the grocery retail market in India (KIE 2016).

The traditional business model of these small stores typically relies on low capital investment, family ownership (Yun et al. 2012), low margins (Rani 2013), low value but frequent purchases by customers, heavy dependence on cash-based transactions, easy credit terms to customers (Yun et al. 2012), and localization of the merchandise based on ethnicity, home delivery and personalized service (Sinha et al 2015). Characterized by low levels of technical and accounting standardization (Maruyama and Trung 2007), these stores operate more like a small supermarket and compete by meeting the needs of the local community with their unique service characteristics (Sinha et al. 2015).

This traditional model, in operation for over a century in Indian urban and rural areas, is being threatened by the entry of large retailers, malls, supermarkets and online e-commerce players. Growth in the middle-class consumer segment and high disposable income, together with changes in the Indian economy, have contributed to changes in retail preferences in India (Sathish and Raju 2010). In response, large retailers are aggressively establishing small format stores, like 'kirana' stores, aimed at taking away their market share (Business Standard 2015). Further, disruptive trends, such as the rise of

mobile and digital technologies, crowdsourcing, the Internet of Things (IoT), and the recent make-in-India movement have started having an impact on these small retail stores (Deloitte 2012).

Digitalization, defined as the adoption and use of digital and mobile technologies, involves not only investment in those technologies but also training and actual usage (Burton-Jones and Gallivan 2007). Digitalization thus involves changes in strategy, business processes, learning and knowledge, and involves the whole socio-technical system, potentially impacting organizational performance (Orlikowski 2009). Despite widespread adoption of mobile and digital technologies in every other sector in India, uptake of these technologies by these small retail stores and their supply chains is limited (Pantano and Viassone 2014). Although many retailers want to adopt technology, because it can help them understand consumer goals and better distribute instore information, not many do so in practice because of the delay in realizing the benefits of technology adoption (Pantano and Viassone 2014) and probably because of no positive link between adoption and store loyalty (Renko and Druzijanic 2014). Consumers, on the other hand, have been keen to adopt digital technologies and believe that doing so helps them make more informed choices in buying.

The literature on small retail/convenience stores has explored several issues relating to their operation and business models, including consumers' choice of store, antecedents to consumer behaviour, reaction to the entry of retail giants, services offered by retail stores and stores' supply chain management practices. For example, in a study of customer loyalty, Goswami and Mishra (2009) observed the strong positive influence on Indian semi-urban customers' loyalty to supermarket of location, helpful and trustworthy sales people, home shopping, cleanliness, special offers and quality. But, a negative influence in relation to travel convenience and location. In India, rural and suburban consumers prefer small retail stores because of the availability of credit (Saini and Sahay 2014). While semi-urban consumers are not influenced by the travel convenience and/or its location (Goswami and Mishra 2000) probably because of the higher density of retail stores in those areas and transportation, for rural and regional consumers, such choices are limited. Prior studies on mobile shopping have focused on attitudes (Fuentes and Svingstedt 2017), acceptance of mobile technology (Agrebi and Jallais 2015), consumer motivation (Li et al. 2012) and consumers' reaction to mobile marketing (Goh et al. 2015).

These small retail stores are vulnerable to changes in the retail eco-system because of their heavy dependence on cash and credit-based transactions, low value transactions, poor or informal accounting and management processes (Sinha et al. 2015). Further historically they have a basic rudimentary infrastructure and low levels of adoption of technologies and therefore are vulnerable to the disruptive trends in the sector (Sinha et al. 2015). Governments are also encouraging the adoption of digital technologies, including cashless transactions and digitized processes in the retail sector, to counter the black economy and tax net. While large suppliers and/or distributors have been adopting digital technologies including mobile and internet, enterprise systems, digital payments, radio frequency identification (RFID) and supply chain management systems and achieved improved information visibility and sharing, small retail stores are slow.

There have been limited studies examining the adoption of digital technologies in the retailing context (Hagberg et al. 2016). Despite widespread adoption of mobile technologies, uptake of digital technologies such as digital payments are relatively low by small retail stores and studies on small retail stores in Indian context are limited. This study aims to fill this research gap, and investigates the challenges faced by the small retail stores. In particular, this study identifies the perceived challenges in the adoption of digital payments and identify the constraints and barriers – both internal and external – to their successful adoption and use. The next section outlines the theoretical framework and research methodology used in this study.

