

**“Sustainability of Cashless Banking in Unorganized Retail Sector: A comparative study of two districts of Telangana”**

*(A Project Report Submitted to Indian Institute of Banking and Finance under the Macro Research Award 2018-19)*



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## Chapter I: Introduction

There has been a tremendous effort to financially integrate the various sections of the society be it rural or urban or a semi-urban area. The level of deepening and integration need much serious attention when it comes to its implementation in rural or semi-urban areas where unorganized retail sector dominate. The efforts of the government to expedite the process gained momentum with the demonetization of major Indian currency in 2016. The literature reveals that although the efforts have changed the overall transactions mode scenario from cash to cashless yet there is a lot to be done to gain the sustainability of the above. It is in this context, the study is done to focus on the major factors determining the usage of cash/cashless modes in terms of four major categories such as financial and digital literacy, accessibility of such sources, payment mode for procurement by the retailer from wholesale and confidence among unorganized retail sector owners and consumers.

Since overall project is based on the sustainability of cashless banking system in India on the basis of two districts of Telangana and the sampling focus is the unorganized retailers in these areas. Therefore, the overall introduction begins with the overview of financial inclusion in section 1.1 and then specifically about digital financial inclusion in the next section 1.2. Section 1.3 discusses the major objectives of this study followed by section 1.4 which deals with the overall organization of the report.

### 1.1 Financial Inclusion

The idea of financial Inclusion has gained momentum during the recent years especially after the demonetization in 2016. RBI defines financial inclusion as **“the process of ensuring access to financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream Institutional players”**. Therefore, if we explore about vulnerable groups or the weaker sections of the society, financial deepening plays a major role specifically in rural or semi-urban areas. It becomes more and more difficult when the possibility of success of financial inclusion and deepening is explored in a rural or semi-urban area. It is therefore, in the this study an attempt is being made to explore how successful the financial inclusion has been in terms of

sustainability of cashless economy, a drive boosted from 8<sup>th</sup> November 2016 onwards (After demonetization of Indian currency).

## **1.2 Digital Financial Inclusion**

Digital financial inclusion is a part of financial inclusion and relates to the available digital modes of transactions. Among the multiple dimensions of financial inclusion, digital financial inclusion is one of them. With the transformation of economies in terms of technology, several digital resources are available for the payment mechanism. As several efforts have been done during the recent years to integrate each and every section of the economy either rural, semi-urban or urban, yet its sustainability still seems to be questionable. Even if we don't discuss about rural parts of the India where people are not literate enough about the same and much exposure in terms of proper markets is not available, we may discuss the same in semi-urban area context.

As per the guidelines issued by RBI, semi-urban area is the area in which population is 10,000 and above but less than 1 lakh. Such kinds of areas seem to be the best places where the sustainability of the usage of digital systems can be judged.

The cashless India drive by the government of India mentions the following modes available for payment:

- 1. Banking Cards**
- 2. Unstructured Supplementary Service Data (USSD)**
- 3. Aadhaar Enabled Payment System (AEPS)**
- 4. Unified Payments Interface (UPI)**
- 5. Mobile wallets like Paytm, Freecharge, Mobikwik, Oxigen, mRuppee, Airtel Money, Jio Money, SBI Buddy, itz Cash, Citrus Pay, Vodafone M-Pesa, Axis Bank Lime, ICICI Pockets, SpeedPay etc.**
- 6. Bank's prepaid cards**
- 7. Point of Sale (PoS)**
- 8. Internet Banking**
- 9. Mobile Banking**
- 10. Micro ATMs**

It is observable from the data (detailed graphical representation is done in chapter 4 part a) that overall digital payments have increased over the years. But since India is a country where major portion of area deals with unorganized sectors, it is difficult to attain sustainability about the same. It is in this context the entire study has been performed.

### **1.3 Objectives of the Study**

The study has focused on semi-urban areas where the possibility of success of financial inclusion in terms of cashless economy would be more as compared to rural areas. The major objective of the study is to explore the sustainability of cashless economy drive which started with the demonetization process in 2016 year end. The basic idea is to highlight the challenges for the banking sector ahead in unorganized retail in semi-urban areas of India and also to compare as why one area has performed far better than the other area although they belong to the same good performing state in terms of financial inclusion. It is in this context the study highlights the two major objectives:

1. Factors determining the usage of cash or cashless payment modes in terms of four broad categories:
  - a. Financial and Digital Literacy
  - b. Accessibility
  - c. Mode of payment of procurement from wholesaler to retailer
  - d. Confidence of the retailer regarding the same

and to find out the factors responsible for the difference in the financial inclusion (in terms of cash/cashless payment mode by retailers) of the two semi-rural areas from the same state.

2. Issues and challenges faced by the local unorganized sector retailer and what can be the policy suggestions for the same.

### **1.4 Organization of the Report**

To study about the above said objectives, the rest of the report is organized as follows: The next chapter discusses the literature related to the cashless banking studies. The chapter is

mainly divided into two parts. The first one deals with the studies conducted in Indian context and other one talks about studies done on countries other than India.

Chapter 3 then elaborates about sampling and research design. The chapter describes the area of the study in question, sampling size and the reason for taking the same and then discusses about the pillars on which the questionnaire for the study in context is build up.

Chapter 4 discusses about the methodology, hypotheses, results and discussion of the same. All the sections of the questionnaires are elaborately described and the logistic regression is done to fulfill the objectives of the study.

Finally, the chapter 5 explains the conclusion of the entire study with policy implications and action plan which needs to be taken in context of the current study. The chapter also discusses the limitations of this current study.

## **Chapter 2: Literature Review**

Various efforts have been done by the Indian government to digitalize the payment system and promote digital financial inclusion as much as possible. It is in this context the demonetization was done in 2016. Although prime mode of payment has been cash since several years and it is not easy to fully implement a different mode of payment system in such an economy where unorganized sector dominates. People belong to different education levels and also to middle income groups or low income groups in case of semi-urban or rural areas. They have particular mind set up, are partially aware of digital payment system, they are traditional and are not completely confident about the same. Several studies have been done so far to study about the cashless payment system in India as well as abroad and the highlights of the same are presented in the chapter. The next section 2.1 discuss about the studies done in India in case of cashless banking and section 2.2 discuss about the studies done internationally. Section 2.3 concludes the same.

### **2.1 Studies done in India**

A study by centre for digital financial inclusion, Institute of Financial Management and Research, Chennai on “Going cashless” was done. The study compared the pre and post demonetization period and discussed about perceptions, usage and behavior towards digital payments in India. Monthly per capita expenditure (MPCE) data was used as a basis for the sample area from NSS 2011-12. Various low, medium and high MPCE districts were selected. Based on digital payment system, financial literacy, people’s perception, usage and behavior towards cashless payments was studied using a primary survey. The results revealed that cashless payment modes surged in the post demonetization period (from 1<sup>st</sup> January 2017 to 31<sup>st</sup> March 2017). The unorganized sector retailers seemed to be optimistic about the cashless payment system in both rural and urban areas yet there is need for the study which can be done about the sustainability of cashless transactions especially in rural or semi-rural areas.

Another study by Safeena, Date and Kammani in 2011 was done on the consumer’s perspective on Internet banking adoption in India. The study focuses on finding out the factors which influence the consumer’s adoption of Internet banking in India. Primary survey was done



in the above said context and students from an educational institute were selected and factor analysis was done on the same. The results revealed that perceived usefulness, perceived ease are found to have positive effect on usage of internet banking while perceived risk has a negative effect on the same.

There are many more studies in the literature which have focused on very specific type of mode of cashless transactions such as internet banking (Kesharwani, A., & Singh Bisht, S. 2012; Joshua, A. J., & Koshy, M. P. 1970), mobile banking (Dasgupta & Fuloria 2011), mobile commerce (Thakur, R., & Srivastava, M. 2013), mobile payments services (Thakur, R. 2013; Yan, Abu-Shanab, E., & Sutanonpaiboon, J. 2009; Chauhan, S. 2015), credit card usage (Khare, A., Khare, A., & Singh, S. 2012) etc., yet there is a need for a study which can elaborate discussion on overall cashless transactions and people's confidence for the sustainability of the same.

Mukhopadhyay in 2016 developed a theoretical model to understand the cashless payments in India. The data for the study was taken from surveys conducted in 2011 and 2014 (from World Bank's Global Findex), as well as household and enterprise surveys conducted in 2009–2010. The study concluded most important source which enables the cashless payments are inflows of funds into accounts.

Garg, P., & Panchal, M. 2017 studied the Introduction of Cashless Economy in India in 2016 and elaborated on possible benefits & challenges associated with the same.

Rathore 2016 studied on the adoption of digital wallet by consumers of Ahmedabad city. The study tried to find out the important factors that motivate or discourage the usage of e-wallets during the post demonetization period from 318 valid responses through a structured questionnaire. Collected data was simply analyzed by using percentages, cross tabulation and statistical tools like ANOVA. The findings of the study revealed that e-wallet users consider security, privacy concerns and pricing (fees) as the most important factors for adoption and the major problems lie with long duration of transaction time for the processing, security breach and delayed payments etc.

Goriparthi & Tiwari in 2017; Radcliffe & Voorhies 2012; Zimmerman & Baur, 2016; Gupta & Sareen 2001 and many more prominent intellectuals focused on demonetization era or digital payment system and its fears and consequences in terms of financial inclusion etc.

A study of Ligon, Malick, Sheth and Trachtman (2019) focused on the factors that lead to low adoption of digital payment technologies in case of small scale merchants in Jaipur. They used survey data of 1003 merchants and were able to find out that supply side barrier such as development of proper infrastructure lead to low level of adoption of digital payments. The result of the study suggests that costs associated with adoption of these digital technologies should be lowered.

Further, a study by Rai on awareness of digital payments in rural area reveals that awareness, digital literacy, adequate infrastructure and rate of customer involvement in cashless transactions is having a powerful relationship with digital payments transactions. The study area selected was Bramhapuri in Chandrapur district of Maharashtra and the data was gathered from 100 participants using a survey questionnaire. The cash and mobile wallet system is found to be most popular mode of transactions. Rural area people are still used to the usage of cash and comfortable using it and further load shedding and power problem also hamper the implementation of digital system in the area. It is suggested in the study that Government should arrange training programs for the villagers on the usage of digital payment techniques so that their fear of fraudulent actions and risk for using digital payment will decrease.

Singh and Rana (2017) studied about the perception of consumer of the digital payment mode. Using a structured questionnaire, data was collected from 150 respondents in Delhi. Using the frequency analysis and ANNOVA, the study concluded that the adoption of digital payment system does depend upon education level of the people. Therefore, the education towards digital payment system should be promoted.

Bhagla (2018) tries to identify the reasons for adoption of digital payments by people in India. The biggest challenge in front of the government is found to be the lack of knowledge and awareness among people and fear of loss of money by use of digital payment methods risk of hacking. The data is collected from the small sample of 110 countries. It is suggested that the

government needs to tackle these challenges to have a cashless economy and to give a boost to digital payments to provide sustainable economic development to the country in the long run.

Shah, Jain, Khandelwal and Misra (2019) collected the data from 200 respondents using a structured questionnaire. The study illustrated the awareness, acceptance and adoption of fintech through three financial segments: financial planning, payments, lending and borrowing business etc. The research reveals maximum people are more satisfied with the payments rather than financial planning and lending and borrowing. The present study shows that youngsters are tech friendly and using more fintech services while fintech planning services are used by middle aged people to some extent. The research says that most of the youngsters are using the technology so companies should provide more payment and financial planning options. The present empirical research measures the satisfaction of adopting fintech services in India. The analysis of research helped in understanding different user perception with particular financial segments. Future resources and conditions allow more expertise analysis is expected by increasing the number of sample size and location involved in the research. The future research will be more advanced involving the involvement of more expertise analysis to derive efficient relationships between other key variables.

Study by Bagla & Sancheti (2018) tries to examine the reasons responsible for growing popularity of digital wallets in India and the sustainability challenges faced by the same. The study used the data collected from 313 respondents in Delhi. Attractive cashback and rewards, ease of use, instant money transfer without using cash, relatively higher transaction security as compared to credit/debit cards and absence of any transaction fee are the factors responsible for growing use of digital wallets. However, there are gaps between customers' expectations and the satisfaction level which pose a challenge for the sustainability of digital wallets and need to be taken care of.

Most of the research studies have either focused on specific mode of digital payments system or the consumer behavior or overall pros and cons associated with the same but there is still a need for a comprehensive study which can cover all sorts of digital payments systems and overall literacy and confidence level of retailers and suggest the policy conclusions.

## 2.2 International Literature

Amromin and Chakravorti (2007) did a cross-country analysis on the usage of debit card and cash. They took panel data of 13 countries from the year 1988-2003 and analyzed the transaction demand of money resulting from an increase in debit card usage. The demand for low denomination currency was found to decrease as debit card usage increased. However, the demand for high denomination currency was found to be unaffected by an increase in the usage of debit cards.

Another study by Banegas, Judson, Sims and Stebunovs (2015) in their paper on International dollar flows tried to analyze the factors responsible for driving the flow of US banknotes between the USA and other countries. The US currency is considered to be a safe asset and forms a significant part of capital flows for EMEs. Before, Global Financial Crisis, country-specific factors like the local economic uncertainty explained the volume and heterogeneity of the flows. But after the crisis, global factors like global economic uncertainty explained the flows well.

Bech, Shimizu and Wong (2017) studied about the quest for speed in payments and compared the technology of payment systems between RTGS and fast payments in a set of countries and revealed that the diffusion of fast payments has followed a trend similar to that of RTGS in the 1980s. While fast payments are still being adopted, newer technology systems are already under the development stage.

In a research paper by Borzekowski and Kiser (2008) tries to quantify demand across payment instruments. The study analyses a national survey representative of the US population. The study finds that in cases where the merchants stop accepting credit cards, the merchant costs decline substantially. Hence, the only reason for the merchants to continue accepting credit cards is either that the credit card networks hold market power, or the merchants get unmeasured intangible benefits from credit card acceptance. The paper also predicts the contactless debit to take market share from cash, cheques and credit (age/cohort effect alone is unlikely to substantially boost the debit card use over a 10-year period, at least).

Mbama and Ezepeue (2018) conducted a survey in UK about the key determinants of customer experience in Digital Banking and found them to be perceived risk, perceived usability, employee-customer engagement, perceived value, functional quality and service quality etc.

Cuesta, Ruesta, Tuesta and Urbiola (2015) discussed in their paper that changing habits of consumer demand is boosting banks to digitalize themselves. The research paper identifies three stages in the process of digitalization: the first one involves the development of new products and channels. The second stage involves the adoption of technology and the third one involves intensive organizational changes so that the new products can better position themselves in the digital environment.

Nava, Karp and Nash (2014) discussed the case of USA that to maximize the impact of technology and to maximize the profits, banks need to establish a faithful relationship with the customers. Therefore, the task of banks is not only providing credit but also they need to understand and strengthen the intricacies of the financial decisions made by the present generation.

Study by Bergman, Mats, Gabriela and Bjorn (2007) discusses about the social and private costs of cash, credit and debit card payments in Sweden. Debit and Credit cards are found to be socially less costly than cash payments. The corresponding thresholds for the consumer's private costs were found to be higher. The data indicated more extensive use of cash than cards with respect to social and private costs.

Study by Brits and Winder (2005) discusses the usage of POS systems in the Netherlands. They found that the overall costs involved in POS payments were found to be 0.65% of the GDP (EUR 0.35 per transaction). E-purse transactions were found to be the most cost efficient. For transaction above EUR 11.63 the debit card needs to be preferred. However, for smaller transactions cash is a preferred mode.

Humphrey, Pulley and Vesala (2000) paper shows that it costs about 225 billion dollars annually to run the US payment system. It has been observed that the shift from Checks to electronic payment system has been slow, much slower here than in other countries. Study

suggests several initiatives through which switch to electronic payment system can be speeded up.

### **2.3 Conclusion**

Based on the above literature it can be said that several efforts have been done to integrate the Indian economy to the world economy in terms of digital financial inclusion. But still it is at the initial phase and there is a long way to go. Further, even at the world level, the economies are trying to minimize the cost of digital transactions and putting the complete digital system in place but still cash seems to dominate at different levels. Our study also puts an effort towards finding out the extent of usage of digital system at retail level in the semi-urban areas and also trying to suggest action plan to speed up the same.

