

PAYMENT APPLICATIONS AND CHANGING TRENDS OF BANKING

Raviraj Sharma, Adwait Deo, Akshay Awasthi

Introduction

E-payment can be defined as the collection of tools or methods by which transfer of funds or money takes place between the two parties, payer and the payee through all the electronic channels other than physical modes like cash & cheques.

According to Hsiao-Cheng, Kuo-Hua and Pei-Jen (2002), there are four major categories of electronic payment systems: online credit card payment, electronic cash, electronic cheques and small payments. They further stressed that each of these systems has its own advantages and disadvantages. They further stressed that each type could be assessed through these four distinct qualities viz: Technological aspect, Economic aspect, Social aspect and Institutional and law aspects

Digital payment systems are steadily becoming a promising mode of payment in today's world because of its features like convenience, timeliness and efficiency. It is the payment system that has been majorly adopted by the developed countries & gradually being adopted by the developing countries with a view to simplify & ease payments in business transactions. These modes of payment have a great potential to make the economy of a country cashless which, in return can make the country a superpower.

Amongst the fixed consumers, the young and educated are the early users of the digital payment apps. Consumers with college graduate degrees are evenly split between users and non-users, whereas the lower qualifications show lower usage rates.

Features and importance of payments apps

- ✚ It provides platform to pay bill easily
- ✚ Increase the cash flow in economy
- ✚ It provides 24×7 services
- ✚ Fast payment service
- ✚ It offers coupons, offers and discounts

Drawbacks of payment apps

- ✚ Many payment apps are not safe and secure
- ✚ Supported only in smart phones
- ✚ Higher risk of identity theft
- ✚ Overspending
- ✚ Difficulty in use for illiterate people

History of Digitalization in Banking Sector:-

In the late 1980s, to improve customer service, accounting and record keeping the requirement for computerization was felt in the Indian banking sector. At that point in 1988, the Reserve Bank of India built up a committee to study Computerization in bank headed by Dr. C. Rangarajan. The process of computerization picked up pace with the change in the Indian economy in 1991-92. A few commercial banks started to move towards digital customer service to stay competitive and relevant in the race.

The Commercial Banks in India have moved towards innovation through the Mechanization and Automation of the Bank with the prologue to cheque processing dependent on MICR, the electronic transfer of assets, the interconnection between bank branches and the implementation of ATMs (1987) have brought about the comfort of at any banking time. The Reserve Bank of India has taken solid activities to reinforce payment and settlement systems in banks. Presently the Indian government is forcefully promoting digital transactions. The dispatch of Unified Payments Interface (UPI) on 11 April 2016, Bharat Interface for Money (BHIM) by National Corporation of India (NPCI) on 30 December 2016 are significant strides for advancement in the payment systems area.

E-payment systems are important channels used by people as a secured and convenient way of making payments over the internet to bring out technological advancement in their country's economy. These digital payment systems include various mode of payment like credit/debit cards, net banking, mobile banking, Unified Payments Interface (UPI), BHIM & various other mobile payment applications.

Tools of Electronic Payments

1) Automated Teller Machine:-

An ATM is a computerized Tele-communication device which provides the customers the access to financial transactions in public places without human inter-mention. It enables the customers to perform several banking operations such as withdrawals of cash, request of mini-statement etc.

2) Pre-paid Payment Instruments (PPIs) :-

Pre-paid instruments are the tools that help to transact between the two people as an intermediary against the amount stored in it. The value stored by the holder is transferred by his respective account. PPIs takes various forms such as digital wallets, mobile wallets which were based on the internet until the new KYC registrations on PPI came into existence on February 29th 2019.

3) Unified Payment Interface:-

UPI is the payment system launched by NCPI. It can be assumed as the mixture of both mobile wallets and online banking services. It can be used to transfer funds electronically just as RTGS and NEFT. Various other utility bills, peer to peer payment & acceptance, payment at cash counters through QR Codes are performed through UPI.

BHIM UPI:-

Bharat Interface for Money (BHIM) is a payments app that facilitates simple and quick transactions using Unified Payments Interface. It allows you to make direct bank payments to any bank account on UPI with the help of UPI ID and PIN. In another case, you can scan a QR code with the BHIM app to transfer money. One can also request money through the app.

The app was developed by National Payments Corporation of India (NPCI). It was launched by the Prime Minister of India, Narendra Modi on 30 December 2016 to realise a digitally empowered society.