3 THEORETICAL FRAMEWORK & METHODOLOGY

3.1 Theoretical Framework

Several theoretical models for the adoption of digital technologies have been used in the prior literature. Amongst them, most widely applied are Tornatzky and Fleischer's (1990) technology-organization-environment (TOE) framework and Davis et al (1989) the technology acceptance model (TAM). Several studies in the past have successfully used TOE framework for investigating the adoption of information technologies by SMEs (small and medium-sized enterprises) in several developing countries and demonstrated the value of TOE framework. Some of the examples include Pool et al. (2015) on the acceptance of RFID in Iranian SMEs, on cloud computing adoption in UK SMEs by Alshamaila et al (2013); and a study of adoption and impact of social media on Malaysian SMEs by Hisham et al (2017). Further, Idris et al (2017) and Tarhini et al (2015) demonstrated the value of TOE's sound theoretical

basis in explaining the adoption phenomenon in SMEs context, though antecedents and challenges varied from one industry sector to another and from one technology context to the other. It supports the investigation of opportunities, antecedents and constraints for technological innovation (Tornatzky and Fleischer 1990, p. 154) and integrates contingent organizational and environmental factors faced by firms (Kuan and Chau 2001).

TOE's focus on how the firm's context influences the adoption of innovations matches the focus of this study as against the implementation process itself and/or the characteristics of technology considered for adoption. This study is directed at the pre-adoption stage where the process is still nascent and retail stores owners can adjust the process to the digital technologies and their contexts. As a high-level analytical framework, TOE is highly adaptable (Yang et al 2015) to various technology contexts. It is an open systems model that allows incorporation of both technological and social features (Orlikowski 2007). Although specific factors across the three contexts (technology, organization and environment) vary from study to study, the TOE framework has been consistently applied to provide empirical support in various IT innovations study contexts (Oliveira and Martins 2011). The TOE framework was therefore considered suitable for this study.

3.2 Research Methodology

Based on prior research and the TOE framework, our research question seeks to fill the current gap in research by identifying the technology, organization and environmental constraints that affect the adoption of digital technologies by the small retail stores in India. It will examine how these stores adapt to the new digital environment. Very little is known about the nature and extent of adoption of digital technologies such as mobile and Internet by these small retail stores (Bollweg et al 2016). Given the nature of the research questions and the emerging stage of the research in the Indian context, a qualitative methodology with TOE as a guiding framework is considered appropriate for this research. This cross-sectional qualitative study approach involves shorter, less intensive data collection on site with more complex 'how', 'what' and 'why' questions. This provides an opportunity to explore new areas (Klein and Myers 1999) and facilitates understanding of the multiple interpretations of the adoption of digital technologies by small retail stores from different perspectives of retailers, customers and suppliers (Yin 2009).

The adoption of digital technologies including digital payments by small retail stores takes considerable time and typically involves multiple actors, such as retail owners, customers and suppliers. Therefore, using semi-structured interviews, data was collected from multiple entities – the owners of these small retail stores, customers and suppliers (including distributors or wholesalers) in the retail eco-system in the state of Karnataka, India to understand and codify the phenomenon. This approach focuses on observable facts and events in sampled retail stores and scrutinizes the activities and experiences of those involved and the contexts. In addition to contributing to theory development in an innovation context, this approach informs practical knowledge.

Selection of respondents was non-random and based on location, accessibility and willingness of the respondents. A total of 44 respondents were interviewed. Of these, 12 were retail store owners/retailers (referred to R1 to R12), 11 were customers (referred to as C1 to C11) and 21 were suppliers (referred to as S1 to S21). The duration of each interview varied from 20 minutes to 45 minutes. These research interviews were recorded with permission and transcribed for further analysis. The data collected was analysed with reference to the themes discussed below. The interview questions were developed according to three major aspects. The first set of questions explored the respondent's general perception of the experience of digitalization and the extent and nature of the use of digital instruments. The second theme of questions relate to the environment (external), individual/organizational and technology related factors that have an influence on the adoption of digital technologies including digital payments. The final theme relates to the potential benefits, costs and challenges respondents perceive in the adoption and use of these digital technologies.