## **Chapter 3: Sampling and Research Design**

The prime objective of the current study is to find out the reasons for different levels of financial inclusion in two districts of Telangana. One being the best performing semi-urban district and the other one is the worst performing semi-urban district. As per the proposal, we targeted the local retailers, their transaction pattern in terms of cash or cashless payment acceptance system. We tried to look at pattern from four major perspectives: a) the financial and digital literacy of the retailer; b) accessibility of financial and digital products and the transactions costs associated with that; c) their confidence level; d) and finally their own transaction with the wholesaler in terms of cash or cashless mode. The chapter discusses in detail about sampling and research design of the project. Section 3.1 elaborates about area of the study and the target group. Next section 3.2 discusses about sample size and the reasoning for the same. Section 3.3 explains the basic pillars on which we build up our questionnaire and since our target population is retailers in the main markets, section 3.4 exhibits the different categories of retail stores which we have taken into account. Section 3.5 concludes the chapter.

### **3.1 Area of the Study and the target group**

The state under focus for this study is Telangana. As per the CRISIL Inclusix ranks, 2018 which assess the extent of financial inclusion in the country focusing on number of persons included under various financial services, Telangana is among the best performing states. Further, this index ranks the erstwhile districts of Telangana according to their status of financial inclusion. Based on this ranking we have selected the best and the worst performing districts which are Nalgonda and Mahbubnagar, respectively with index values of 77.7 and 60.8. The district of Mahbubnagar, divided in 16 Mandals, houses population of 40.5 lakh persons. Made up of 31 Mandals, Nalgonda has a population of 34.9 lakh persons. As per the data published by Directorate of Economics and Statistics, Telangana Government, 2017, there are 39,078 and 38,682 retail trade establishments in Mahbubnagar and Nalgonda, respectively. We are focusing on semi-urban areas in various mandals of these two districts. We are selecting Mandals where semi-urban population is more than 25% of total population. The lists of towns being covered in our survey is given in the appendix 1.

### **3.2 Sample Size**

There are 39,078 retail trade establishments in Mahbubnagar and 38,682 in Nalgonda as per the statistical year book 2017 published by the Directorate of Economics & Statistics. With margin of error of 5% and 90% confidence interval, the sample size for both the districts comes out to be approximately 260. Therefore, total sample size is 519 respondents including both the districts retailers.

Enquiry is done from the municipal office about semi-urban areas in various mandals and those mandals are chosen where proportion of semi-urban area with respect to the total population is more than 25%. For example: Mahbubnagar Mandal

Proportion of semi-urban population of each selected mandal out of the total semi-urban population of all the mandals selected is calculated. The same proportion from the sample size is selected. From semi-urban areas retail shops are selected randomly in the main market.

### **3.3 Pillars of Questionnaire development**

The questionnaire is developed to assess the four aspects of financial and digital literacy; accessibility to financial and digital products; use of digital forms of payments for accepting payments from customers and payments to suppliers; and confidence and convenience in digital payments. Further, the data is also collected on the socio-economic characteristics of the respondents including information on their education level, age, social background etc. In addition information will also be collected on type of the business shop, approximate daily sales, approximate customers attended every day, frequency of payments made to suppliers etc. To elaborate the data on following sub-indicators is collected under four broad heads as follows:

#### **1. Financial and Digital Literacy:**

- Awareness about various banking products: Saving accounts, credit facilities, government schemes like Pradhan Mantri Jan Dhan Yojana, Pradhan Mantri Mudra Yojana etc.
- Awareness on Digital payments: Whether aware about use of digital forms of payments like PoS terminal, digital wallets, UPI, BHIM payments etc.



- Awareness about the charges of using digital payments by major players.

## **2. Accessibility to Financial and Digital Products:**

- Whether a holder of bank account and ATM card
- Whether uses PoS machine in their shop
- Whether owns mobile/smart phone
- Whether has reliable internet connection
- Modes used for digital payments

## **3. Use of digital forms of payments for accepting payments from customers and payments to suppliers**

- Proportion of sales receipts made using digital payments
- Proportion of payments made to suppliers in digital payments
- Business owners' preference between cash and digital payments and the reasons thereof
- Customers' preference between cash and digital payments
- Suppliers' preference between cash and digital payments
- Impediments in complete adoption of the digital forms of payments

## **4. Confidence and convenience in digital payments**

- Perception about safety and security for digital payments
- Perception about convenience about digital payments
- Perception about using digital cash with ease for payments for regular and emergencies payments

### **3.4 Types of Retail Shops Considered:**

Since the study is revolving around Indian unorganized retail with special focus on semi-urban areas, it is important to define what comes under unorganized retail in India. The sector can be categorized as below (**Handa, V., & Grover, N. 2012**):

- **Fruit and Vegetable Sellers:** Sell fruit and vegetables
- **Food Stores:** Sell bakery products, dairy and processed food and beverages.

- **Non-Vegetable Stores:** Sell Egg, Fish, chicken and mutton.
- **Kirana I:** Sells bakery products, dairy and processed food, home and personal care and beverages.
- **Kirana II :** Sells categories available at a kirana – I store plus cereals, pulses, spices and edible oils.
- **Apparel:** Sells men’s wear, women’s wear, innerwear, kids & infant wear.
- **Footwear:** Sells men’s wear, women’s wear, kid’s wear
- **Customer durables & IT:** Sells electronics, durables & IT products.
- **Furnishing:** Sells home lines & upholstery.
- **Hardware:** Sells sanitary ware, door fitting, and tiles.
- **General mechanize:** Includes lighting, stationery, toys, gifts & crockery.

The present study has focused on only permanent/fixed shops which do the business daily.

### **3.5 Conclusion**

As per the details discussed above it is clear that at sample of 519 retail shops selected, around 250 from one district and rest from the other district to study the objectives of the study. Various types of retail shops are randomly selected for the study and it is tried at the best to incorporate almost all sorts of retail shops. Based on the questionnaire the survey is conducted and the results of the same are discussed in the next chapter.

## Chapter 4: Results and Discussions

The chapter discusses about the various results based on secondary and primary data. The secondary data is collected from RBI database the results of the same are presented in section 4.1 and the results obtained from the primary field survey conducted in the areas of Mahbubnagar and Nalgonda are presented in section 4.2.

### 4.1 All India Trends in Non-Cash Payments

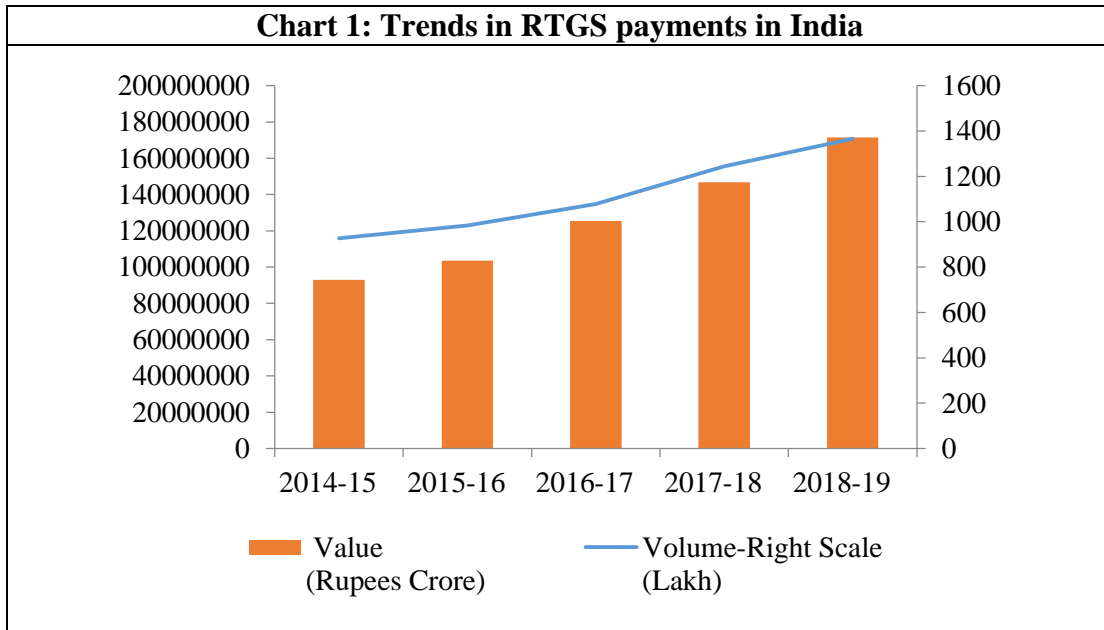
As discussed earlier, the various stakeholders have been working towards the objective of less-cash society. Though these efforts and initiatives have been continuing for years, the demonetization announce in November 2016 gave a significant impetus to the agenda. While the services like real time gross settlement (RTGS), national electronic funds transfer (NEFT), immediate payment services (IMPS), credit cards, debit cards have been around for years, and the continuous changes are being made in these to make them more accessible and affordable for the users. The BHIM adhaar based payments, Bharat QR and Unified Payments Interface (UPI) among others are the latest innovations to increase the adoptability of the digital payments across formal and informal sectors. In this section we will see how the payments through electronic and digital modes have evolved in the recent times.

#### 4.1.1 Real time gross settlement (RTGS)

The RTGS is an electronic payment system where there is continuous and real-time settlement of fund-transfers, individually on a transaction by transaction basis (without netting)<sup>1</sup>. Real Time means the processing of instructions at the time they are received. Gross Settlement means that the settlement of funds transfer instructions occurs individually. The system caters to high value transactions as the minimum value of transaction under the system is Rs. 2 lakh with no maximum cap. The system is available 7 am to 6 pm on a working day, however, the timings may differ across banks. The system is safe, secure, convenient and simple. The transactions have the legal backing. The beneficiary need not visit a bank branch for the transaction. The graph below shows the increasing trends in RTGS across the years where left y axis shows value and right y axis shows the volume of the cash transferred across the years which is plotted on x axis.

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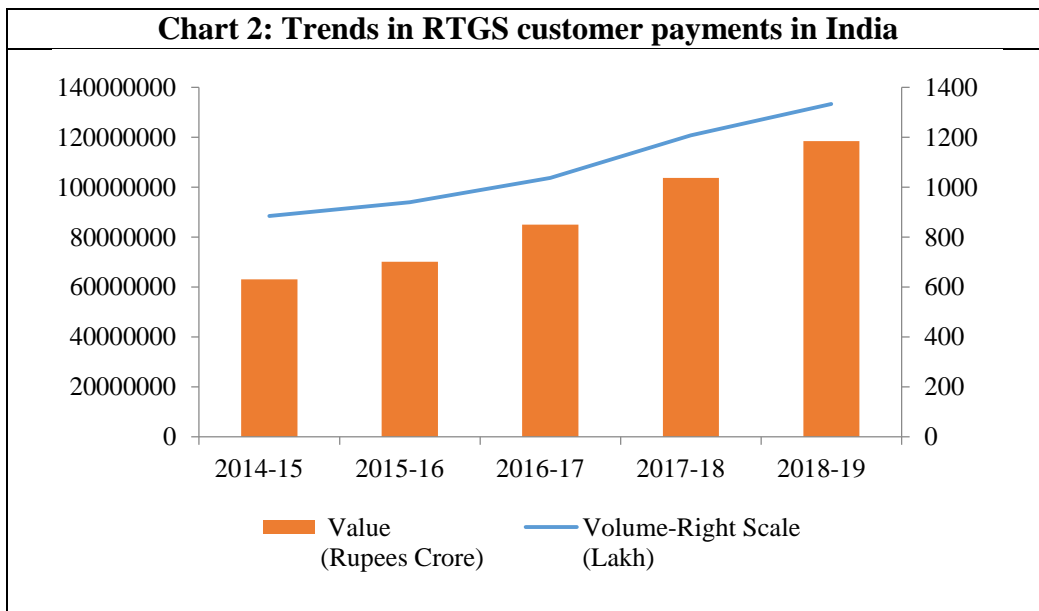
<sup>1</sup> The information has been sources from the Reserve Bank's website (link: <https://m.rbi.org.in/Scripts/FAQView.aspx?Id=65>)



Source: Database on Indian Economy, RBI

### ***RTGS-Customer Transactions***

The RTGS is used for customer transactions as well as inter-bank transactions. The transactions with involve either a credit or debit in customers’ accounts are known as customer transaction. Hence, customer transaction-RTGS are of the interest for the present study. The custom transactions have also shown increasing trend over the years.



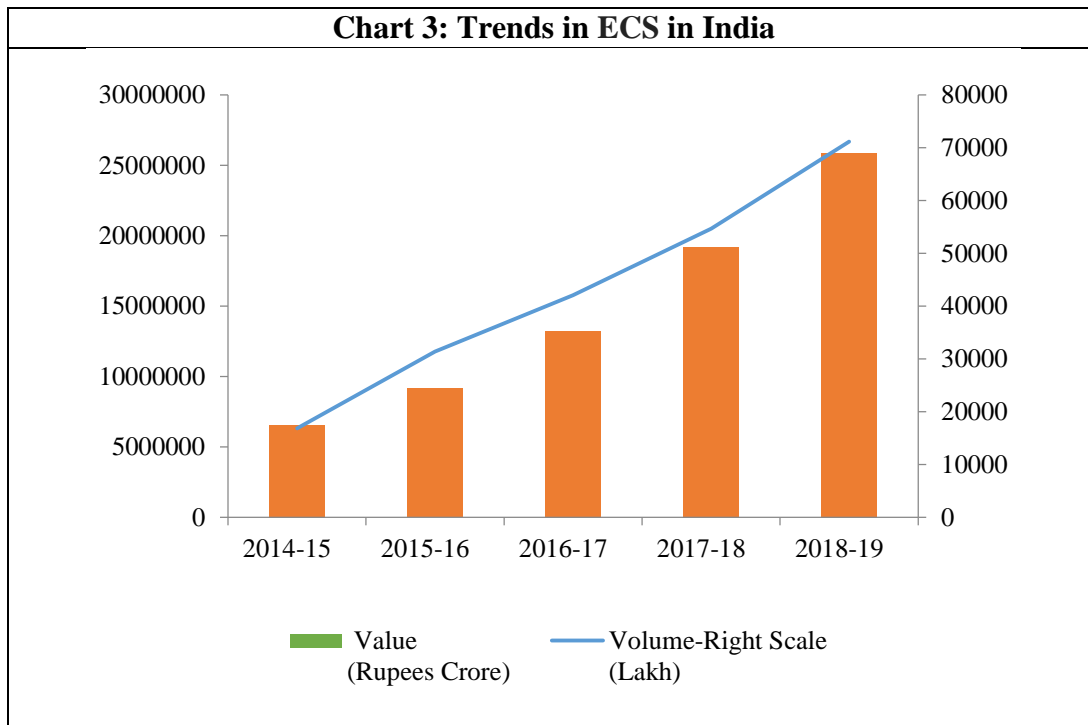
Source: Database on Indian Economy, RBI

### **4.1.2. Paper Clearing**

Paper clearing transaction system refers to the transactions which are done through piece of paper and not digitally. These include cheques, demand drafts and other such instruments, the graph below shows that the use of cheques declined in value from (2014-15) to (2015-16), volume show a decline as well volume show a gradual increase from (15-16) to (16-17) however value still declines, now from (16-17) to (18-19) volume show a gradual decline however value rises. The reason behind the decrease of the paper based instrument is the available of better electronic modes of payments which are faster, safer and more convenient for the users. The interventions by the Reserve Bank to make other electronic payments more affordable may have contributed to lesser usability of paper based instruments. Hence, the cheque may be losing their popularity for payments.

**Electronic clearing system**

Electronic Clearing System (ECS) is an electronic method of fund transfer from one bank account to another. It is generally used for bulk transfers performed by institutions for making payments like dividend, interest, salary, pension, etc. The graph below shows the increasing trends in Retail Electronic Clearing System (RECS) across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of RECS and right hand side show the volume of RECS and years are plotted on the x axis.