4) Internet Banking:-

It is the recent trend in the Indian banking sector. It is the result of development took place in information technology. Internet banking means any user or customer with personal computer and browser can get connected to his banks website and perform any service possible through electronic delivery channel. There is no human operator present in the remote location to respond. All the services listed in the menu of bank website will be available.

5) Mobile Banking:-

The customers can utilize it with the help of a cell phone. The bank will install particular software and provide a password to enable a customer to utilize this service.

6) Digital Wallets:-

Digital wallet refers to a financial intermediary system or a third party payment interface, which allows the consumer to do transactions by providing a username and password. The wallet of the individual needs to be linked with the bank account from which the money will be debited.

Studies performed on online payment applications :-

A lot of verifiable studies had been conducted around the globe by scholars on e-payment systems with the aim of investigating factors that influence the use and adoption of these modes of payment. Though a large number of research papers are primary in nature containing questionnaires or interviews but few secondary studies have also been conducted that are quoted below :-

- 1) Krishna, K. Vinitha & Shanmugam, Vasantha. (2020). “**Usage of E-Payment and Customer Satisfaction**”.

The study performed is mainly qualitative in nature. This paper is focused to analyze the determinants influencing E-payment usage and thereby the factors leading to consumer satisfaction. The factors so revealed includes perceived use, perceived ease of use and actual usage of the system. The findings based on various literature reviews recommends that trust, consumer interaction, service delivery, ensuring security from hackers are the determinants which needs to be considered.

2) Urvasi Solanki, (2018). **"Impact of Electronic Banking on Customer Satisfaction"**

Published in International Journal of Trend in Scientific Research and Development (ijtsrd)

The objective of the present paper is to study and analyze the progress made by Indian banking industry in adoption of technology. The study is secondary based and analytical in nature. The paper concludes that in years to come e-banking will not only be acceptable mode of banking but preferred mode of banking.

3) Atul Kumar Mishra | Dr. Rajesh Rathore (2019). **"Effects of Demonetization on Digital Marketing & E - Payment Gateway"** Published in International Journal of

Trend in Scientific Research and Development (ijtsrd). Retrieved from

Literature Review

- Neha Mehta & Sweety Shah(2020) in their research paper “Payment Banks: Digital Revolution in Indian Banking System.” analyzed that the that intention of using payment banks for transaction is dependent on the aspects like user friendly, convenience, cost effectiveness, security and easy cash management. They also recommended that the Payment banks must link up with some major financial institutions and provide some sort of offers, discounts, and schemes to increase its usage. All this will lead to rapid growth and more money into banking system

- Ridam Verma & Dr. Rishi Manrai(2019) in their research paper “Demonetisation and Impact on Digital Payment” aims to identify the factors which lead to the acceptance and the use of mobile banking in context to digital payments in India. In their research paper they emphasized on the ease of use of digital payment system attracts various end users to go ahead and make digital transactions. They also pointed out the lack of awareness as a major factor in rural areas for not adoption the digital platforms.

Research Methodology

1. Problem Statement-

As the concept of making transactions from online payment applications is not very old therefore very less researches have been performed to find out the consumers opinion, preferences and mindset on adoption and usage of these applications. The study wants to find out the various factors that motivates the users for the usage of payment systems and to observe the concerns related with it.

Delay in payment can spoil profit & loss reports, AR/PR management and stop the various approval process. It is required to get the analysis of the reports in a specific time for any business which cash payments are sometimes unable to do so. The study also wants to get the opinion of the businessmen whether electronic payment systems are beneficial for them or not.

There is an utmost requirement of a mode of safe transaction in a situation of pandemic like in covid-19 to avoid physical touch while making payment.

2. Scope of Study-

With the rapid rise of digital payments, conventional payment procedures are quickly being elbowed out of business. Banks and credit unions are now focusing their strategies on digital payment trends that could potentially inform the future of commerce.