4 ANALYSIS & FINDINGS

This section presents the findings using the adapted TOE framework.

4.1 External Challenges

4.1.1 Bureaucracy

Lack of trust in the relevant regulatory environment and the associated bureaucracy with various external entities such as government and banks are also limiting the digitalization in the retail eco-

system. Enormous paper work while dealing with various government entities is a challenge, as explained by one respondent.

> "*We need licenses from many departments for my shop – Shops Act, VAT, drug and food safety, parvaana license and others. I need to appoint one accountant – to look after bank works and 'mathadi bhavan'. There are other things like income tax etc. Should shopkeepers do this work or should he do the business? They (government officials) are harassing us. They annoy us more. Who says that the corruption has ended*?" (S13).

Most Indian banks are national, but in a volatile reformist environment (where several banks are reorganized, merged and recapitalized in India) there is a fear that these entities may not guarantee the full amount (beyond the insured amount) and this acts as a barrier to digitalization. Some of the comments made by the retailers and suppliers are:

> "*They (customers) don't have any interest in it all, they don't know what Paytm or BHIM (Bharath Interface Money – a payment application in India) app are and some people don't have a mobile with a keypad ... can't afford smart phones, can't operate mobile and can't use Internet*" (R1).

> "*There is no account in banks, there is no money* (for their customers)" (R10).

> "*The government is telling us to deposit money in the banks but who is giving guarantee that banks would not be bankrupt? They are giving us insurance of only Rs. 100,000 per account holder*" (S13).

> "*They don't have much trust ... (think that) some percentage of their amount will be cut ... (rely on being) shown the slip and as they the message in their mobile*" (S16).

The time taken by banks for processing online transactions and the consequent delay in ensuring regular updates for the receiver to check and confirm receipt of online payments is an issue for small retailers and involves a significant amount of their time and resources. For a small retailer, the time required to deal with these external entities is a time lost in selling and managing their stores, and therefore is a potential loss of sales and business. Several respondents raised this issue.

> "We *do not have time to stand in bank queues to deposit cheques or withdraw*" (R2). "*we feel we need to hire an employee just to handle cashless transactions*" (R4). "*they feel it is difficult to learn the system and that consumes a lot of their time*" (C4). "*there is no awareness ... if the person (customer) wants to pay by cash then he will accept only cash*" (C6).

> "*Most of them (retail customers) don't have bank accounts. They have 'Jan Dhan Yojana' (a small savings account where in government benefits will be deposited) type of accounts – they have no cheque book facility. RuPay card (an Indian payment card that facilitates open loop, domestic and multilateral system of payments that will allow all Indian banks and financial institutions to participate in electronic payments www.rupay.co.in) is there, but they must go to a bank or ATM to use that. They need to go to the bank to deposit the sales proceeds of yesterday that may take an hour for them.* (D6). "*they have to go to the bank to stand in a queue? It is a big problem and the main problem. Go to the bank and see the queues? Suppose I do cashless transaction and I need 5000 rupees, I must pull down the shutters leaving the business and I have to go to the bank to withdraw money.* (R8).

Our study highlights the constraining role played by the regulatory environment. Inadequate trust in the regulatory environment and bureaucracy, whether it is with government entities complying with various regulations and the inefficient and unfamiliar processes, are observed to be major barriers for a move towards digital payments at the small retail stores level in our study.

4.1.2 Tax implications

Potential tax implications if financial transactions are recorded and transparent is another challenge for retailers, as well as to other entities in the retail eco-system that are heavily dependent upon cash-based transactions. Tax rate in India is relatively low and the number of taxpayers per capita is also relatively low. Retailers and suppliers in the retail eco-system are reluctant to carry out financial transactions in a transparent way because of potential tax implications. As noted by a retailer,

> "*In cashless everything gets recorded and that exposes us to taxes. Businessmen prefer cash for transactions. They don't want transparency because they want to evade taxes*" (R13).

. "*if they (suppliers/distributors) opt for cashless transaction they will have to pay more tax, one needs to show all the money and income, there will be huge tax deduction*" (R2). Online

bank transfers are also rare among suppliers. As noted by a retailer, "*they don't accept online transfers. They are not ready to update themselves. They are content with whatever method they are following now. If they agree for online payment they should constantly check their account*" (R4).