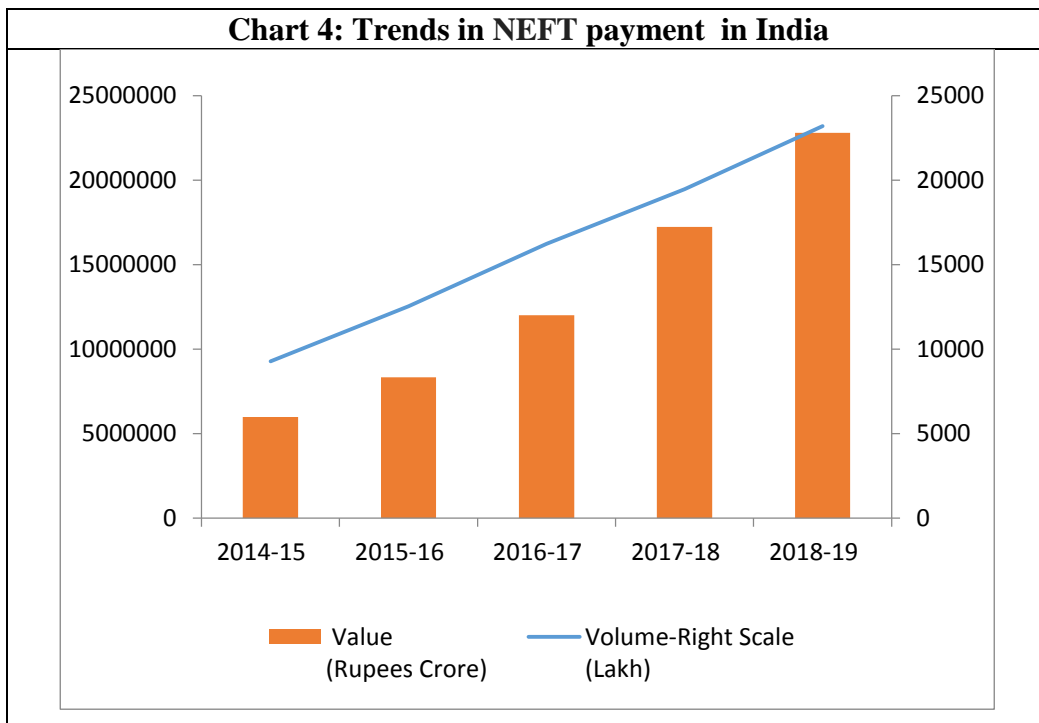


Source: Database on Indian Economy, RBI

There has been substantial growth in e-payments by government and also in digital infrastructure in terms of mobile networks. The Aadhaar-enabled electronic Know Your Customer and the smartphone revolution has also helped explosion in digital payment options this is the main reason why there has been a substantial increase in transactions through RECS.

#### 4.1.3 NEFT

NEFT is a nation-wide payment system that allows transfer of funds from one bank account to another. Individuals, firms and corporates can transfer the money from one bank branch to any other bank account held by individual, firm or corporate in the country. . The graph below shows the increasing trends in NEFT across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of NEFT and right hand side show the volume of NEFT and years are plotted on the x axis.

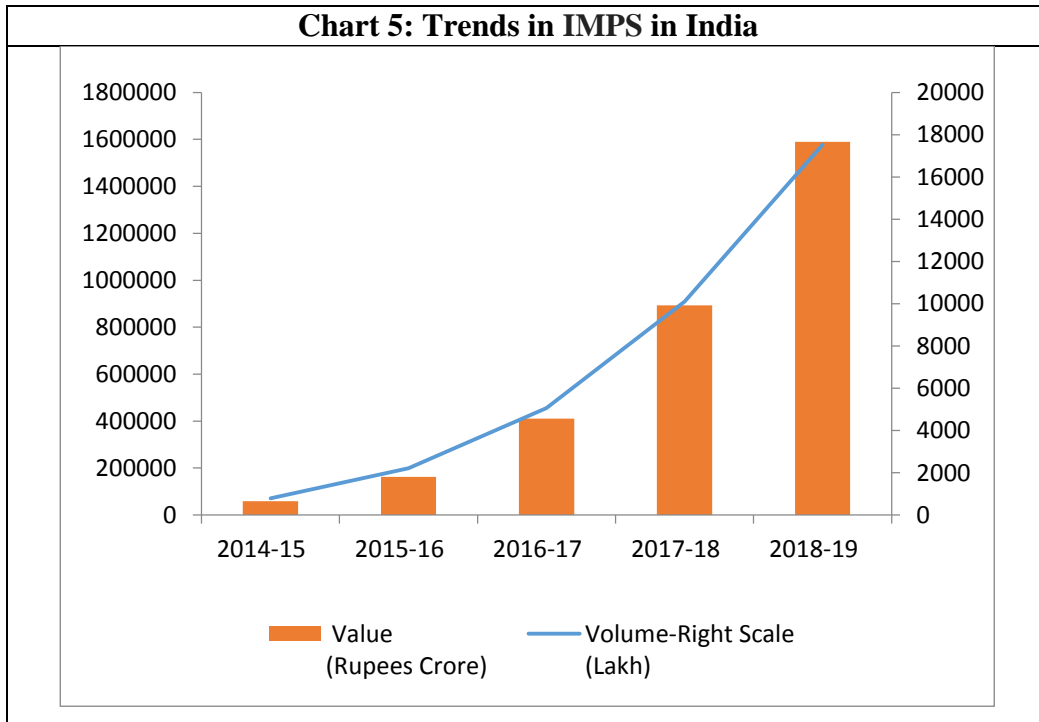


Source: Database on Indian Economy, RBI

Safe and Effective – For a seamless movement of funds on the Internet, you could opt for NEFT as it helps you transfer any amount of money quickly. Low Processing Charges – Internet banking and NEFT are flexible payment options which are very economical this is the main reason why transactions through NEFT show a rising trend across the years.

#### 4.1.4 Immediate payment services

Immediate Payment Service is an instant payment inter-bank electronic funds transfer system in India. IMPS offer an inter-bank electronic fund transfer service through mobile phones. Unlike NEFT and RTGS, the service is available 0800 hours to 2000 hours throughout the year including bank holidays. . The graph below shows the increasing trends in IMPS across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of IMPS and right hand side show the volume of IMPS and years are plotted on the x axis.



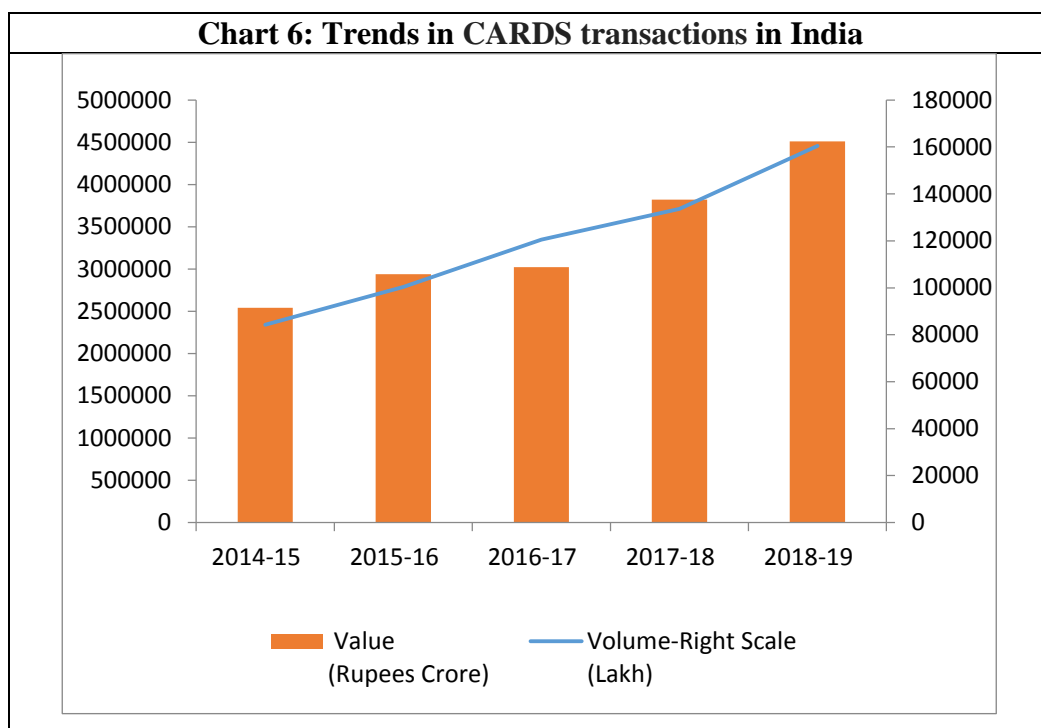
Source: Database on Indian Economy, RBI

The Main reason behind such a gradual rise in both value as well as volume is because Unlike NEFT and RTGS, the service is available 0800 hours to 2000 hours throughout the year including bank holidays also IMPS serves you with the Debit and Credit Confirmation by SMS **immediately**. Using IMPS the money will be credited in the beneficiary's account within a few seconds. IMPS are safe, secure and cost-effective. IMPS have no minimum amount limit on transactions of funds.

#### 4.1.5 Cards

Cards are another source for transaction where payments can be done digitally without using cash. . The graph below shows the increasing trends in cards across the years (2014-15) to

(2018-19) where y axis on the left hand side shows the value of cards and right hand side show the volume of cards and years are plotted on the x axis.



Source: Database on Indian Economy, RBI

The tremendous growth in use of cards may be attributable to the push provided through the RuPay cards under the Pradhan Mantri Jan Dhan Yojana (PMJDY), increase in the number of POS terminals and various incentives provided by the Government and merchants for digital payments.

The tremendous growth in use of debit cards may be attributable to the push provided through the RuPay cards under the Pradhan Mantri Jan Dhan Yojana (PMJDY), increase in the number of POS terminals and various incentives provided by the Government and merchants for digital payments which has substantially increased the customer transactions.

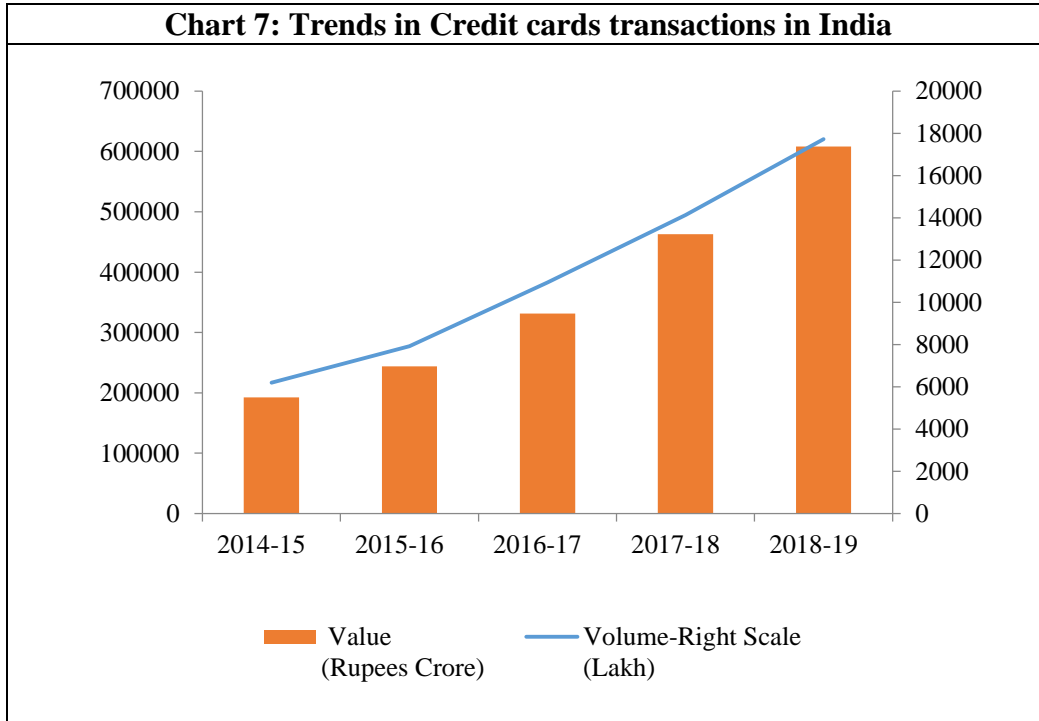
Initiatives such as UPI, PPI, and significant expansion in access to RuPay debit card through Jan-Dhan Accounts and Aadhar based direct benefit transfers (DBTs) have helped significantly in popularising and inculcating the habit of digital payments.

### **Credit cards**

A credit card is a card which allows people to buy items without cash. When they buy something, a sales clerk uses it to charge the money needed to their account, so the person will



pay later. Credit cards are usually small plastic cards with a unique number attached to an account. The graph below shows the increasing trends in credit cards across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of cards and right hand side show the volume of credit cards and years are plotted on the x axis.

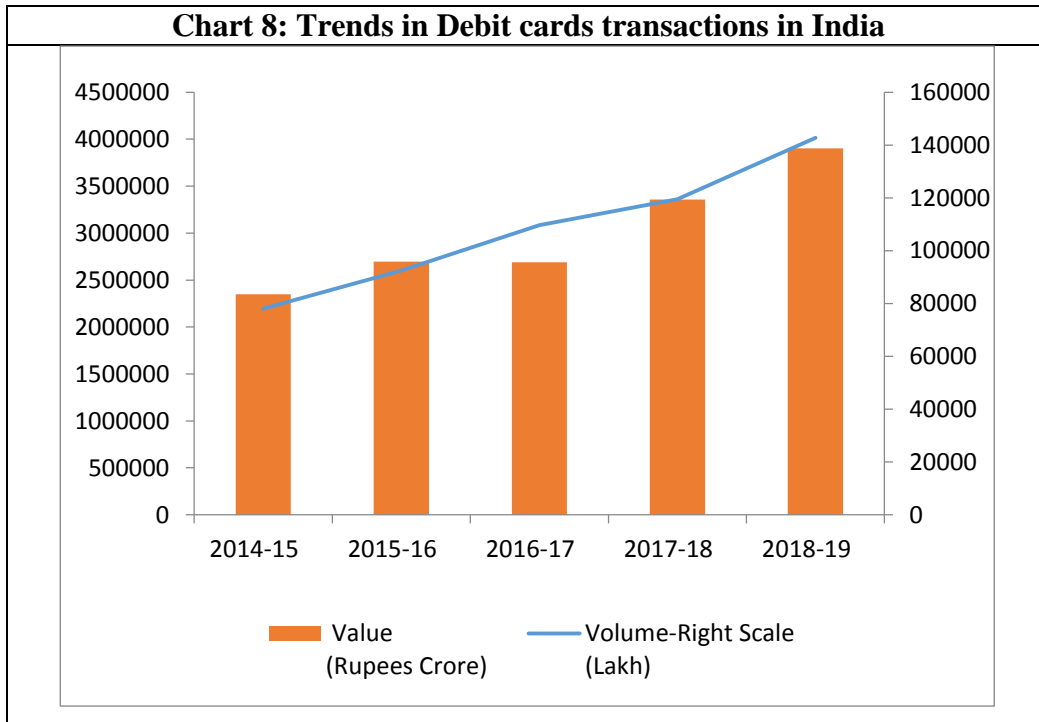


Source: Database on Indian Economy, RBI

The tremendous growth in use of credit cards may be attributable to the push provided through the RuPay cards under the Pradhan Mantri Jan Dhan Yojana (PMJDY), increase in the number of POS terminals and various incentives provided by the Government and merchants for digital payments.

### Debit cards

Debit card is a card which allows the holder to transfer money electronically from their bank account when making a purchase. The graph below shows the increasing trends in debit cards across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of cards and right hand side show the volume of debit cards and years are plotted on the x axis.

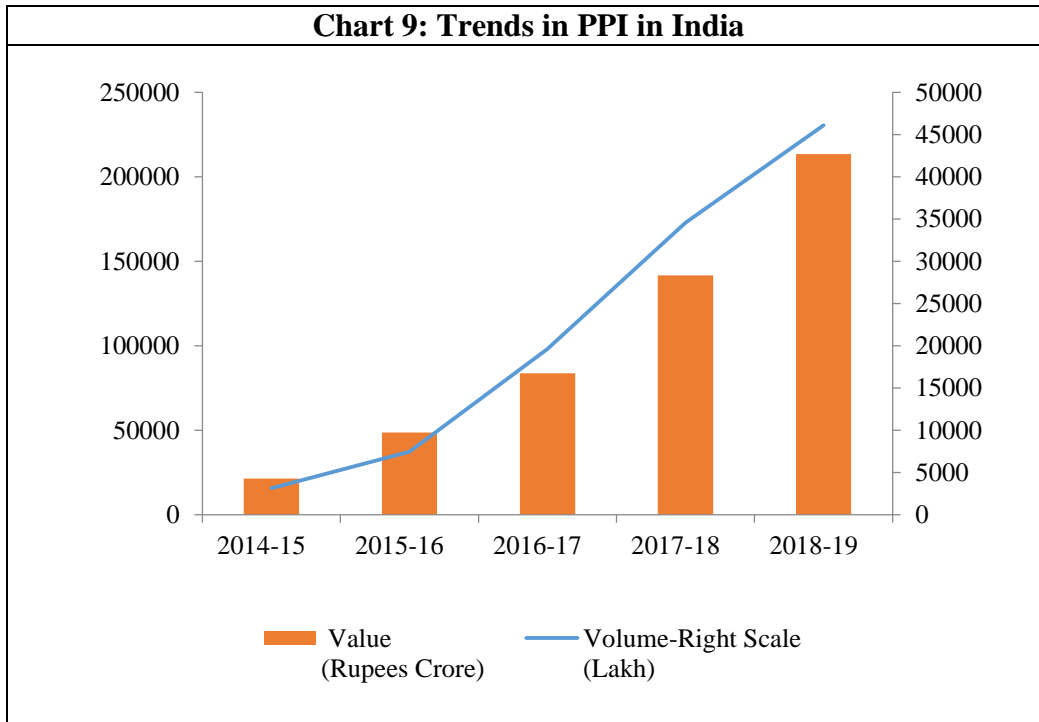


Source: Database on Indian Economy, RBI

The tremendous growth in use of debit cards may be attributable to the push provided through the RuPay cards under the Pradhan Mantri Jan Dhan Yojana (PMJDY), increase in the number of POS terminals and various incentives provided by the Government and merchants for digital payments.