Below are some digital payment trends that are expected to change the face of banking by 2020

Digital payment trends to expect by 2020

a) **The Rise of an era:-**

This emerging period has no recollection of a world that didn't have the internet and mobile applications and where manual payments were the order of the day. They take nothing less than digital technology and mobile phones. Studies show that 80% of these teens and young adults – aged between 18 and 21 years – are giving up the TV for their mobile phones.

b) **Biometric authentication:-**

As compared to the traditional payment methods, biometric authentication is projected to boost efficiency, security, and accuracy significantly. Visa has already established, through consumer survey, that most of them find the idea of biometric authentication in making payments more attractive.

c) **Increased need for Security:-**

It is evident that the need for more security in the banking industry will inform the payment trends of the future. As banks look to keep their customers and even attract more, they will have to invest in security features that are better than those of their competitors. This trend will, in fact, not ignore the need for increased simplicity and accuracy as desired by most consumers.

d) **The change from Cards to Codes:-**

In the past, a person's bank account was identified using a series of unique digits on a card. However, with the advent of EMV technology, more secure and computerized techniques are being introduced. According to this new technology, bank accounts are based on codes that change every time a transaction is made in order to make them more secure.

In the future, the use of codes will likely overshadow plastic cards as more consumers look to embrace more secure systems.

3. Research objective-

- ✦ To examine the usage of different payment system in people of different age groups and income in a particular demographic area.
- ✦ To inspect the major factors which influence and motivates people to use the mobile payment applications.
- ✦ To study the risks related to security and privacy involved in the payment gateways.
- ✦ To find out the most used payment system among the various gateways available in the current time.

4. Research Design & Sampling Method:

The procedure used for the collection of information was a structured questionnaire made by using Google Forms. The study was conducted in the Aurangabad and other adjacent cities. The formulated questionnaires were in English mainly including the questions of awareness of the various factors of payment system like feasibility, security etc. The forms were given to 100 participants which belonged to different work cultures like IT professionals, banking employees, students and other business person through various online platforms. It was taken care that only the affirmative responses received by the participants which were either using or somewhat familiar with the digital payment platforms would be analysed.

Data collected from the responses was arranged with the help of Google spreadsheet & statistical analysis was done using the percentages, line graph, bar graph, pie charts and other procedures.

5. Sources of Data & its Collection Method-

The data for the study is collected from both primary and secondary data. The primary data was obtained from a structured questionnaire given to 100 people. The researcher received 82 responses in which 2 were

incomplete. Thus the sample size of the study turned out to be around 80% which was used for further analysis.

The secondary data relating to our objective

(a) factors impacting the growth of mobile payment system like convenience, security, time efficient etc. was made available after studying various articles, journals, newspapers & websites.

(b) payment trends in terms of value and number of transactions over the years is computed from the papers published on website of Reserve Bank of India.

5. Data analysis procedure

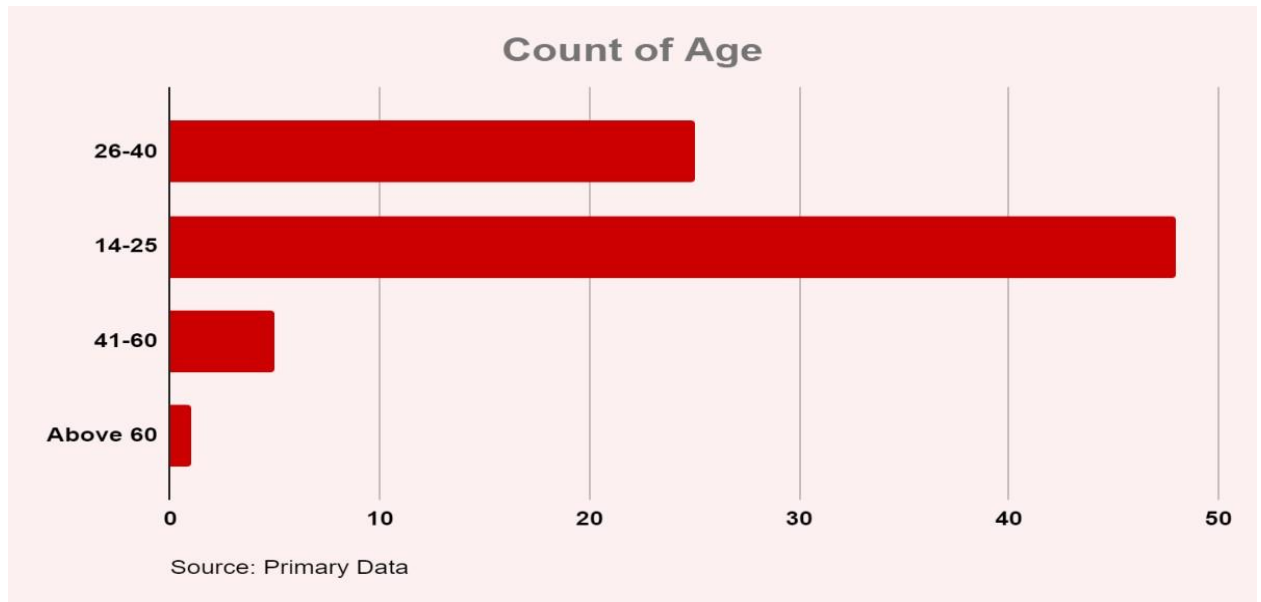
Data analysis procedure involved identifying common pattern and expectation gaps within the responses through online questionnaire and critically analyzing them in order to achieve research aims and objective. The sampling method and data analyzed have been elaborated in the research report.