4.1.3 Security

The study respondents considered the security of transactions to be superior in a digital context than in a manual context. There is an implicit security risk in a cash-based environment, in which small retailers receive cash from customers and pay cash to suppliers/wholesalers. For example, respondents noted safety an important issue.

> "i*t is easy and safe for people and there is no chance of theft* (C6). *It would be beneficial if everything can be done through cashless transactions. We won't need to carry cash with us. There would be no fear of theft that problem of fake notes would also be solved, as all transactions are cashless*" (C8).

Suppliers also have similar issue with the security of the handling cash and perceived it a risk.

> "*if you sell goods to me and I give cash and if other people also give him* (the supplier who distributes the goods to various kirana stores) *cash, it is difficult to carry that cash all the way. Earlier I have to follow and ask them when they are coming. Sometimes workers (who transport cash) tell me that the money is lost or fallen off. It is problematic especially if it is a large amount. But if it is a cheque I can ask him to block that. So that fear is not there anymore. You don't have to go to bank. You can put a cheque in drop box and it will be deposited*" (S10).

4.1.4 Suppliers influence and power imbalance

Given the dependence of these small retail stores on distributors/wholesalers and/or suppliers who are typically large and powerful, their influence in the digitalization can be expected to be significant. Digitalization is expected to improve transaction efficiencies and accuracy in the retail supply chain, and especially between the retail stores and their suppliers. Suppliers noted the accuracy and speed as important drivers for pushing towards digitalization.

> "*The goods previously were dealt with (paid) in rough calculation. We also are used to deal that way without demanding bills (receipts). Now we get the goods with their invoices in a proper manner*" (S10).

> "*There is no need to wait and it goes from one account to another instantly. Market speed will be there. People also feel good because it will be easy and saves them time*" (S16).

These benefits, however, are limited by the volume of transactions between the suppliers and retail store owners. Value of individual transactions between individual small retail store and the large supplier and their frequency is relatively low when compared with those between the retailer and customers. Therefore, perceived benefits of digitalization are higher to these suppliers than retail stores. They therefore have an incentive to influence the small retail stores to digitalize their transactions. Therefore, they have the ability to force owners of small retail stores to adopt cashless systems and other digital technologies. A supplier explained it below.

> "*It is easy to move those shopkeepers (retail store owners) to digital because they are dependent on us (distributors). Once we decide, we can give them one week to ten days' time and after that we (can say that we) will not accept cash transaction. We will get the payment using a swiping machine and make them (retail store owners) understand that companies (manufacturing companies) are putting pressure on us and we cannot pay by cash. The shop keepers will be forcefully converted because they will not get goods from our company if they don't (comply)* (S10).

Though not clearly articulated, a further benefit to the distributors/suppliers is the knowledge of the movement of a particular product in their local area if the information is digitalized and can be shared with them by the small retail store owners.

4.2 Internal Factors (Organizational)

4.2.1 Customers' socio-economic background

Low levels of education and lack of awareness of the digital instruments and their potential benefits is another challenge limiting adoption. The extent of digitalization is influenced by individual socio-economic background, employment and education. Retail customers and owners who are more educated and have a regular steam of income processed through banks and other financial institutions

are aware of the digital instruments and can relatively easily adopt. Retail customers who belongs to the higher socio-economic strata (middle income groups in Indian context) have adopted mobile phones very well and are therefore comfortable with digital payments. But, most of the customers of these small retail stores are daily wage workers and people from low socio-economic background and therefore are comfortable to deal with cash on day by day basis. They earn a daily wage, buy their groceries for the day and there is no real gain for them to go digital. Some of the comments made by retailers and suppliers are given below to support this state.

> "*People are not aware now. Only 10% of people are educated. If they tell me that they have made payment and I don't receive payment after 4 days also, what would I do? Why would I go for transactions like these? Digital would not work until Indian public becomes educated. Eight out of 10 people don't know what the digital transactions are*" (S12).

> "*Most people would do cash transactions only. It is very difficult in India and especially in our state, because there are more uneducated people here and they can't make cashless transactions*" (R8).

> "*retail business is done in cash. We can't do cashless transactions through Paytm etc. People say it takes four days to receive payment that way. It gets withdrawn from your account and it does not reach that person. Public is annoyed by that*" (S2).