#### 4.1.6 Prepaid Payment Instruments (PPI)

**Prepaid payment instruments** are those which facilitate purchase of goods and services against the value stored on such **instruments**. The value stored on such **instruments** represents the value paid for by the holder, by cash, by debit to a bank account, or by credit card. The graph below shows the increasing trends in PPI across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of transaction through PPI and right hand side show the volume of transaction through PPI and years are plotted on the x axis.

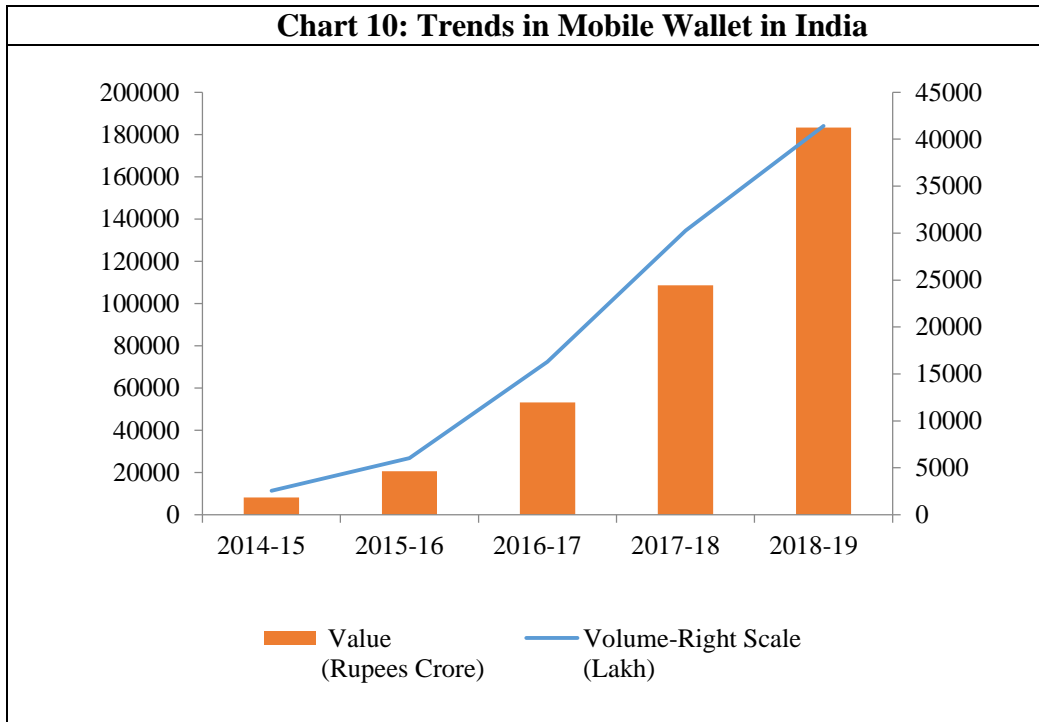


Source: Database on Indian Economy, RBI

The reason for such a gradual rise in trends is Prepaid cards are akin to debit card except that a person pre-loads the card with desired amount. Prepaid card provides lots of benefits including but not limited to convenience, secure access to funds, and control over spending and safe payments. The awareness for prepaid cards is growing gradually

#### 4.1.7 Mobile wallet

A mobile wallet is a virtual wallet that stores payment card information on a mobile device. Mobile wallets are a convenient way for a user to make in-store payments and can be used at merchants listed with the mobile wallet service provider. The graph below shows the increasing trends in m-wallet across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of transaction through m-wallet and right hand side show the volume of transaction through m-wallet and years are plotted on the x axis.

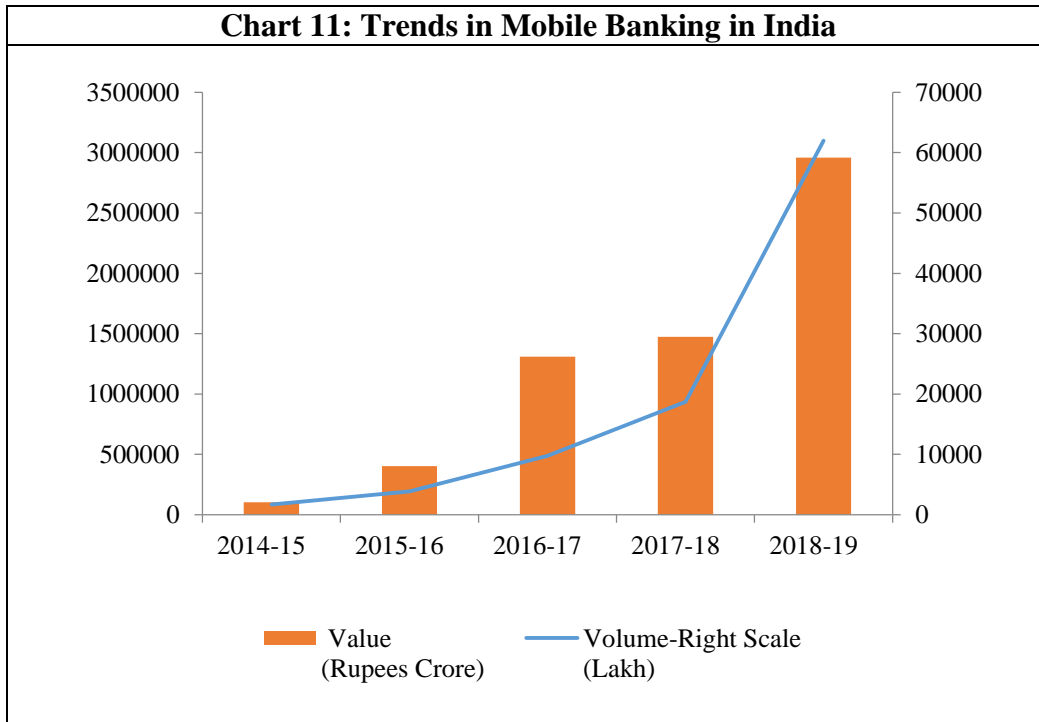


Source: Database on Indian Economy, RBI

The main reason for this increasing trend is they may help to reduce fraud. The data stored in **mobile wallets** is encrypted, meaning your actual card account numbers aren't transmitted while making a payment, they can save you time, you can trim your **wallet** contents, you can shop online on the go, and you still receive rewards.

#### 4.1.8 Mobile banking

Mobile banking refers to the use of a smartphone or other cellular device to perform online banking tasks while away from your home computer, such as monitoring account balances, transferring funds between accounts, bill payment and locating an ATM. The graph below shows the increasing trends in mobile banking across the years (2014-15) to (2018-19) where y axis on the left hand side shows the value of transaction through mobile banking and right hand side show the volume of transaction through mobile banking and years are plotted on the x axis.

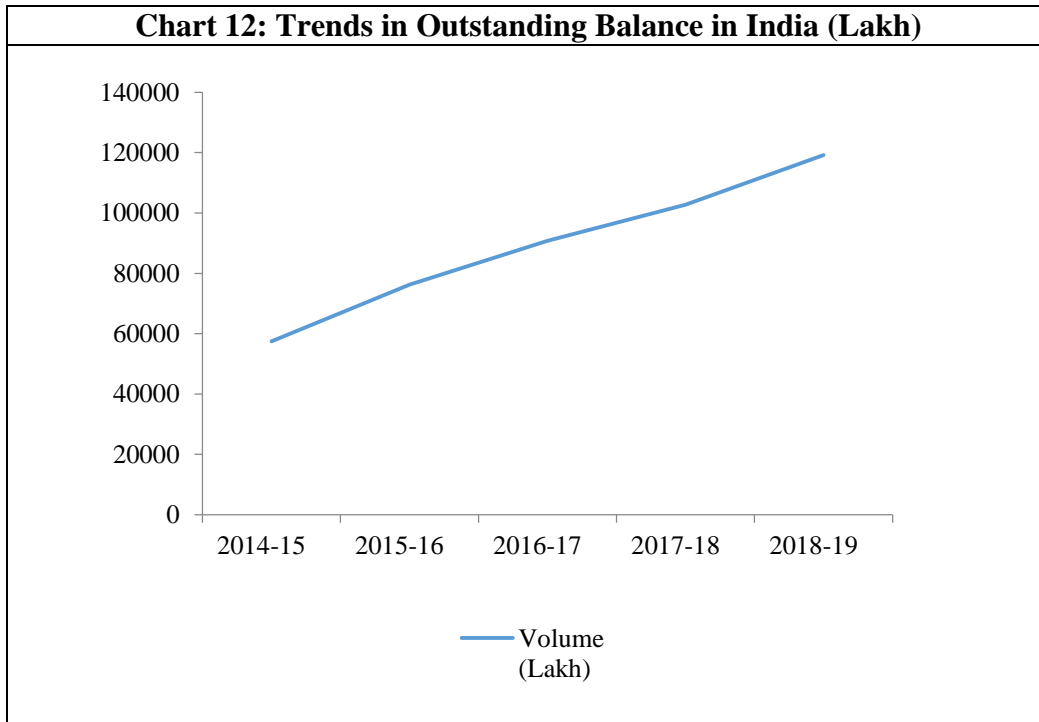


Source: Database on Indian Economy, RBI

The main reason for this increasing trend is Mobile Banking is said to be more secure and risk-free than online Internet Banking. With the help of Mobile, Banking user can transfer funds, and pay bills, checking account balance, study your recent transaction, block your ATM card, etc.

#### 4.1.9 Credit Card Outstanding Balance

Outstanding balance is the amount you owe the bank on your credit card. Your credit card outstanding balance is an aggregate of unpaid charges billed to your card during a particular month, it includes: Purchases. Returns. . The graph below shows the increasing trends in cards outstanding across the years (2014-15) to (2018-19) where y axis on the left hand side shows the volume of amount outstanding through cards and years are plotted on the x axis.



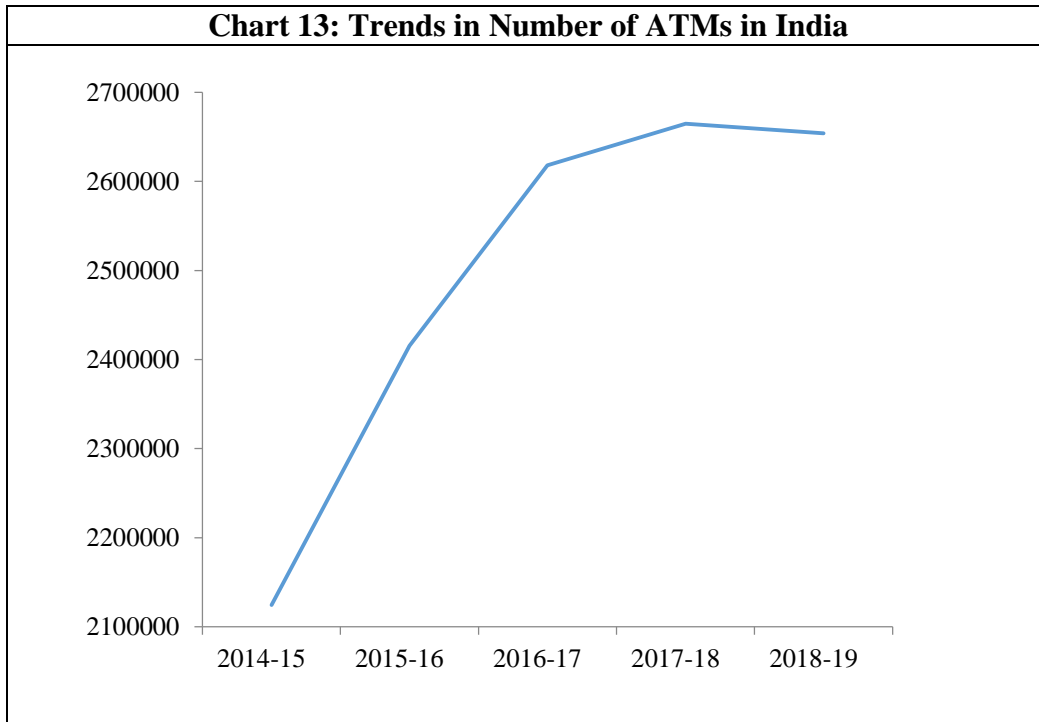
Source: Database on Indian Economy, RBI

The main reason behind this increasing trend is that now more and more people are switching to digital payments and thus outstanding shows a gradual rise in volume outstanding.

#### **4.1.10 Infrastructure**

##### **Number of ATMS**

Number of ATMs. The graph shows a slow increase in number from (14-15) to (16-17) and falls slowly after that. The Y axis shows the number of banks present and the x-axis shows the years.

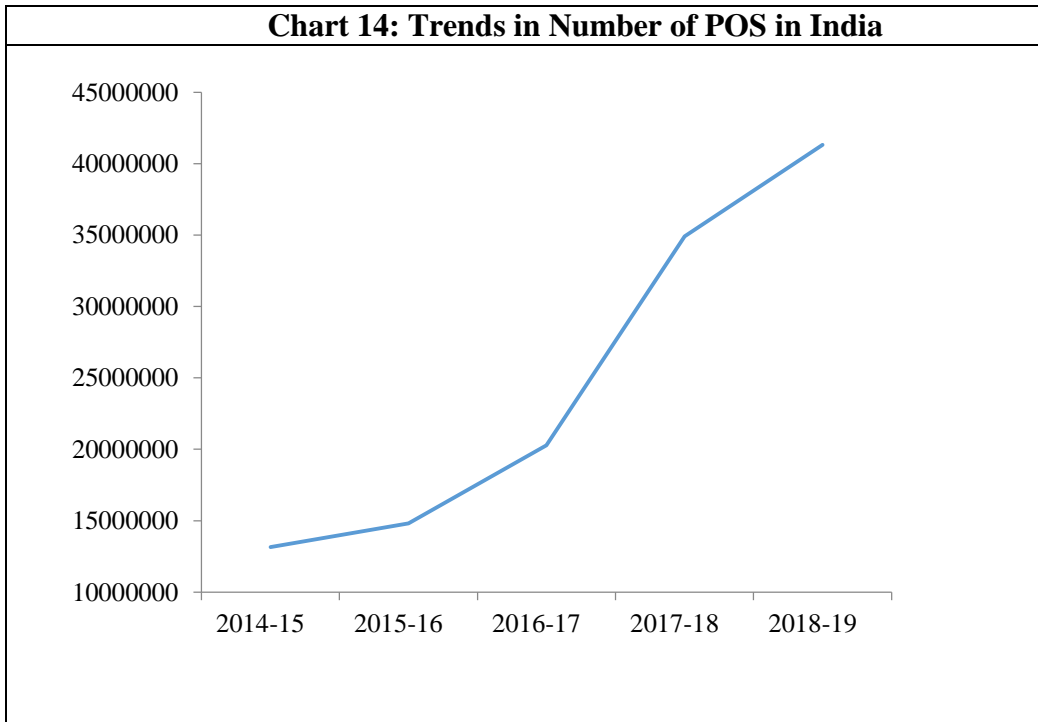


Source: Database on Indian Economy, RBI

The main reason behind decline is that banks and ATM operators struggle to absorb the cost of software and equipment upgrades mandated by the central bank last year to bolster security.

### **POS**

A point of sale (POS) is a place where a customer executes the payment for goods or services and where sales taxes may become payable. A POS transaction may occur in person or online, with receipts generated either in print or electronically. The graph shows an increase in number of POS across years where number of POS are plotted on the Y-axis and years on X axis.