Data Analysis

To collect data on how payments apps have been using in digital era and to understand respondent's viewpoint toward digital banking or use of payments applications. An online survey was done with help of a questionnaire which included question targeting all the digital banking sector. There were total 80 respondents out of 100. I have come across some important and useful findings

ANALYSIS:

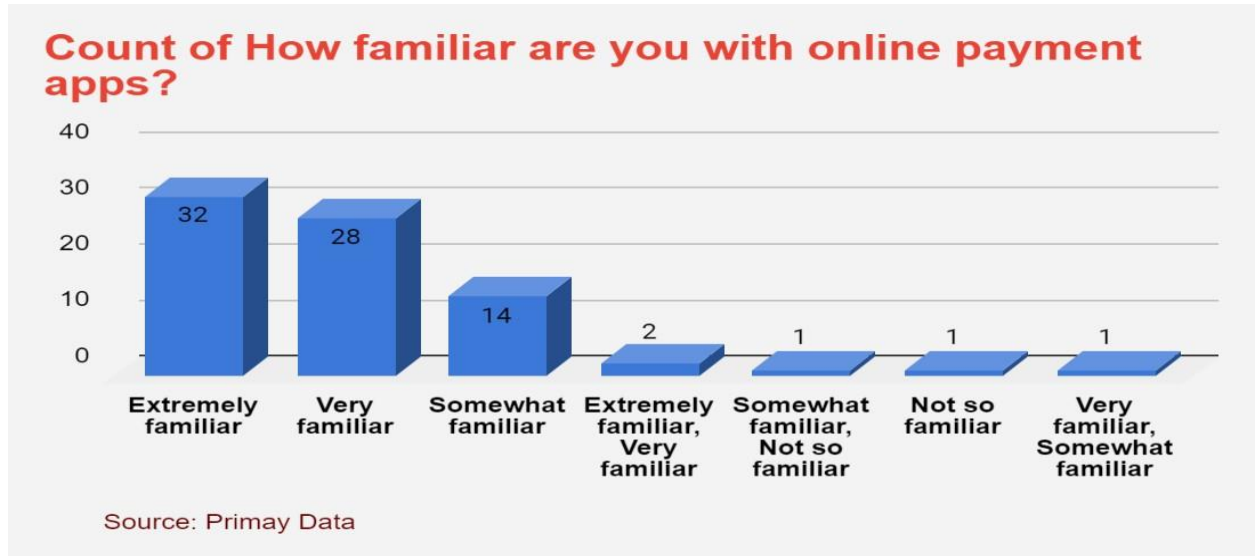
Chart1:



The information above tells us that the major part of the users using these online platforms are at various ages from 14-25, which signifies that the youth of the country largely depends upon payment apps for making their daily transactions. People between 26-40 age group also use payment applications but not to that extent.

We can also observe that the people above 40 mainly rely on cash for their transactions, the reason could be not able to accept these payment systems because of the advanced technology or they feel making transactions from cash much safer.