> *If everybody starts using it, I have to start using it. The theft and snatching will not happen to them if we go cashless*" (S10).

> "T*hough the number of people purchasing android phones is increasing day by day the number of people using cashless methods has not increased significantly*" (S4). '

> *Everything cannot be forced and implemented all of a sudden. People's attitude should be changed. Many are not ready to pay through cashless methods even if I (a retailer) am ready to accept*" (R4).

The responses of participants suggest that digitalization in the retail sector is in its early stages and therefore a generic resistance to change is expected to limit technology adoption. Despite relatively widespread use of mobile technologies, general low socio-economic background and low levels of education constrain the adoption of digital technologies for retail transactions.

4.2.2 Sense of control

The respondents to the study indicated that consumers perceive a loss of control when they are dealing with digital transactions. Consumers and retailers feel they are in control when transactions are manual and when using cash, which is a tangible thing they can feel and see. Online payment is perceived as abstract and intangible and consumers view this as loss of control over expenditure and transactions. Because online payments are not visible, respondents argued that this may cause people to spend more than they can afford. As noted by a retailer, "*one major psychological issue is that in case of physical cash payments one feels the pinch of money spent. When it comes to digital payment we don't feel that pinch. It is always the 'necessity' that teaches people to implement the things they have learnt*" (R4).

In fact, given an option, consumers do not prefer digital transactions. As noted by a retailer, "*cash transaction is more convenient. In cashless transactions I won't be able to do anything, I would not get any money into my hand. If cashless transactions start in a big way, I have to get internet connection, and the government won't give that free. While the customers are waiting, I can't keep checking whether the money has gone in or not. I can't see the money*" (R8).

Further, some believe cash is a useful tool to deal with contingencies and emergencies. There appears to be an implicit assumption that cash is needed during emergencies because other operators in the economy prefer cash and/or transactions with cash are easy when one is in urgent need and constrained for time. As noted by a respondent, "*if I need money urgently, how can I get that money? I can't bring that money by selling my card? Anyone can transfer money to me, but I cannot get the cash. If I need money urgently to buy something in cash, I can't get that*" (S10). While some respondents indicated above that digital financial transactions may be an incentive for people to spend on impulse others believe that digital payments are more secure and less emotional. As pointed out by a respondent *"when my customers have cash in their hand they don't prioritize their spending. If they need something, without thinking twice they buy it if they have cash. Later to pay me or anyone else, they would not have money. This happens all the time. Now, all the customers' money will be lying in their bank account, because they can't draw it out immediately. In such case, customers do not have liquid cash to spend without thinking*" (S5).

Thus, this sense of control (or lack of it) in relation to digital transactions, is an important factor influencing the adoption of digital technologies. As discussed above, the relative influence of this factor is moderated by the level of education, awareness of the technology's benefits, and trust in the external digital environment.

4.2.3 Costs of technologies

Resources constraint is a typical challenge for SMEs. Whether is a 'swipe card' machine or transaction fees for credit/debit card transactions, or access to the Internet – all costs money. Unless there is a commensurate benefit, small retail stores are reluctant to invest in digital equipment and processes. As noted by one consumer,

> "*small provisional stores do not have card swiping option, cannot afford them, neither do they use mobile wallets nor do they have online/mobile banking; and accept cheque above a certain amount. Only a few large provisional stores own a POS (point of sale) device and other facilities*" (C4).

While online banking and cashless transactions are pushed as a cheaper and more cost-efficient option by the government and banks, there are costs associated with these transactions. These costs may eventually be passed on to consumers by the banks. For now, it appears consumers' choice to shift to digital payments is heavily dependent upon the technology being free. As noted by a wholesaler, no one will use the services if there is an extra charge for the cashless transaction and especially if a percentage is charged. As noted by a wholesaler,

> "*the margins for the retailers are already low, no retailer would prefer to use digital transactions if they are charged extra* (S14). Further,

> "*if bank people don't cut much amount then people will like cash less as time is saved. There will be a growth in business. But if bankers cut 20 rupees, people also will think why we should pay 20 rupees to the bank. If we go to cinema hall they say it is 160 for cashless and 150 for cash, then why will people listen and use cashless? If banks don't tax people, then people will go cashless.* (S16).