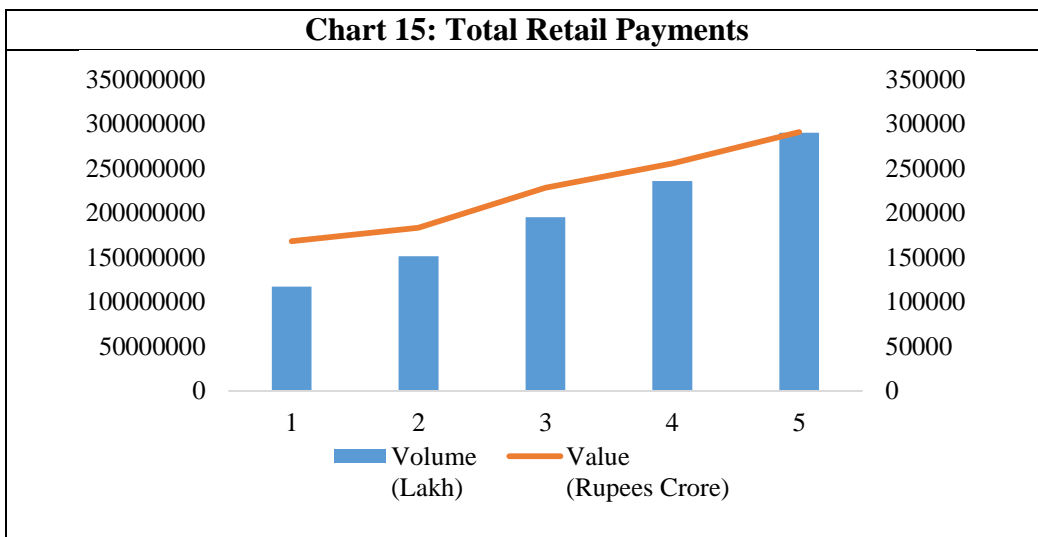


Source: Database on Indian Economy, RBI

The main reason behind this rise is increased efficiency, ease of use, expanded Payment Capabilities, Greater Accuracy, Inventory Management and Employee Management.

#### 4.1.11 Overall Digital Payments

Finally plotting all the transaction types value and volume across the years where value is plotted on left Y axis and volume on right Y axis and years on x axis we can see that overall transactions through digital payments has increased across the years.



Source: Database on Indian Economy, RBI



## **4.2 Primary Data Analysis**

Current section is devoted to the analysis of data collected from the primary sources in the field. The section is further divided into two parts. Section 4.2.1 discusses about descriptive statistics of each variable in the questionnaire and section 4.2.2 deals with econometric analysis.

### **4.2 Descriptive Statistics**

The data for 519 retailers was collected from Mahbubnagar (269 retailers) and Nalgonda (250 retailers). The questionnaire for the survey was divided into six parts for the gaining clear understanding about retailers' acceptance of cashless methods. The first part of the questionnaire dealt with the general profile of the respondents. Second part of the questionnaire captures information on the overall financial inclusion of the retailers in these districts. The sections includes discussion on bank accounts, digital mode usage for the personal transactions as well as digitalization of the daily business affairs. Further, the next part of the questionnaire is devoted to the payments by customers in the retail shops through debit/credit cards. Subsequent section deals with the usage of mobile phone for the payments to these retailers followed by discussion on online/internet payments by the customers to the retailers. The last part of the questionnaire discusses about overall payment system in the retail shops and the confidence of the retailers regarding non-cash methods. The data analysis and summary of the findings are presented section wise.

#### **1. Profile**

In this part, we will describe the profile of the respondents included in our study. This will broadly include their socio-economic background and. information about their business. As mentioned above the sample included 519 retailers, collected from Mahbubnagar (269 retailers) and Nalgonda (250 retailers).

#### ***Individual characteristics***

We will first discuss the education profile of the respondents (Table 1). The educational level of the respondents was good in the sense that around 98% of the business owners had education of senior secondary or above. Other important point is that none of the respondents was illiterate and hence, had familiarity with reading, writing and numerical literacy as all of them had at least complete primary education. Since, educational level of users is expected to

have positive association with usage of digital or electronic payments, the profile of respondents in Mahbubnagar and Nalgonda was favourable for adoption of digital modes.

<b>Table 1: Education profile of the respondents</b> (% of the respondents)				
<b>Districts/Education Level</b>	<b>Graduation &amp; above</b>	<b>Senior Secondary</b>	<b>Up to Middle</b>	<b>Up to Primary</b>
<b>Mahbubnagar</b>	42.8	55.0	2.2	0.0
<b>Nalgonda</b>	40.0	58.0	1.6	0.4
<b>Total</b>	41.4	56.5	1.9	0.2

In terms of the gender break-up, the most of the respondents were males (Table 2). To be specific only 4.1% and 4.4% of the respondents were females in Mahbubnagar and Nalgonda districts, respectively. Though not focus of our study, but this points out gender inequality when it comes to owning businesses or services. This can be an area for improvement by taking appropriate steps to encourage entrepreneurship among the women. This is also important to design skilling programmes focussed on women and at the same time, making society more accommodating and favourable for women engaging in businesses.

<b>Table 2: Gender profile of the respondents</b> (% of the respondents)		
<b>Districts/Gender</b>	<b>Female</b>	<b>Male</b>
<b>Mahbubnagar</b>	4.1	95.9
<b>Nalgonda</b>	4.4	95.6
<b>Total</b>	4.2	95.8

We also collected data on the age of the respondents (Table 3). This was done as age is expected to be positively related to digital and electronic payments usage. This is because younger generation people are more comfortable and aware of the use of technological gadgets and software. Hence, younger business owners are expected to have higher probability of using digital payments for their transaction needs.

Table 3 exhibits the age profile of the respondents in both the districts. Maximum retailers in Nalgonda were found to be in the age group of 30-39 years while in Nalgonda 57.09% of the retailers were found to be in the age group of 40 and above.

<b>Table 3: Age profile of the respondents</b> (% of the respondents)			
<b>Districts/Age</b>	<b>Below 30 years</b>	<b>30-39 years</b>	<b>40 &amp; above</b>
<b>Mahbubnagar</b>	15.3	27.6	57.1
<b>Nalgonda</b>	18.0	54.4	27.6
<b>Total</b>	16.6	40.5	42.9

### ***Business characteristics***

Now we will discuss the features of the businesses covered under our study. First we enquired about the ownership status of the shop (Table 4). In both the districts, the majority of the business persons were operating from rented outlets. We also enquired whether their shops were registered under Goods and Service Tax (GST) and with their local municipalities (Table 5 and 6). This information was sought as registration with authorities can have a bearing on use of digital and non-cash modes of payments. Anecdotally, the shopkeepers not registered with tax and other authorities avoid using digital and electronic modes of payments as they may want to avoid digital trail of their businesses. This may especially be true for shops and businesses with high turnover for tax avoidance. We included these variables to quantitatively see if there is any association between GST and municipality registration with use of electronic modes of payment. The data shows that only some of the shops were GST registered. This may be because since most of these businesses, as we will see later, had low turnovers. Most of these shops were small outlets and hence, may not have registered with GST. In contrast, the registration with municipalities was much higher. In fact in Nalgonda, 9 out of 10 shops were registered with their local municipalities. Hence, most of the outlets covered in our study were formal to the extent that they were municipality registered but not many were covered under GST regime, mostly owing to their small size of businesses.

<b>Table 4: Status of ownership of the shops (% of the respondents)</b>		
<b>Districts/Status</b>	<b>Rented</b>	<b>Owned</b>
<b>Mahbubnagar</b>	63.9	36.1
<b>Nalgonda</b>	68.4	31.6
<b>Total</b>	66.1	33.9

<b>Table 5: GST registration of the business (% of the respondents)</b>		
<b>District/ Response</b>	<b>No</b>	<b>Yes</b>
<b>Mahbubnagar</b>	65.1	34.9
<b>Nalgonda</b>	79.2	20.8
<b>Total</b>	71.9	28.1

<b>Table 6: Registration with municipality of the business (% of the respondents)</b>		
<b>District/Status</b>	<b>No</b>	<b>Yes</b>
<b>Mahbubnagar</b>	23.1	76.9
<b>Nalgonda</b>	7.2	92.8

<b>Total</b>	15.4	84.6
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We also had a series on questions to find out the characteristics of businesses in terms of size and customers' footfalls (Table 7 and 8). The average monthly revenue is proxy for size of the business in our study. About one-third of the respondents in both the districts shared that their average monthly revenue was between Rs. 10000 and Rs. 20000. Around one in two shops had revenue in range of Rs. 20000 and Rs. 30000. The lowest proportion of the business was has turnover varying from Rs. 5000 to Rs. 10000. In terms of average number of customers served in a day, the range of 40-80 customers was the most common with around 40% of the shops catering to 40-80 customers daily. Around quarter of the respondents shared that they interacted with more than 120 customers in a day. This data shows that scope of use of digital modes in surveyed businesses is there.

<b>Table 7: Average monthly revenue (In rupees)</b>				
<b>(% of the respondents)</b>				
<b>Districts/Revenue</b>	<b>5000-10000</b>	<b>10000-20000</b>	<b>20000-30000</b>	<b>Above 30000</b>
<b>Mahbubnagar</b>	2.6	31.3	49.3	16.8
<b>Nalgonda</b>	3.2	34.0	53.6	9.2
<b>Total</b>	2.9	32.6	51.4	13.1

<b>Table 8: Daily average customers</b>				
<b>(% of the respondents)</b>				
<b>Districts/Number</b>	<b>Below 40</b>	<b>40-80</b>	<b>80-120</b>	<b>120 &amp; More</b>
<b>Mahbubnagar</b>	12.6	43.5	19.7	24.2
<b>Nalgonda</b>	8.8	44.4	19.6	27.2

### ***Digital Infrastructure***

The adoption of electronic modes of transaction is contingent on good digital infrastructure in terms of payment devices and decent internet connections. While card transactions need point of sale machines, commonly known as swipe machines, the mobile wallets and apps can work on smart phone. In this section we will evaluate the status of the digital infrastructures in the shops covered in our study. We first tried to find out how prevalent the possession and usage of the smart phone is. The ownership of smart common was universal in Mahbubnagar and near universal in Nalgonda.

In this preliminary profile survey of the retailer, we asked questions about mobile/smart phone availability, internet speed, stability of the internet connection etc., which is given in table 9 to 12. Out of total 519 surveyed retailers, 94.4% had smart phones and the statistics was almost same for both the districts. Similarly, it is found that 97.9% are using mobile internet, with availability being near universal in both the districts. However, the internet stability varied across two districts as depicted in data collected. About half of the respondents in Mahbubnagar shared that their internet was stable. This proportion fell to 28.4% in Nalgonda with 71.6% of the respondents rating their connection as not stable. As far as speed of the internet was concerned situation was much better in both the states. The respondents felt that their internet speed was fast. This data indicates that the basic infrastructure for the digital payment was present in both the districts, though there was scope of improvement in internet's stability.

<b>Table 9: Type of phone owned (% of respondents)</b>			
<b>Districts/Type</b>	<b>Basic Phone</b>	<b>Smart Phone</b>	<b>Both</b>
Mahbubnagar	0.0	94.8	5.2
Nalgonda	2.8	94.0	3.2
<b>Total</b>	1.3	94.4	4.3

<b>Table 10: Mobile internet availability (% of respondents)</b>		
<b>District/Availability</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	0.4	99.6
Nalgonda	4.0	96.0
<b>Total</b>	2.1	97.9

<b>Table 11: Availability of stable internet (% of respondents)</b>		
<b>Districts/Stable Internet</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	52.1	47.9
Nalgonda	71.6	28.4
<b>Total</b>	61.5	38.5

<b>Table 12: Speed of internet at shop (% of respondents)</b>		
<b>Districts/Speed</b>	<b>Fast</b>	<b>Slow</b>
Mahbubnagar	98.5	1.5
Nalgonda	96.7	3.3
<b>Total</b>	97.6	2.4

## 2. Financial Inclusion

This section is devoted to the overall financial inclusion of the respondents. The financial inclusion is important foundation to further cause of the digitalization of payments. The people who are financially included will be quicker to adopt digital payments. Hence, we included a module on financial inclusion which covered questions on availability of the accounts, their usage-type and frequency, ATM card and internet banking usage as well as digitalization of business in terms of account maintenance and types of bills given. All the respondents, i.e., 100% of business owners shared that they had bank accounts. Further, these accounts were being used for withdrawing and depositing on a regular basis universally. This shows that level of financial inclusion in terms of banking accounts was high among the business owners covered in our study. Most of the respondents shared that they had saving accounts with only 14.1% of the respondents in Mahbubnagar and 6.8% in Nalgonda having current account (Table 13). This may be because most of the businesses were small in size and hence, may not have required current accounts.

<b>Table 13: Type of account (% of respondents)</b>		
<b>District/Type</b>	<b>Current Account</b>	<b>Savings Account</b>
<b>Mahbubnagar</b>	14.1	85.9
<b>Nalgonda</b>	6.8	93.2
<b>Total</b>	10.6	89.4

Now we turn to the discussion of the data related to ATM debit card. It is interesting to note that although one of the districts is low performing in terms of financial inclusion and the other one is the topmost performer, the responses related to usage of ATM/debit card was almost similar between these two districts, which were in turn mostly encouraging. The possession of the ATM-debit cards was near universal (Table 14). The ATM were used for cash withdrawals and making payments by almost all the card owners (Table 15 and 16). Hence, it can be safely stated that respondents in our survey with well-versed with use of ATM cards and were using it for their cash requirements and making payments as well.

<b>Table 14: Own ATM-Debit card (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	0.4	99.6

Nalgonda	0.4	99.6
<b>Total</b>	0.4	99.6

<b>Table 15: Use ATM/Debit card for withdrawal (% of respondents)</b>		
<b>District/ Response</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	0.7	99.3
Nalgonda	0.0	100.0
<b>Total</b>	0.4	99.6

<b>Table 16: ATM card for making payments (% of respondents)</b>		
<b>Districts/</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	3.7	96.3
Nalgonda	2.0	98.0
<b>Total</b>	2.9	97.1

However, when we enquired about the mode of withdrawing cash, the results were rather surprising. Only one in ten people relied exclusively on ATM cards for withdrawing the money (Table 17). The highest proportion of respondents, i.e. 62.3% in Mahbubnagar and 96.4% in Nalgonda shared that they depended on ATM vending machines as well as bank counters and/or post office outlets for withdrawing cash.

<b>Table 17: Mode of withdrawing cash</b>			
<b>Districts/Response</b>	<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>ATM Machine</b>	0.8	1.2	1.0
<b>Bank/post office/FI counter</b>	0.8	0.0	0.4
<b>ATM Machine &amp; BC Agent</b>	18.6	2.4	10.8
<b>ATM Machine &amp; Bank/post office/FI counter</b>	62.3	96.4	78.8
<b>ATM Machine, Bank/post office/FI counter &amp; BC Agent</b>	17.5	0.0	9.1

Since the objective of the study is to analyse the usage of cashless modes of payments, we also enquired about the usage of internet and online banking in the questionnaire. When asked about the usage of online banking, majority of the respondents, i.e., 81.9% (88.8% for Mahbubnagar and 74.4% for Nalgonda) stated that they were not using online or internet banking (Table 18). This shows that adoption of internet banking among the respondent was low.

<b>Table 18: Use online/internet banking (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	88.8	11.2
Nalgonda	74.4	25.6
<b>Total</b>	<b>81.9</b>	<b>18.1</b>

We also had a series of questions to see which sources respondents used to take credit. This was important as it helped us understand that their links with formal and informal sources of credit. The results showed that borrowing from bank was widely prevalent among respondents in both the districts with proportion of bank borrowers at 94.2% (95.2% from Mahbubnagar and 93.2% from Nalgonda). The trade credit where the suppliers supply on credit was also prevalent with around nine out of ten people using that mode for their borrowing needs (Table 20). The credit from friends and relatives was also common though not to the extent of the formal channel of bank or institutional credit (Table 21). These results are encouraging in the sense that more people were reliant on banks or other institutions for credit rather than their relatives or friends.

<b>Table 19: Borrowed money in last two months from banks/Financial Institutions/chit fund companies (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	4.8	95.2
Nalgonda	5.6	94.4
<b>Total</b>	<b>5.2</b>	<b>94.8</b>

<b>Table 20: Borrowed money in last two months from supplier through supply credit (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	4.8	95.2
Nalgonda	6.8	93.2
<b>Total</b>	<b>5.8</b>	<b>94.2</b>

<b>Table 21: Borrowed money in last two months from family/friends/relatives/neighbours (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
Mahbubnagar	20.5	79.5
Nalgonda	31.2	68.8
<b>Total</b>	<b>25.6</b>	<b>74.4</b>



We also tried to under the use of technology in maintaining day to day business affairs. This was done by asking couple of questions on way of maintaining accounts and types of bills being given by the shops (Table 22 and 23). However, the use of technology was not prevalent for account keeping as majority of the business owners were maintaining their accounts manually on physical registers. Even for billing, manual bills on papers were most common. However, reason for the same may be the small size of the shops covered in our study as their size of business did not require sophisticated technology of account keeping.