Chart: 2



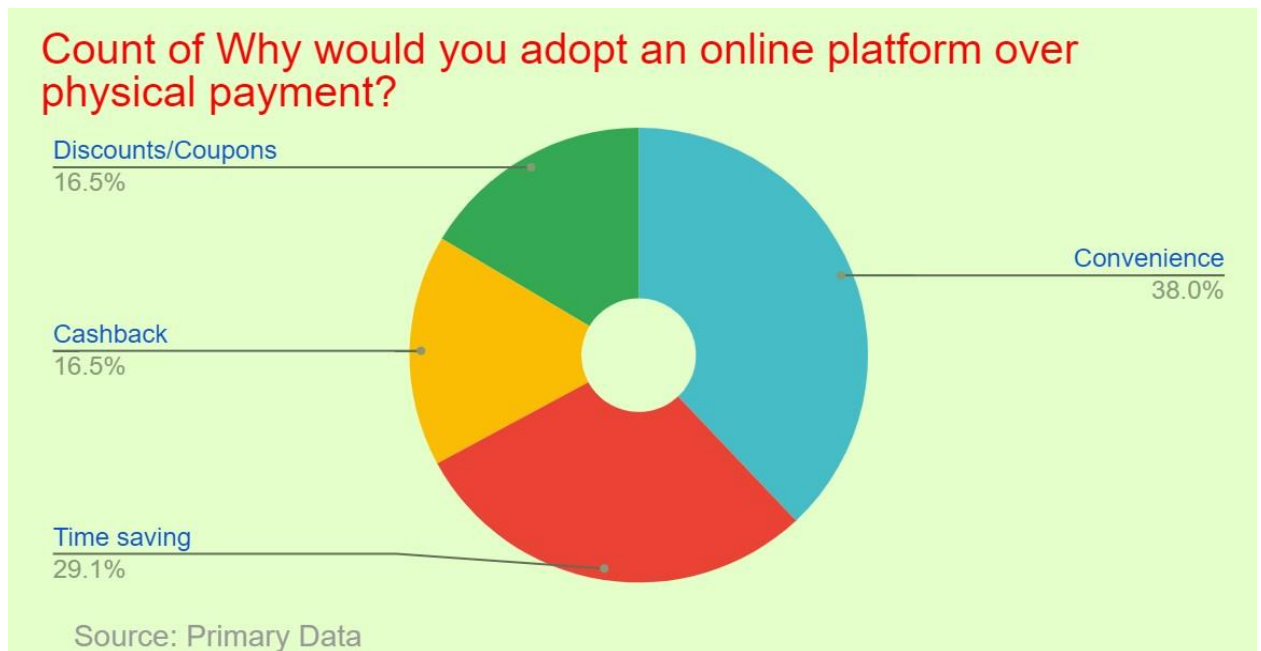
From the above data we can observe that most people are either extremely familiar or very familiar with the online payment applications which implies that they have been using these payment gateways from quite long, and for the people who are not very familiar with these applications have started adapting to the technological advancements of the current time which will be just a part of routine in the coming future.

Chart: 3



We can note that the e-payment systems are not very old but new to us. The population became aware and tried their hands on these apps recently. A large number of people have started using the e- payment apps from last 1-3 years only, some of them have used earlier also. So we can say that it is just a start of a new era or beginning of a completely different lifestyle.