Though for some it is a burden, most of the suppliers, however, are willing to pay and prefer low fixed transaction costs rather than a percentage of the value. Participants also expressed concern about the temporary nature of current no-fee models of digitalization. As noted by a supplier,

> "*people are afraid that the money from the ATMs (automatic teller machines) will be deducted automatically (a transaction fee) when money is withdrawn*" (S13).

Respondents believed that some fees – whether for using ATMs (automatic teller machines) or debit cards or online transfers or third-party payment gateways – will eventually be charged by financial institutions and/or governments. The main concern is the automatic withdrawal of their money without their knowledge if they go for digital payment systems.

4.3 Technology Itself a Challenge

Digital technologies themselves are a challenge. Though smart phones are increasingly sophisticated, reliable and extensively used by consumers, retailers and suppliers, applications designed for smart phones to facilitate digital payments do not always work well. For example, BHIM (Bharath Interface for Money), a payment application based on Unified Payment Interface (UPI) for digital financial transactions, is reportedly difficult to install and operate. While consumers would like to use digital wallets for payment purposes, there are challenges regarding infrastructure and availability. As noted by a supplier,

> "*I have personally helped a few customers to install the app. It was not successful. Though some have installed it, they are not interested to use this (UPI) app. There must be some problem with the app too. A customer has to enter my account number and IFSC code every time to make the payment, but Paytm is comparatively easy*" (S4).

> "*When I clicked a bank on the BHIM app (a payment application), I got a server down message ... after two or three days I realized there were some glitches. I am not sure what the exact problem was, but since there was a problem, I decided not to use it.* (C1).

Further, network effects are significant in digitalization and in the use of digital wallets such as BHIM and impacts their popularity. As reported by a customer,

"*BHIM does not work even though I have created the barcode and other necessary things in that app. If I have to make payment to anyone, the other person needs to have the BHIM app too. Otherwise it is useless*" (C5).

"*I have installed Paytm app as my friends have recommended it saying that they have many discount offers*" (C4). "*I had a friend who earned money by adding people. If you get less cash back in Paytm, then you can use Freecharge, another system*" (C1). As digitalization is in its early stages in a sector that is not technology-focused, some challenges are expected. As one respondent indicated "*one should be up-to-date with the technology to reap the benefits* (S4).

In general, there is a recognition of the pros and cons of technology adoption. As aptly pointed out by one retailer "*it* (technology) *makes our life easy, in another way it makes us lazy, makes our life difficult; now it is a transition period.* (R4) and will pass.

5 CONCLUSIONS

Digitalization has both positive and negative consequences for small retail stores. Ongoing adoption needs to be managed carefully because individual small retailers' failure to adopt may be a threat to their business model and survival considering the changing consumer habits and preferences and increasing competition. Aggressive expansion of supermarket chains and their adoption of the format of small retail stores in residential areas is in direct competition with these small retail stores and may seriously threaten their business model. Given the low educational levels and relatively low socio-economic background of a many members of the retail eco-system (especially consumers and retailers in rural and semi-urban areas), overcoming external barriers is critically important if the full benefits of digitalization are to be experienced. Our findings provide insights into the significance of various external factors, as well as how excessive bureaucracy and inadequate trust in the regulatory environment impact adoption. In general, our study found that members of the retail eco-system are sceptical of digitalization initiatives and the temporary incentives offered by banks and governments. The findings of this study have practical implications for government agencies, financial institutions and technology companies seeking to simplify and build trust in relation to the regulatory environment, and to improve accessibility, reliability and ease of use of various digital applications.

Although this study offers new insights into the Indian context, there are limitations, such as the small sample size and lack of generalizability, which is common in case study research. Another limitation relates to the Technology-Organization-Environment (TOE) framework. Further studies could integrate constructs from other technology acceptance models, such as TAM, to help overcome some of these limitations and offer new insights when applied to complex environments such as the retail eco-system. Overall, our study contributes to the body of research on technology adoption in the retail sector and highlights the potential impact of digitalization on the business model of small retail stores. If small retail stores do not adopt digitalization, consumers may shift their loyalty. There, is however a recognition of the changing times and inevitability of the move towards digitalization by small retail stores to survive. It, however, is important for the governments, banks and large suppliers to introduce appropriate mechanisms and processes that would help small retailers to overcome the challenges. This is critically important given the economic and social significance of small retail stores in India. In time, small retail stores will recognize the inevitable impact on their business models and adopt digitalization to survive.