<b>Table 22: Way for maintaining accounts (% of responses)</b>				
<b>District/Response</b>	<b>Computer</b>	<b>Don't keep</b>	<b>Manually in register / dairy</b>	<b>Mentally</b>
Mahbubnagar	0.4	0.4	98.8	0.4
Nalgonda	2.8	0.4	95.6	1.2
<b>Total</b>	1.5	0.4	97.3	0.8

<b>Table 23: Type of bills (% of responses)</b>			
<b>District/Response</b>	<b>Don't give bills</b>	<b>Paper bills</b>	<b>Printed bills</b>
Mahbubnagar	4.8	91.1	4.1
Nalgonda	3.2	80.4	16.4
<b>Total</b>	4.1	85.9	10.0

### **3. Debit/Credit Card Use**

Now moving to different modes of payments being used for the payments in shops, we start our discussion with the use of debit/credit cards in the shops that were covered in our study. It was found that around 97.7% of the retailers were aware about the acceptance of payments through debit/credit cards yet the acceptance is not there in 97.7% of the cases in both Mahbubnagar and Nalgonda (Table 24 and 25). The major reason mentioned was that their shop size is small and they did not feel it was important to get PoS machines for their small shops.

<b>Table 24: Awareness about acceptance through debit/credit cards (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
<b>Mahbubnagar</b>	4.1	95.9
<b>Nalgonda</b>	0.4	99.6
<b>Total</b>	2.3	97.7

<b>Table 25: Accepting payments through debit/credit cards (% of respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
<b>Mahbubnagar</b>	96.7	3.4
<b>Nalgonda</b>	98.8	1.2
<b>Total</b>	97.7	2.3

We discussed above only a minor proportion of retailers were accepting debit/credit card payments. We will now discuss the usage among the business owners who were accepting these payments (Table 26). We observe that in Mahbubnagar 37.5% of the responses mentioned that below 10% of their customers were using cards for transacting whereas 20% to 30% of customers were using cards in case of 62.5% respondents. In Nalgonda equal proportion of responses were reported for below 10%, 10%-20% and 20%-30% of customers using cards for payments. Similar trend was there in the case of proportion of sales through debit/credit cards (Table 27). However, these proportions should be interpreted keeping in mind that only miniscule of the respondents were accepting debit/credit cards, so in absolute terms these are very small numbers.

<b>Table 26: Percentage of customers making payments through cards (% of respondents)</b>			
<b>District/Response</b>	<b>Below 10%</b>	<b>10% - 20%</b>	<b>20% - 30%</b>
<b>Mahbubnagar</b>	37.5	0.0	62.5
<b>Nalgonda</b>	33.3	33.3	33.3
<b>Total</b>	36.4	9.1	54.5

<b>Table 27: Proportion of sales paid through debit/credit cards (% of respondents)</b>			
<b>District/Response</b>	<b>Below 10%</b>	<b>10% - 20%</b>	<b>20% - 30%</b>
<b>Mahbubnagar</b>	50.0	0.0	50.0
<b>Nalgonda</b>	33.3	33.3	33.3
<b>Total</b>	45.5	9.1	45.5

We also analysed the change in proportion of customers making payment through debit card. This was done to understand whether with time and constant initiatives being taken by different stakeholders to give boost to less cash economy have yielded desired results. This exercise included data only for the respondents who were using debit cards for transactions at their shops. The results are tabulated below in table 28.

<b>Table 28: Evolution of proportion of customers paying through debit/credit cards (% of respondents)</b>				
<b>Response/ District</b>		<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Customers_3 years back (Before Demonetization)</b>	Zero	50.0	66.7	54.6
	5% & Below	25.0	0.0	18.2
	5 - 10%	25.0	33.3	27.3
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0
<b>Customer_2 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	62.5	66.7	63.64
	5 - 10%	37.5	0.00	27.3
	10 - 20%	0.0	33.3	9.1
	More than 20%	0.0	0.0	0.0
<b>Customer_1 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	37.5	0.0	27.3
	5 - 10%	50.0	33.3	45.5
	10 - 20%	12.5	33.3	18.18
	More than 20%	0.0	33.3	9.1

The reasons given by the retailers about this increase were that their awareness about the same has increased after the demonetization phase. Similar to table 28, table 29 indicates the proportion of sales paid through debit/credit cards and we do observe the similar sort of change as visible in context of table 28.

<b>Table 29: Proportion of sales paid through debit/credit cards (% of respondents)</b>				
<b>Response/ District</b>		<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Sale_3 years back (Before Demonetization)</b>	Zero	50.0	66.7	54.6
	5% & Below	25.0	0.0	18.2
	5 - 10%	12.5	33.3	18.2
	10 - 20%	12.5	0.0	9.1
	More than 20%	0.0	0.0	0.0
<b>Sale_2 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	50.0	66.7	54.6
	5 - 10%	25.0	0.0	18.2

	10 - 20%	25.0	33.3	27.3
	More than 20%	0.0	0.0	0.0
<b>Sale_1 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	37.5	0.0	27.3
	5 - 10%	37.5	33.3	36.4
	10 - 20%	25.0	33.3	27.3
	More than 20%	0.0	33.3	9.1

The usage for sales has increased after demonetization period although the proportion is quite less as almost it is easier and free of charge to use mobile app.

Further, we also tried to gain information about the year of adoption on debit/credit card payment in the shops covered in our study (Table 30). The results were interesting in the sense that in 2018 no business adopted debit/credit payments, while almost one third of the users were using it from the year before demonetization. Most of them already started using them before 2018.

<b>Table 30: Year in which started accepting debit/credit cards for payments (% of the respondents)</b>				
<b>District/Response</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Mahbubnagar</b>	37.5	25.0	37.5	0.0
<b>Nalgonda</b>	33.3	0.0	66.7	0.0
<b>Total</b>	36.4	18.2	45.5	0.0

Now we will discuss about the process and time applied for getting PoS machine which is essential for accepting payments through debit and credit cards. When we enquired how the business owners accepting debit and credit cards got PoS machines, they all shared that it through application to their banks. Though it was told that they did not face any difficulties in getting machine, the waiting time was around 6 months. When asked about the costs involved in installing PoS machines in their shops, the responses ranged from Rs 3,500 to Rs 10,000 as the initial fee for machine and installation.

Further, when asked about the way through which they get POS machine, they all replied that they applied to bank and got it although the proportion who applied was very less and they also revealed that they did not face any difficulty in getting the machine although it took around 6 months' time to get it. We also enquired about the cost of availing the POS machine and the answers ranged from 3500 to 10000 and the proportion of retailers revealing the same was very

less out of 519 respondents. Further, a monthly rental fee in the range of Rs. 400 to Rs. 800 was being paid for these machines. Also for the cost which they have to pay per transaction varied from 0.01% to 1.5%. This explains the low adoption of PoS machines and card payments as the installation of system involved paper work, waiting period and initial as well as monthly payments. In contrast, the payments through mobile payment apps was much more convenient in terms of installation as we have discussed in detail in later section. Mobile apps do not involve any costs. In fact, in contrast their use included incentives in form of cash back offers.

When asked about the experience about the usage of POS machines, we got mixed responses from the retailers so it is difficult to comment on this. We also asked as if there is a minimum payment below which you don't accept debit/credit payments and what is that limit and we again got the mixed response. Very few said Rs.300 as the limit and two or three of them said Rs. 500. But the number is so minor in this case that it is very difficult to come to any conclusion with low number of data points.

It is interesting to know when asked about the reason of not accepting the debit/credit payments and almost all of them said that they have a small business they don't need it. Also the mobile app takes care of the cashless banking part so it is not required. Out of 519, 490 of the retailers never applied for POS machine and minor of them who applied, said their application is in process. None of them said that it is rejected.

The data reveals that almost all (94.5%) the retailers did not apply for POS machines and the major reason given was that since their sales were small, they never felt the need for the same and further they did not want to go into this cumbersome procedure of applying (Table 31). Further, when asked if they are interested to take POS machine if offered, almost half of them replied no and half of the retailers said yes, further indicating that POS machines did not enjoy much popularity (Table 32).

<b>Table 31: Applied for PoS (% of the respondents)</b>		
<b>District/Response</b>	<b>No</b>	<b>Yes</b>
<b>Mahbubnagar</b>	89.6	10.4
<b>Nalgonda</b>	99.6	0.4
<b>Total</b>	94.5	5.5

<b>Table 32: Interested in POS machine, if offered (% of the respondents)</b>
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District/Response	No	Yes
Mahbubnagar	43.5	56.5
Nalgonda	58.7	41.3
Total	51.2	48.8

#### 4. Customer Payments – Mobile Apps

In this section, we will discuss the situation of mobile app payments in two districts. We surveyed the respondents with a question module on mobile apps to understand the usage of various mobile apps. It is found that almost all the respondents were aware about the app usage system for the transactions and majority of them also accept the payments using apps (Table 33 and 34). It is interesting given that most of them said other forms of cashless payment methods were not suited to their shops as they were small businesses, yet they all relied on app usage system to accept payments. Further, when enquired about the different types of mobile apps for the payments, retailers mentioned Paytm, Google pay, Phone Pe, Bheem app, Amazon pay and some were using Bharat Pay as well.

<b>Table 33: Aware about the mobile app payments (% of the respondents)</b>		
District/Response	No	Yes
Mahbubnagar	0.7	99.3
Nalgonda	2.4	97.6
Total	1.5	98.5

<b>Table 34: Accept mobile app payments (% of the respondents)</b>		
District/Response	No	Yes
Mahbubnagar	1.9	98.1
Nalgonda	10.4	89.6
Total	6.0	94.0

Though the acceptability of the mobile apps was very high among the shopkeepers, the analysis of proportion of customers using paying through mobile apps and ratio of sale in mobile apps payment was far from optimal (Table 35 and 36). The proportion of customers using mobile apps for transactions remained under 20% in almost all the shops. The same pattern was observed in the proportion of sales in terms of mobile apps transactions. This show that there is scope for furthering the use of mobile apps as in spite of the infrastructure for mobile apps payment its usage remained low. However, since shops were accepting these apps, impetus to

increase the use of these apps should be focussed more on the customers as businesses shared they were willing to accept the payment through mobile apps.

<b>Table 35: Proportion of customers making payments through mobile apps (% of respondents)</b>			
<b>District/Percent</b>	<b>Below 10%</b>	<b>10% - 20%</b>	<b>20% - 30%</b>
<b>Mahbubnagar</b>	51.5	48.1	0.4
<b>Nalgonda</b>	62.9	33.5	3.6
<b>Total</b>	56.7	41.4	1.8

<b>Table 36: Proportion of sale through mobile apps (% of respondents)</b>			
<b>District/Percent</b>	<b>Below 10%</b>	<b>10% - 20%</b>	<b>20% - 30%</b>
<b>Mahbubnagar</b>	50.4	49.2	0.4
<b>Nalgonda</b>	63.8	33.5	2.7
<b>Total</b>	56.5	42.1	1.4

Further to check about the sustainability of the mobile app payment system, we checked the status within last three year and found that the proportion of customers paying through mobile apps has considerably increased over the period of three years (Table 37). People have devoted the same to demonetization and also commented that since it is easy to use, they provide several offers, the usage has increased. This definitely indicates sustainability of the cashless banking system.

<b>Table 37. Evolution of proportion of customers paying through mobile apps (% of respondents)</b>				
<b>Response/ District</b>		<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Customers_3 years back (Before Demonetization)</b>	Zero	97.7	97.3	97.5
	5% & Below	2.3	1.8	2.0
	5 - 10%	0.0	0.9	0.4
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0
<b>Customer_2 years back</b>	Zero	65.8	73.2	69.2
	5% & Below	25.5	19.6	22.8
	5 - 10%	8.7	6.7	7.8
	10 - 20%	0.0	0.4	0.2
	More than 20%	0.0	0.0	0.0
<b>Customer_1 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	16.7	7.1	12.3
	5 - 10%	57.0	71.0	63.9

	10 - 20%	24.6	20.5	22.7
	More than 20%	0.8	1.3	1.0

The similar sort of question was asked for the proportion of sales in table 38 below, and we observed similar trend there too. Proportion of sales through mobile apps has considerably increased over the period of three years. Reason given again was that it is easy to use, they provide several cash back and other offers and it is hassle free etc.

<b>Table 38. Evolution of Proportion of sales paid through mobile apps (% of respondents)</b>				
<b>Response/ District</b>		<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Sale_3 years back (Before Demonetization)</b>	Zero	97.7	97.3	97.54
	5% & Below	2.3	1.8	2.05
	5 - 10%	0.0	0.9	0.41
	10 - 20%	0.0	0.0	0.00
	More than 20%	0.0	0.0	0.00
<b>Sale_2 years back</b>	Zero	61.4	72.8	66.60
	5% & Below	30.3	19.6	25.41
	5 - 10%	8.0	7.14	7.58
	10 - 20%	0.4	0.5	0.4
	More than 20%	0.0	0.0	0.0
<b>Sale_1 years back</b>	Zero	0.4	0.0	0.2
	5% & Below	14.8	6.3	10.9
	5 - 10%	60.2	69.2	64.3
	10 - 20%	24.2	22.3	23.4
	More than 20%	0.4	2.2	1.2

To understand the temporal dimension of mobile apps' adoption, we asked the respondents in which year they adopted the mobile apps for payment at their shops (Table 39). The responses showed that they were hardly any users before the years of demonetization i.e. 2015 and even during the year in which demonetization was done. However in succeeding years i.e. 2017 and 2018 a lot of respondents were on-boarded on these applications. The reasons for the same include technological innovations like United Payment Interface's integration with wallets, BHIM app, Bharat Pay QR. The another factor is also the increased competition in this field under which many domestic as well as foreign players are racing to gain leadership in mobile payments apps. This has led to different companies approaching small merchants in



towns to start using their platforms and at the same time offering them attractive incentives in form of cashback offers. The advantage of the same has been aggressive marketing due to which the business owners are being trained at their shops itself to use these apps with no upfront costs, both in money and time terms, involved. This made it convenient for them to start using these apps.

<b>Table 39: Year of adoption of mobile app (% of respondents)</b>				
<b>District/Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Mahbubnagar</b>	0.0	3.4	34.6	62.0
<b>Nalgonda</b>	0.5	1.3	25.4	72.8
<b>Total</b>	0.2	2.5	30.4	66.9

When enquired about how they got mobile payment system, maximum of them revealed that representatives or sales person from these companies approached them at their shops to train them about the downloading and installation of apps. This explains near universal adoption of mobile apps as it was very convenient for respondents to install and starting using the same. When asked if they faced any problem during the installation of mobile payment system, maximum of them revealed that there was no problem. However, very few of them mentioned the server issues which led to some difficulties. When asked about the initial cost of installation, monthly rental they pay for the system and the cost that they pay per transaction, they all said none. Hence, the absence of any costs involved in setting these systems is one of the factor for wide adoption of the mobile payment apps.

In terms of experience while using mobile applications for transactions, almost all the respondents told that these apps were easy to use with no one rating it to be difficult (Table 40). This points to the user friendly interface of these apps. Further, the experience of using mobile apps was good for almost all business owners (Table 41). The respondents also shared that there was no minimum threshold for accepting mobile payments.

<b>Table 40: Ease of using mobile apps for payments (% of the respondents)</b>			
<b>District/Response</b>	<b>Easy</b>	<b>Neutral</b>	<b>Difficult</b>
<b>Mahbubnagar</b>	99.6	0.4	0.0
<b>Nalgonda</b>	100.0	0.0	0.0
<b>Total</b>	99.8	0.2	0.0

<b>Table 41: Experience with mobile apps for payments</b> (% of the respondents)			
<b>District/Response</b>	<b>Good</b>	<b>Neutral</b>	<b>Bad</b>
<b>Mahbubnagar</b>	98.9	1.1	0.0
<b>Nalgonda</b>	97.8	2.2	0.0
<b>Total</b>	98.4	1.6	0.0

This analysis reveals that since mobile app payment system is convenient, free of charge and in many cases offering lots of cash back offers to on-board new merchants, it was the most prevalent form of non-cash transactions in our study.

### **5. Online Internet Payments**

As costumers can pay you using online/internet banking as well, using desktops, laptops or mobiles. In this section we will understand the situation as regards internet payments. As with other modes, we started this module by asking about the awareness about online internet payments. The level of awareness was very high with 95.5% in Mahbubnagar and 98.8% in Nalgonda responses showing that business owners were aware of the internet payments (Table 42). The next question was related to the acceptability of the online internet payments for the goods and services in their outlets. Here, we find that acceptability of online payments was very low for customer transactions as only 2 in 10 persons in Mahbubnagar and 1 in 10 persons in Nalgonda shared that they were accepting the online payments (Table 43). This is showing that in case of online payments, the high level of awareness was not translating to the adoption of this mode. We have further investigated the reasons behind the same. But first we will discuss the situation among those accepting online payments in their businesses.

<b>Table 42: Aware about the online/internet payments</b> (% of the respondents)		
<b>District/Response</b>	<b>Yes</b>	<b>No</b>
<b>Mahbubnagar</b>	95.5	4.5
<b>Nalgonda</b>	98.8	1.2
<b>Total</b>	97.1	2.9

<b>Table 43: Accept online/internet payments in your shop from customers</b>
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<b>(% of the respondents)</b>		
<b>District/Response</b>	<b>Yes</b>	<b>No</b>
<b>Mahbubnagar</b>	1.9	98.1
<b>Nalgonda</b>	1.2	98.8
<b>Total</b>	2.9	97.1

Among those who were accepting the online payments from their customers, the proportion of sales through the mode was not substantial. In all the shops covered under our study, all the shops where online payments were accepted, the proportion of customers using the same remained below 20%. In fact, the data showed that the proportion of customers using the mode were even lower in both the district. About 75% of the respondents accepting online payments in Mahbubnagar and 100% in Nalgonda shared that less than 10% of customers were paying through this mode (Table 44). Hence, even among those who were using online payments, the usage remained low in terms of customers making transactions through internet banking. The same pattern was observed in the proportion of sales made through online/internet banking (Table 45).

<b>Table 44: Proportion of customers paying through online/internet banking</b>		
<b>(% of the respondents)</b>		
<b>District/Percent</b>	<b>Below 10%</b>	<b>10%-20%</b>
<b>Mahbubnagar</b>	75.0	25.0
<b>Nalgonda</b>	100.0	0.0
<b>Total</b>	83.3	16.7

<b>Table 45: Proportion of sales paid through online/internet banking</b>		
<b>(% of the respondents)</b>		
<b>District/Percent</b>	<b>Below 10%</b>	<b>10%-20%</b>
<b>Mahbubnagar</b>	75.0	25.0
<b>Nalgonda</b>	100.0	0.0
<b>Total</b>	83.3	16.7

In the case of sustainability of online/internet banking, for both the proportion of customers making payment and proportion of sales through online/internet banking, the usage remains quite low over the period of three years (Table 46 and 47).

<b>Table 46. Evolution of proportion of customers paying through online/internet banking (% of respondents)</b>				
<b>Response/ District</b>		<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Customers_3 years back (Before Demonetization)</b>	Zero	100.0	100.0	100.0
	5% & Below	0.0	0.0	0.0
	5 - 10%	0.0	0.0	0.0
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0
<b>Customer_2 years back</b>	Zero	75.0	100.0	83.3
	5% & Below	25.0	0.0	16.7
	5 - 10%	0.0	0.0	0.0
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0
<b>Customer_1 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	50.0	100.0	66.7
	5 - 10%	50.0	0.0	33.3
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0

<b>Table 46. Evolution of proportion of sales paid through online/internet banking (% of respondents)</b>				
<b>Response/ District</b>		<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Sale_3 years back (Before Demonetization)</b>	Zero	100.0	100.0	100.0
	5% & Below	0.0	0.0	0.0
	5 - 10%	0.0	0.0	0.0
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0
<b>Sale_2 years back</b>	Zero	75.0	100.0	83.3
	5% & Below	25.0	0.0	16.7
	5 - 10%	0.0	0.0	0.0
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0
<b>Sale_1 years back</b>	Zero	0.0	0.0	0.0
	5% & Below	50.0	100.0	66.7
	5 - 10%	50.0	0.0	33.3
	10 - 20%	0.0	0.0	0.0
	More than 20%	0.0	0.0	0.0

As with other non-cash digital modes of transactions, we enquired about the year of adoption of online/internet banking for customers' payments in their business. The results here

were interesting as only no respondents were using online/internet banking before demonetization year (Table 47). In fact, most of the respondents started using online/internet banking in 2018 only with proportion being 75% in Mahbubnagar and 66.7% in Nalgonda, while it was only 25% in Mahbubnagar and 33.3% in Nalgonda during 2017. This showed that adoption of online/internet banking has only happened in recent years.

<b>Table 47: Year of adopting online/internet banking payments (% of the respondents)</b>				
<b>District/Year</b>	2015	2016	2017	2018
<b>Mahbubnagar</b>	0.0	0.0	25.0	75.0
<b>Nalgonda</b>	0.0	0.0	33.3	66.7
<b>Total</b>	0.0	0.0	16.7	88.3

When asked about minimum threshold for online/internet payments, 33.3% of the respondents in Nalgonda said that they have defined a minimum amount of payment below which they do not accept online/internet banking payments while in Mahbubnagar it is only 20% (Table 48). When asked as what is the limit, they did not share the data.

<b>Table 48: Minimum payment threshold for accepting online/internet banking payments (% of the respondents)</b>		
<b>District/Response</b>	Yes	No
<b>Mahbubnagar</b>	20.0	80.0
<b>Nalgonda</b>	33.3	66.7
<b>Total</b>	25.0	75.0

In terms of experience, while for most the use of online and internet banking payments has been easy, there were few instances of it being difficult also in Nalgonda as per the respondents' views (Table 49). Also the overall experience was good for most of the users, though few people in Mahbubnagar rated their experience as bad (Table 50).

<b>Table 49: Ease of using online/internet banking payments (% of the respondents)</b>			
<b>District/Response</b>	<b>Easy</b>	<b>Neutral</b>	<b>Difficult</b>
<b>Mahbubnagar</b>	75.0	25.0	0.0
<b>Nalgonda</b>	66.7	0.0	33.3

<b>Table 50: Experience with online/internet banking payments (% of the respondents)</b>			
<b>District/Response</b>	<b>Good</b>	<b>Neutral</b>	<b>Bad</b>

<b>Mahbubnagar</b>	60.0	20.0	20.0
<b>Nalgonda</b>	66.7	33.3	0.0
<b>Total</b>	62.5	25.0	12.5

## 6. Payments-Overall

### *Customers' Transactions*

In this section we have analysed the data and views of the business owners about the overall situation in the payment arena. We have also tried to understand their level of confidence for using the digital modes of payments for their business activities. This was done through series of questions on these issues results of which are summarized in the tables below along with discussions about the same.

First of all, we asked about the preference of the shopkeepers and business owners regarding the payment options available to them for accepting customers' transactions. Between cash and non-cash methods, the majority of the respondents expressed their preference for the cash payments (Table 51). This result is interesting as it shows that in spite of high coverage of digital modes of payments, especially the wallets, the respondents were still more comfortable dealing in cash. Since almost 9 out of 10 business owners in both the districts preferred cash based payments, we further probed the reasons for the same. Almost all of them revealed that cash is the safest option which has no hassle and no risk. This show that business owners still consider digital payments to be somewhat risky. This was in turn because of the fear of failed transactions for which they have to follow up with the companies. In contrast, the cash based transactions have no such risk involved and the payment is over there and then. Further, since the digital payments are a new development, many of them are still more comfortable in dealing in physical cash.

<b>Table 51: Preference for cash versus non-cash payment mode for customers' transactions (% of the respondents)</b>		
<b>Districts/Modes</b>	<b>Cash</b>	<b>Non-Cash</b>
<b>Mahbubnagar</b>	89.6	10.4
<b>Nalgonda</b>	88.0	12.0
<b>Total</b>	88.8	11.2

We further asked the respondents about their preferred mode for payments among the digital/electronic options for customer transactions. The results were overwhelmingly in favour of the mobile apps (Table 52). This show that in these two towns, the business owners were the most comfortable using the mobile apps for their payment requirements. In fact, in both the

districts preference for mobile wallets was almost universal. This is mainly because of the convenience as the shopkeepers shared that the mobile apps by the private players was adopted by them because of the marketing pitch by these companies. Their sales team came to their shops and set up the payment infrastructure. Hence, it was very easy for them to acquire these wallets. Further, the interface of these apps was reported to be easy and convenient for them. They also shared that using these apps did not involve any fees, making it an affordable for options for customer transactions.

	<b>Debit/Credit Cards</b>	<b>Mobile apps</b>	<b>Internet/Online banking</b>
<b>Mahbubnagar</b>	0.4	99.6	0.0
<b>Nalgonda</b>	0.0	97.9	2.1
<b>Total</b>	0.2	98.8	1.0

### *Suppliers’ transactions*

The customers’ transactions form one part for the shopkeepers, the suppliers’ payment being other significant part. To understand suppliers’ transactions, we asked business owners which mode they used to pay to their suppliers. As expected, most of them using were using combinations of methods to pay their suppliers (Table 53). Among those using only single mode of payment, cash was the most common in Mahbubnagar district. Another highlight was the use of cheques in the supply chain, which was still being used by a large number of respondents in both the districts. However, cash was the most prevalent mode of payments with 512 out of 519 respondents sharing that they use cash for paying their suppliers. In terms of combination, the combination of cash, mobile payments and cheques is more popular.

<b>Modes/District</b>	<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Cash</b>	9.3	1.2	5.4
<b>Cheques</b>	4.8	1.2	3.1
<b>Mobile Apps</b>	0.4	0.4	0.4
<b>Online Transactions</b>	0.4	0.0	0.2
<b>Cash and Cheques</b>	5.6	6.0	5.8
<b>Cash and Mobile Apps</b>	11.9	16.0	13.9
<b>Cheques and Mobile Apps</b>	5.6	2.4	4.1
<b>Cash, Cheques and Debit Card</b>	0.7	0.0	0.4
<b>Cash, Cheques and Mobile Apps</b>	60.2	72.8	66.3

<b>Cash, Cheques and Online Transfers</b>	1.1	0.0	0.6
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Since multiple modes were being used for making payments to suppliers by the respondents covered in the present study, we asked them about the most common mode for the payments to suppliers. The analyses of the responses show that the cash remains the king when it comes to paying suppliers (Table 54). Among the digital modes, the mobile apps are the most common way to paying suppliers. The acceptability by suppliers as well as customers for mobile wallets may be reinforcing the use. The interesting finding is that cheques still remain mode of payment in the supply chain though one 13% of total respondents said it was the most common method. The online transactions remained the least common way of payments showing that online transactions remain somewhat unpopular.

<b>Table 54: Most common method of paying your suppliers (% of the respondents)</b>			
<b>Mode/District</b>	<b>Mahbubnagar</b>	<b>Nalgonda</b>	<b>Total</b>
<b>Cash</b>	63.6	53.0	<b>58.5</b>
<b>Mobile Apps</b>	21.5	35.2	<b>28.1</b>
<b>Cheques</b>	14.6	10.9	<b>12.8</b>
<b>Online Transactions</b>	0.4	0.8	<b>0.6</b>

We also asked the survey participants regarding their suppliers' preferred mode of payment. While majority of the respondent told that their suppliers preferred cash for payments, the proportion varied in two districts (Table 55). In Nalgonda, the preference of cash was higher among the suppliers as 91.5% of the respondent said that suppliers preferred cash as against 72.7% in Mahbubnagar district. However, overall the preference for cash in the supply side remains high and shows that still more efforts are required for changing people's behaviour away from physical money. The digital modes are still not preferred to the extent of cash and various stakeholders need to continue with their strategies to increase the attractiveness of non-cash payment modes.

<b>Table 55: Suppliers' preference for the mode of payments (% of the respondents)</b>		
<b>District/Mode</b>	<b>Cash</b>	<b>Non-Cash</b>
<b>Mahbubnagar</b>	72.7	27.3
<b>Nalgonda</b>	91.5	8.5
<b>Total</b>	81.7	18.3



To further understand business owners' preference among non-cash payments. We asked them a hypothetical questions on what will be their non-cash preferred mode for varies counter parties including their employees, suppliers, bills and customers, if there was no cash in the system. The analyses of their responses throw light on varied preferences across different counter parties. While respondents told that they would prefer payments through cheque for employees and suppliers followed by payment through mobile apps, when it came to paying bills and customers, the mobile apps was the near universal choice, except for bills in Nalgonda (Table 56). This again points that mobile apps have not yet attained whole acceptability in the supply chain. This may be because of inertia of moving to new mode of the payments.

<b>Table 56: Preferred non-cash mode for paying different categories in absence of cash</b>			
<b>(% of the respondents)</b>			
<b>District/Mode</b>	<b>Cheque</b>	<b>Mobile Apps</b>	<b>Online Transactions</b>
<b>Employees</b>			
<b>Mahbubnagar</b>	85.6	13.0	1.4
<b>Nalgonda</b>	85.9	13.6	0.5
<b>Total</b>	85.7	13.3	1.0
<b>Suppliers</b>			
<b>Mahbubnagar</b>	79.4	19.3	1.3
<b>Nalgonda</b>	79.6	20.4	0.0
<b>Total</b>	79.5	19.8	0.7
<b>Bills</b>			
<b>Mahbubnagar</b>	3.1	96.6	0.4
<b>Nalgonda</b>	13.4	86.6	0.0
<b>Total</b>	7.7	92.1	0.2
<b>Customers</b>			
<b>Mahbubnagar</b>	2.0	97.6	0.4
<b>Nalgonda</b>	0.0	100.0	0.0
<b>Total</b>	1.0	98.8	0.2

### ***Confidence, Experience and Ease of Use***

Since the focus of the study was to assess the accessibility and sustainability of the digital modes of payments, we directly asked the business users, whether they feel confident while using the non-cash modes of payments, *i.e.* digital and electronic payments. The majority of the respondents shared that they felt confident while using these modes (Table 57).

<b>Table 57: Confidence while using non-cash methods of payments</b>		
<b>(% of the respondents)</b>		
<b>District/Response</b>	<b>Yes</b>	<b>No</b>

<b>Mahbubnagar</b>	99.6	0.4
<b>Nalgonda</b>	96.4	3.6
<b>Total</b>	98.1	1.9

We further asked the level of confidence while using digital and non-cash modes of payments. Here the analysis of responses showed that level of confidence was not very high for all the respondents. To quantify only 56.5% of respondents in Mahbubnagar and 77.6% of business owner were very confident while using these modes (Table 58). This explain why cash still remains the preferred mode of transaction for many users. The issues keeping the confidence at somewhat lower level was failed transactions on back of network issues or the follow up with wallet operators for issues in payment settlement. Though these issues were not very frequent but were not entirely absent as well. Hence, the business operators are not gaining high confidence in the use of digital modes of payments. Overall, their experience in terms of their usage with digital payment has been overall good.

<b>Table 58: Level of confidence while using digital modes for customer payments (% of the respondents)</b>					
<b>District/Level</b>	<b>Very Confident</b>	<b>Confident</b>	<b>Slightly confident</b>	<b>Neutral</b>	<b>Not confident</b>
<b>Mahbubnagar</b>	56.5	41.3	1.5	0.4	0.4
<b>Nalgonda</b>	77.6	14.8	1.6	4.0	2.0
<b>Total</b>	66.7	28.5	1.5	2.1	1.2

<b>Table 59: Experience with digital payments been clear and easy to understand (% of the respondents)</b>		
<b>District/Response</b>	<b>Yes</b>	<b>No</b>
<b>Mahbubnagar</b>	99.6	0.4
<b>Nalgonda</b>	93.2	6.8
<b>Total</b>	96.5	3.5

<b>Table 60: Digital modes of payment easy to use in your shop (% of the respondents)</b>		
<b>District/Response</b>	<b>Yes</b>	<b>No</b>
<b>Mahbubnagar</b>	99.6	0.4
<b>Nalgonda</b>	94.0	6.0
<b>Total</b>	96.9	3.1

### 4.3 Determinants of Digital Payment: Econometric Analysis

We have used logistic regression to find out the factors which determine the usage of digital payments (Debit/Credit cards or Mobile Apps or Internet Banking).

For our analysis, we have used the logistic regression model. The logit model is given by:

$$O_i = \ln (P_i / 1-P_i) = \beta_0 + \beta_1 Z_i$$

where,

$O_i$  is the log of odds ratio

$P_i$  denotes probability of the event happening

$Z_i$ 's are the independent variables included in the study.

In our case,

$P_i$  = Probability of the shop's accepting the digital payments.

Therefore,  $P_i / 1-P_i$  denotes the odds of the shops accepting the digital payments.

$Z_i$ 's are the independent variables that consist of variables associated with shop owners' profile, shops' profile, shop owners' usage of digital payments for their own use, shop owners' attitudes towards digital payments & a dummy variable for the districts.

The variables selected under shop owners' profile are education level of the shop owner (upto Middle/Secondary/Graduate), their gender (male/female), age in years, type of mobile phone (smartphone/basic), whether they have mobile internet (yes/no). Similarly variables related with shops profile were selected. These variables are whether the shop is rented or owned (yes/no), whether the shop has registered for GST and Municipality (yes/no), average monthly revenue of the shop (Rs. 5000- Rs. 10000/Rs. 10000-Rs. 20000/Rs. 20000- Rs. 30000/Above Rs. 30000), number of customers in a day, whether the shop has access to internet and whether it is stable (yes/no).