6 REFERENCES

Agrebi, S., and Jallais, J. I. 2015. "Explain the Intention to Use Smartphones for Mobile Shopping," Journal of Retail Consumption and Service (22), pp. 16-23.

Ajzen, I. 1991. "The Theory of Planned Behaviour," Organizational Behaviour and Human Decision Processes (50), pp. 179-211.

Alshamaila, Y., Papagiannidis, S. and Li, F. 2013. "Cloud computing adoption by SMEs in the north east of England: A multi-perspective framework," Journal of Enterprise Information Management, (26:3), pp.250-275.

Bollweg, L., Lackes, R., Siepermann, M., Sutaj, A., and Weber, P. 2016. "Digitalization of Local Owner Operated Retail Outlets: The Role of the Perception of Competition and Customer Expectations." In PACIS 2016 Proceedings, 348, http://aisel.aisnet.org/pacis2016/348.

Burton-Jones, A., and Gallivan, M. J. 2007. "Toward a Deeper Understanding of System Usage in Organisations: A Multilevel Perspective." MIS Quarterly (31:4), pp. 657-680.

Business Standard. 2015. "Kirana Stores the Inspiration for Big Retails Small Stores: BCG." Business Standard Reporter, 16 September 2016, downloaded from http://www.business-standard.com/article/companies/kirana-stores-the-inspiration-for-big-retail-s-small-stores-bcg-115091600023_1.html, on 4 January 2018.

Corkery, M. 2017. "Is American Retail at a Historic Tipping Point?" New York Times, 16 April 2017, downloaded from http://www.nytimes.com/2017/04/15/business/retail-industry.html?_on 5 Jan 2018.

Deloitte (2012). Digital Disruption: Short Fuse or Big Bang. Australia: Deloitte Touche Tohmatsu.

Fuentes, C., Backstrom, K., and Svingstedt, A. 2017. "Smartphones and the Reconfiguration of Retailscapes: Stores, Shopping and Digitalization," Journal of Retailing and Consumer Services (39), pp. 270-278.

Goh, K.-Y., Chu, J., and Wu, J. 2015. "Mobile Advertising: An Empirical Study of Temporal and Spatial Differences in Search Behaviour and Advertising Response," Journal of International Marketing (30), pp. 34-45.

Goswami, P., and Mishra, M. S. 2009. "Would Indian Consumers Move from Kirana Stores to Organized Retailers When Shopping For Groceries?" Asia Pacific Journal of Marketing and Logistics (21:1), pp. 127-143.

Hagberg, J., and Fuentes, C. (2018) "Retail Formations: Tracing the Fluid Forms of an Online Retailer." Consumer Market Culture (In Press).

Hagberg, J., Sundstrom, M., and Egels-Zanden, N. 2016. "The Digitalization of Retailing: An Exploratory Framework," International Journal of Retail Distribution Management (44:7), pp. 694-712.

Hisham, M., Sharif, M., Rosli, K. and Ahmi, A. 2017. "A Model of Social Media Adoption and Impact on Malaysian Small and Medium-sized Enterprises (SMEs)," in Proceedings of the International Conference on E-Commerce (ICoEC 2017), 18-20 September, Putrajaya, Malaysia, pp.1-5.

Idris, A., Edwards, H. and McDonald, S. 2017. "E-commerce adoption in Developing Countries SMEs: What Do the Prevailing Theoretical Models Offer Us?" in Proceedings of the International Conference on E-Commerce (ICoEC 2017), 18-20 September, Putrajaya, Malaysia, pp.1-5.

Kalhan, A. and Franz, M. 2009. "Regulation of Retail: Comparative Experience," Economic & Political Weekly, XLIV (32), pp.56-64.

Klein, H. K., and Myers, M. D. 1999. "A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems," MIS Quarterly (23:1), pp. 67-94.

Kotak Institutional Equities (KIE). 2016. "98% of Grocery Retail Market is Controlled by Kirana Stores: Study." Economic Times Brand Equity, PTI, 1 February 2016, downloaded From Https://Brandequity.Economictimes.Indiatimes.Com/News/Business-Of-Brands/98-Of-Grocery-Retail-Market-Is-Controlled-By-Kirana-Stores-Study/50797310, on 2 January 2018.

Kuan, K. K., and Chau, P. Y. K. 2001. "A Perception-based Model for EDI Adoption in Small Business Using a Technology-Organization-Environment Framework," Information and Management (38:8), pp. 507-521.

Li, M., Dong, Z. Y., and Chen, X. 2012. "Factors Influencing Consumption Experience of Mobile Commerce," Internet Research (22:2), pp. 120-141.

Maruyama, M., and Trung, L.V. 2007. "Traditional Bazar or Supermarkets: A Probit Analysis of Consumer Perceptions in Hanoi," International Review of Retail, Distribution and Consumer Research (17:3), pp. 233-252.

Oliveira, T., and Martins, M. F. 2011. "Literature Review of Information Technology Adoption Models at Firm Level," The Electronic Journal Information Systems Evaluation (14:1), pp. 110-121.

Orlikowski, W. J. 2009. "The Sociomateriality of Organisational Life: Considering Technology in Management Research," Cambridge Journal of Economics (34:1), pp. 125-141.

Pantano, E., and Viassone, M. 2014. "Demand Pull and Technology Push Perspective in Technology-Based Innovations for the Points of Sale: The Retailers Evaluation," Journal of Retailing and Consumer Services (21:1), pp. 43–47.

Peterson, H. 2017 "The Retail Apocalypse has Officially Descended On America." Business Insider, 21 March 2017, downloaded From Http://Nordic.Businessinsider.Com/The-Retail-Apocalypse-Has-Officialy-Descended-On-Amercia-2017-3 on 5 Jan 2018.

Pool, J.K., Arabzad, S.M., Asadi, A. and Ansari, M.R. 2015. "RFID acceptance in SMEs using TOE framework: an empirical investigation on Iranian SMEs. International Journal of Logistics Systems and Management (21:3), pp. 335-347.

Ramakrishnan, K. 2010. "The Competitive Response of Small, Independent Retailers to Organized Retail: Study in an Emerging Economy," Journal of Retailing and Consumer Services (17:4), pp. 251–258.

Rani, E. 2013 "Supermarkets vs. Small Kirana Stores," Journal of Business and Management (10:1), pp. 1-7.

Renko, S., and Druijanic, M. 2014. "Perceived Usefulness of Innovative Technology in Retailing: Consumers and Retailers Point of View," Journal of Retailing and Consumer Services (21:5), pp. 836-843.

Saini, G.K. and Sahay, A. 2014. "Comparing retail formats in an emerging market: Influence of credit and low price guarantee on purchase intention," Journal of Indian Business Research (6:1), pp. 48-69.

Sathish, D., and Raju, V. D. 2010. "The Growth of Indian Retail Industry," Advances in Management (3:7), pp. 15-19.

Sinha, P. K., Gokhale, S., and Rawal, S. 2015. "Online Retailing Paired with Kirana – A Formidable Combination For Emerging Markets," Customer Need and Solutions, (2), pp. 317-324.

Tarhini, A., Arachchilage, N. A. G., Masa'deh, R., and Abbasi, M. S. 2015. "A Critical Review of Theories and Models of Technology Adoption and Acceptance in Information Systems Research," International Journal of Technology Diffusion (6:4), pp. 58-77.

Tornatzky, L. G., and Fleischer, M. 1990. The Processes of Technological Innovation. Lexington, MA: Lexington Books.

Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. 2003. "User Acceptance of Information Technology: Toward A Unified View." MIS Quarterly (27:3), pp. 425-478.

Yang, Z., Sun, J., Zhang, Y. and Wang, Y. 2015. Ünderstanding SaaS adoption from the perspective of organizational users: A tripod readiness model." Computers in Human Behaviour (45), pp.254-264.

Yin, R. 2009. Case Study Research: Design and Methods, London: Sage Publications.

Yun, Z.-S., Pysarchik, D. T., and Dabas, C. S. 2012. "The Determinants of Retail Loyalty of Indian Consumers." Journal of Food Products Marketing (18:4), pp. 268-286.