We have also included variables to find out shop owners' usage of digital payments for their own use. The variables are whether they use their account regularly (yes/no), whether they have ATM/debit card (yes/no), whether they use online/internet banking for bill payments, online purchase money transfer or investment (yes/no), whether they use mobile phone for transactions (yes/no).

The dependent variable in our logistic model is a dummy variable based on three variables viz whether the shop accepts payments through debit/credit cards or mobile app or internet banking. The variable will take the value 1 if the shop accepts payments through any of

the three digital modes and 0 if shop does not accept payment through these modes. Some of the variables discussed above have been dropped because of problem of multicollinearity.

The results of the logistic model are given in the Table 1. From the table, we observe that shops with male owners have higher odds of accepting digital payments as compared to the female. At the same time, shops with younger owners have higher odds of using digital payments. As far as shops' characteristics are concerned, rented shops and shops with GST registration have higher odds of accepting digital services for payments. Also, shops with access to internet as well with stable internet in their shops have higher odds of accepting digital payments. With respect to the behaviour of the shop owners towards digital payment, we observed that the owners who themselves used online internet banking for their use, have higher odds of accepting digital payments. Amongst the districts, shops located in Mahbubnagar have higher odds of accepting digital payments.

<b>Table 61: Digital Payment-Logistic Regression Analysis</b>		
Variable		Odd Ratio
Education of the Owner		0.867 (0.506)
Gender [Base-Female]	Male	4.982* (4.767)
Age in years		0.906** (0.036)
Shop Status [Base-Rented]	Owned	0.319* (0.197)
GST Registration [Base-No]	Yes	4.307* (3.520)
Municipality Registration [Base-No]	Yes	0.927 (0.785)
Average Monthly Revenue		0.959 (0.409)
Number of Customer in a Day		0.998 (0.006)
Access to Internet at the Shop [Base-No]	Yes	99.56*** (168.8)
Whether Stable Internet [Base-No]	Yes	8.203* (9.447)
Do you use your account regularly [Base-No]	Yes	0.844 (0.777)
Whether use online internet banking [Base-No]	Yes	1.269 (1.128)
Whether use mobile phone for payment [Base-No]	Yes	14.42*** (9.093)

District [Base-Mahbubnagar]	Nalgonda	0.130*** (0.084)
Constant		3.729 (10.07)
Observations		512

Standard error in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 4.4 Conclusion

Our study shows that adoption of digital payments among the respondents in two districts of Telangana has been encouraging so far in terms of businesses accepting digital payments. Though the share of sales done through digital modes is not very high, the adoption of digital modes show that there is willingness on part of business owners for digital payments. Among the various modes, we found that mobile payments via wallets like Paytm, Googlepay, etc. was the most popular. The reason shared by the business owners was the marketing by these platforms under which the teams set up the system for them. Hence, it does not involve any visits or applications. The main problem with debit/credit card was the unavailability of POS machines as also levying of the charges for installation, rentals and on payments at the time our survey was carried out. The logistic regressions shows that shops with male owners have higher odds of accepting digital payments as compared to the female. At the same time, shops with younger owners have higher odds of using digital payments. As far as shops' characteristics are concerned, rented shops and shops with GST registration have higher odds of accepting digital services for payments. Also, shops with access to internet as well with stable internet in their shops have higher odds of accepting digital payments.

## **Chapter 5: Conclusions and Policy Implications of the Study**

Based on the discussions and study done in the districts of Mahbubnagar and Nalgonda, few important conclusions can be drawn and we can have the policy action plans designed according to that. The chapter is basically divided into two sections. The first section 5.1 is devoted to the conclusions of the study in detail with proper policy action plans or suggestions and the second part named as section 5.2 contains the limitations of this current study.

### **5.1 Major Conclusions and Policy Actions/Suggestions**

1. The major and the general conclusion from the entire study is that mobile based apps are far more popular than any other mode of digital transactions. The reasons found in the descriptive statistics of the study are that transaction costs, easy to handle, marketing, requires no visit or application.

Since these mobile based apps do not involve any transaction costs as compared to any other mode like POS machine or credit/debit card, retailers prefer to use these modes in semi-urban areas where income level of the area is not very high. Therefore, steps should be taken to reduce transactions costs or even if transaction costs are there then consumers of the same should be aware of the benefits they are going to get from their usage. That means the difference between the benefits attained from mobile app usage and usage of any other mode like POS machine, usage of debit credit card should be made clear in the perspective of the consumer. Or else there is no motivation for the consumers (retailers in our study) to use POS machines or debit/credit cards over the mobile apps.

Further, the extent of ease through which these mobile based apps can be handled, is not available with any other mode of digital payment modes. So they should be made as easy to use as possible.

It has been observed that retailers mentioned that private players in mobile app system came up with the proper marketing plans, advertised about the digital payment product and its benefits. They also explained as how easy is it to use the same and several incentives related to that. Such sort of advertisement and incentives are missing in the government provided apps or

digital payment modes. Therefore, there is a suggestion to do the expenditure on more proper advertising.

At the end, it is noticed that POS machines, debit/credit card, internet banking modes etc require visit to the banks and applications procedures. Now this involves opportunity cost of doing some more retail business. Therefore, representatives should be made available for the promotion of the same.

2. As per our finding from the logistic regression, it can be seen that people with GST registration had more usage of the digital payment system. Therefore, regulatory framework should be made stronger so that all of them can be brought under the net of digital payment system usage.

3. Basic infrastructure like high internet speed, smooth internet etc should be improved if the usage of digital payment modes is to be improved.

4. We also realized the need for training programs which can educate people for the usage of the same. It is necessary to gain the trust of the people in the system. For example, sometimes, our money is deducted from our bank account but within few days it comes back. People who live in such rural or semi-urban areas, they are not confident about the system so whenever something wrong happens; the impression does not go for many years.

Finally the conclusions mentioned above and the policy suggestions on the basis of that are based on the study which is done on limited populations (only retailers at small level are considered). Therefore, it is important to go through the major limitations of the study. The next section discusses about the same.

## **5.2 Limitations of the study**

Because of time and financial constraint, the study is performed only at the retailer's level and their usage of various cashless modes of payments. Major limitations of the study are highlighted below:

1. Demand side or the consumer side is completely ignored in the study as the target population has been local retailers. Therefore, a different perspective can come out if the same study is performed on the consumers as well. But because of limited time and budget, we only targeted retailers.
2. In this study we focused only on retail shop keeper and it would be interesting to see the case of big retailers or wholesaler perspective on the same.

3. Informal sector which describes the major part of Indian economy like street vendors, agricultural markets are not taken into account in this study.

Therefore, a broader picture of the economy can be put if these aspects are taken into consideration. The above mentioned policy conclusions, if paid proper attention will the system to sustain the drive towards cashless economy in a healthy way.



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Namaste. My name is \_\_\_\_\_ and I am working for an IIBF funded project. In this survey, we are study the cashless banking in the unorganized retail sector. Whatever information you provide will be kept strictly confidential. Participation in this survey is voluntary and you can choose not to answer any question or all of the questions. However, we hope that you will participate in this survey since your participation is important. In case you need more information about the survey, you may contact these persons. **GIVE CARD WITH CONTACT INFORMATION.**

Participant Sign: ----- ;

Date & Place :-----

### PROFILE OF THE RESPONDENT

1. Name of Establishment/Store/Outlet			
2. Main business activity (note down exact nature of business)			
3. Address	Shop/Stall number		
	Colony/Locality//Street		
	Landmark		
	City	Pin-code	
4. Mobile Number			
5. Email-Id			
6. Name of the respondent (must be owner of the shop)			
7. Education (note the highest level passed)			
8. Highest education of any of your immediate family member			
9. Gender	Male	Female	Other
10. Age			
11. Is your shop owned or rented?	Owned		Rented
12. Have you done GST registration for this shop?	Yes		No
13. Is your shop registered with Municipality	Yes		No
14. What is your average monthly revenue? (In Rupees)	Below 5000	5000-10000	10000-20000
	20000-30000		Above 30000
15. Approximately how many customers do you get in a day?			
16. Do you own mobile phone?	Yes-Basic Phone		Yes-Smart Phone
	Yes-Both		No
17. Do you have mobile internet?	Yes		No
18. Do you have access to internet in your shop?	Yes		No
19. Is your internet connection stable?	Yes		No
20. How will you describe your internet speed?	Fast		Slow

## FINANCIAL INCLUSION

21. Do you have a personal savings account (either singly or jointly)?	Yes	No	
22. If yes, where? (Note the name of bank/post office/institution)			
23. If yes, do you use your account for depositing money and withdrawing money on a regular basis?	Yes	No	
24. If not, why not? (List out all the reasons told in clear terms, you notes page if required)			
25. Do you have a business account with the bank?	Yes	No	
26. What type of business bank account do you use?	Saving account	Current Account	Merchant account
	Cash Credit		Don't know
	Others		
27. Do you use your business account regularly	Yes	No	
28. Have you used your account for following last month?			
Receiving payments from customers	Yes	No	
Paying Suppliers	Yes	No	
29. Do you have an ATM/Debit card?	Yes	No	
30. Do you use your ATM card for withdrawing cash?	Yes	No	
31. Do you use your ATM card for making payments for goods and services?	Yes	No	
32. When in need of the cash for your routine activities, which of the following do you use?	ATM machine	Bank/post office/FI counter	Agent
	Other:		
33. Do you use online/internet banking for bill payments/online purchase/money transfer/investment or some other reason?	Yes	No	
34. Do you use mobile phone for transacting from your account?	Yes	No	
35. Have you borrowed money from the following sources in last two years?			
Bank/Financial institution/Chit fund company	Yes	No	
From supplier by getting supply on credit	Yes	No	
Family, relatives, friends, neighbours etc.	Yes	No	
Private money lenders	Yes	No	
36. How do you maintain accounts for your shop?	Don't keep	Mentally	
	Manually in register/dairy etc.	Computer	
37. What kind of bills do you give to customers?	Paper bills	Printed bills	
	Don't give bills		

### CUSTOMER PAYMENTS-DEBIT/CREDIT CARDS

38. Are you aware you can accept payments by customers through debit/cards?	Yes	No	
39. Do you accept payments through debit/credit cards payments at your shop?	Yes	No	
If answer to above question is yes, ask the following questions:			
40. What is the percentage of customers making payment through debit card?	Below 10%	10%-20%	20%-30%
	30%-40%	Above 40%	
41. What is the percentage of customers making payment through debit card	3 years back (2016-before demonetization)	2 years back (2017-after demonetization)	1 year back (2018-after demonetization)
42. If it has increased/decreased, then why?			
43. What is the proportion of sales in your shop which are paid through debit/credit cards?	Below 10%	10%-20%	20%-30%
	30%-40%	Above 40%	
44. What is the proportion of sales in your shop which are paid through debit/credit cards	3 years back (2016-before demonetization)	2 years back (2017-after demonetization)	1 year back (2018-after demonetization)
45. If it has increased/decreased, then why?			
46. When did you start using debit/credit cards for payments?			
47. How did you get POS/card acceptance machine?			
48. Did you face any problem in acquiring POS/card machine?			
49. What was initial cost of installing POS/card machine? (In Rs.)			
50. What is monthly rental that you pay for the system? (In Rs)			
51. And what is cost that you pay per transaction? (In %)			
52. How do you find using POS/card machines?	Easy	Neutral	Difficult
53. How is your experience with POS machines and debit/credit cards payments?	Good	Neutral	Bad
54. Is there minimum payment below which you don't accept debit/credit payments?	Yes		No
55. If yes, what is the limit?			
56. Why do you have this limit?			
If the answer to question on accepting debit/card payment is no, ask the following questions:			

57. Why do not you accept debit/credit payments?		
58. Did you ever apply for POS/card machine from your bank?	Yes	No
59. What happened to your application?	Rejected	In process
60. If rejected, why was it rejected? Give Reason		
61. If offered a card machine, will you be interested in having the same in your shop?	Yes	No
62. If not, why?		

### CUSTOMER PAYMENTS-MOBILE PHONE PAYMENTS

63. Are you aware costumers can pay you using their mobiles through applications like paytm, google pay, phonepe, BHIM app, UPI and other such mobile wallets ?	Yes	No	
64. Do you accept mobile payments through applications like paytm, google pay, phonepe, BHIM app, UPI and other such mobile wallets?	Yes	No	
If answer to above question is yes, ask the following questions:			
65. What are the mobile payment services that you have in your shop?			
66. What is the percentage of customers making payment through mobile apps?	Below 10%	10%-20%	20%-30%
	30%-40%	Above 40%	
67. What is the percentage of customers making payment through mobile apps	3 years back (2016-before demonetization)	2 years back (2017-after demonetization)	1 year back (2018-after demonetization)
68. If it has increased/decreased, then why?			
69. What is the proportion of sales in your shop which are paid through mobile apps?	Below 10%	10%-20%	20%-30%
	30%-40%	Above 40%	
70. What is the proportion of sales in your shop which are paid through mobile apps	3 years back (2016-before demonetization)	2 years back (2017-after demonetization)	1 year back (2018-after demonetization)



71. If it has increased/decreased, then why?			
72. When did you start using mobile apps for payments?			
73. How did you get mobile payment system?			
74. Did you face any problem in acquiring mobile payment system?			
75. What was the initial cost of installing mobile payment system?			
76. What is monthly rental that you pay for the system? (In Rs)			
77. And what is cost that you pay per transaction? (In percentage)			
78. How do you find using mobile payment system?	Easy	Neutral	Difficult
79. How is your experience with mobile payment system?	Good	Neutral	Bad
80. Is there minimum payment below which you don't accept mobile payment?	Yes		No
81. If yes, what is the limit?			
82. Why do you have this limit?			
If the answer to question on accepting mobile payment system is no, ask the following questions:			
83. Why do not you accept mobile payment system?			
84. If offered a mobile payment system, will you be interested in having the same in your shop?	Yes		No
85. If not, why?			

### CUSTOMER PAYMENTS-ONLINE/INTERNET PAYMENTS

86. Are you aware costumers can pay you using online/internet banking?	Yes		No
87. Do you accept online/internet payments?	Yes		No
If answer to above question is yes, ask the following questions:			
88. What is the percentage of customers making payment through online/internet banking?	Below 10%	10%-20%	20%-30%
	30%-40%	Above 40%	
89. What is the percentage of customers making payment through online/internet banking	3 years back (2016-before demonetization)	2 years back (2017-after demonetization)	1 year back (2018-after demonetization)
90. If it has increased/decreased, then why?			
91. What is the proportion of sales in your shop which are paid through online/internet banking?	Below 10%	10%-20%	20%-30%
	30%-40%	Above 40%	
92. What is the proportion of sales in your shop	3 years back (2016-	2 years back	1 year back

which are paid through online/internet banking	before demonetization)	(2017-after demonetization)	(2018-after demonetization)
93. If it has increased/decreased, then why?			
94. When did you start using online/internet banking payments?			
95. How do you find online/internet banking payments?	Easy	Neutral	Difficult
96. How is your experience with online/internet banking payments?	Good	Neutral	Bad
97. Is there minimum payment below which you don't accept online/internet banking payments?	Yes		No
98. If yes, what is the limit?			
99. Why do you have this limit?			
If answer to question on accepting online/internet banking payments is no, ask the following questions:			
100. Why do not accept online/internet banking payments?			

### PAYMENTS - OVERALL

101. What do you prefer for payment by your customers?	Cash	Non-Cash (debit/credit card, mobile apps, internet/online banking)
102. If you prefer cash, why? Give reason		
103. Among the following, which is your most preferred non-digital mode of receiving customer's payment? Debit/Credit Cards, Mobile apps, Internet/Online banking		
104. How do you pay your suppliers? Cash, Cheque/Draft, Mobile apps, Debit/Credit card, Online/Internet Banking (Multiple options allowed)		
105. Among the above, which is the most common method of paying your suppliers? (Write only one, the most common)		
106. What, according to you, will be the most convenient method for you to pay your suppliers? Cash, Cheque/Draft, Mobile apps, Debit/Credit card, Online/Internet Banking		

107.	Do your suppliers prefer cash or non-cash payment?			
108.	If there was no cash, how would you prefer to pay the following? (Most preferred out of cheque, online transfer, mobile payments, debit/credit card)	Paying employees		
		Paying suppliers		
		Paying bills		
		Payments from customers		
109.	Do you feel confident while using non-cash methods of payments?	Yes	No	
110.	If you don't feel safe, why?			
111.	How confident are you using digital/non-cash payments from your customers?	Very Confident	Confident	Neutral
		Slightly confident		Not confident
112.	Has your experience with digital/non-cash payments from your customers been clear and easy to understand?	Yes	No	
113.	Do you find digital/non-cash modes of payment easy to use in your shop?	Yes	No	