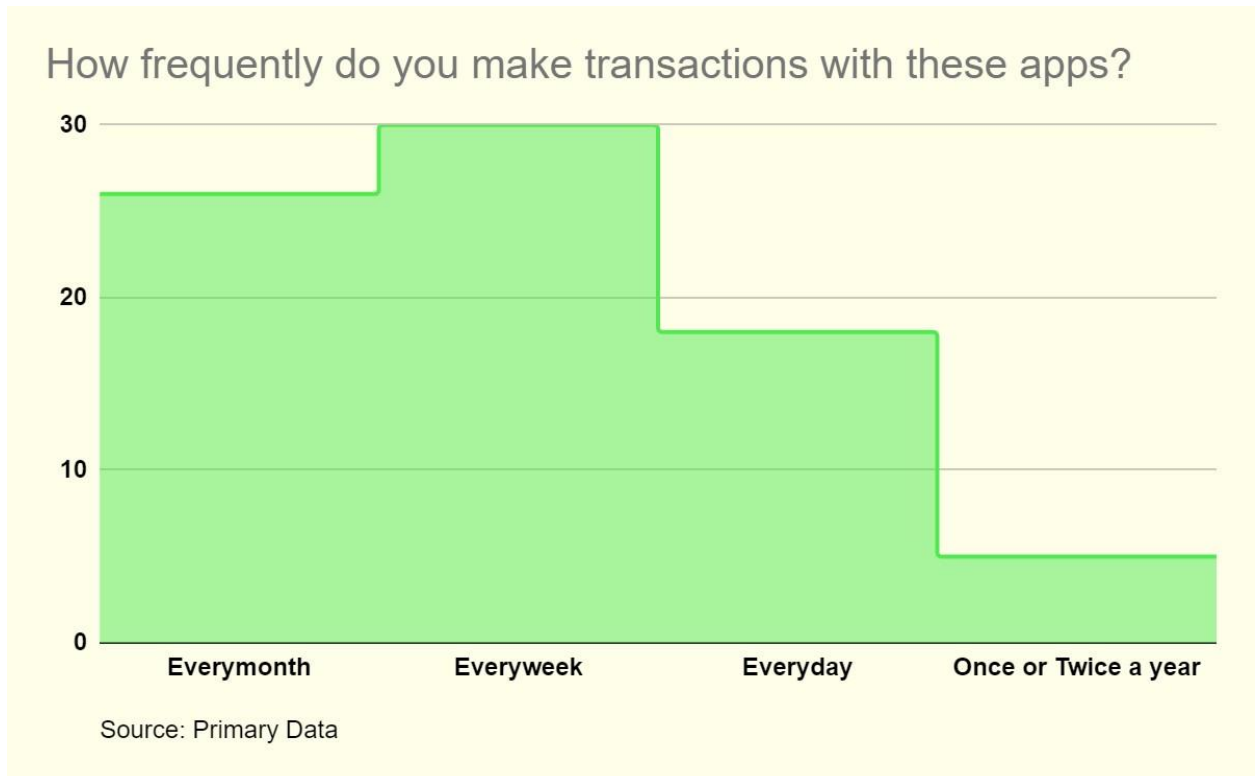
Chart:4



There are various reasons for people to switch over the obsolete method of making transactions with cash. The e-payment apps provide very attractive offers and reasons to involve their customers. Huge discounts & cashbacks are provided on every transaction they make which motivate them to use more frequently as it not only saves money but make them feel pampered.

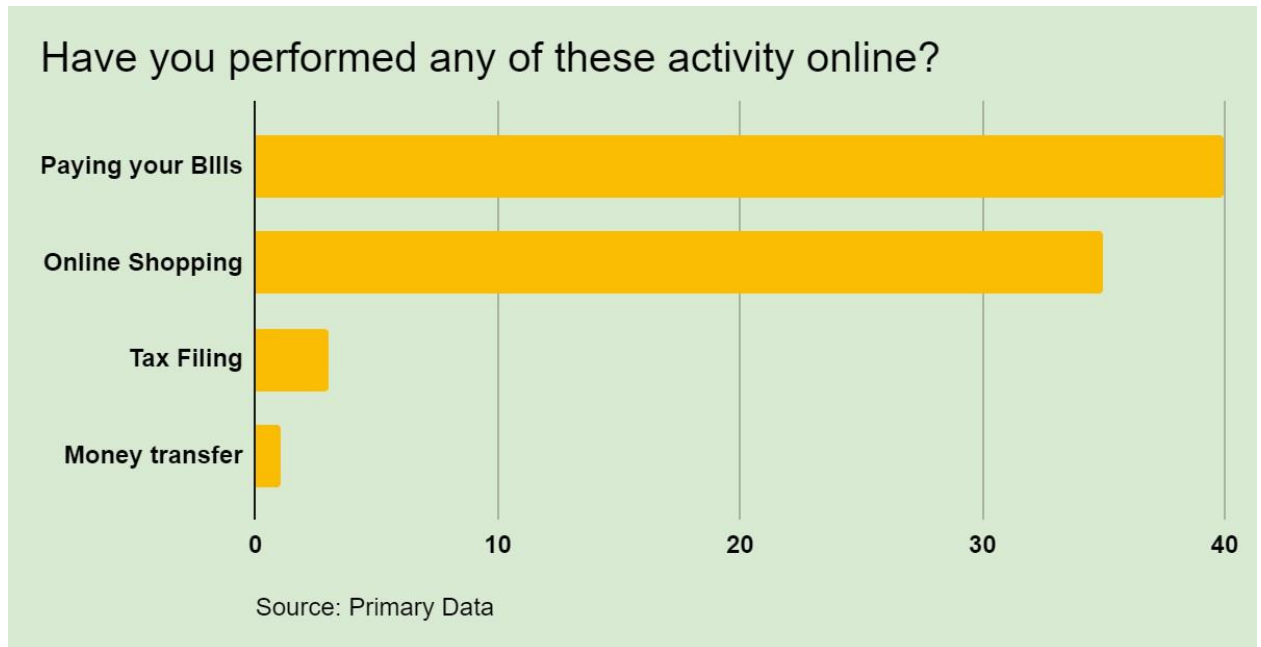
The majority of them use these apps as they feel it more convenient and time saving. The person does not require to go to take out cash from ATM at the time of shortage or in critical time.

Chart:5



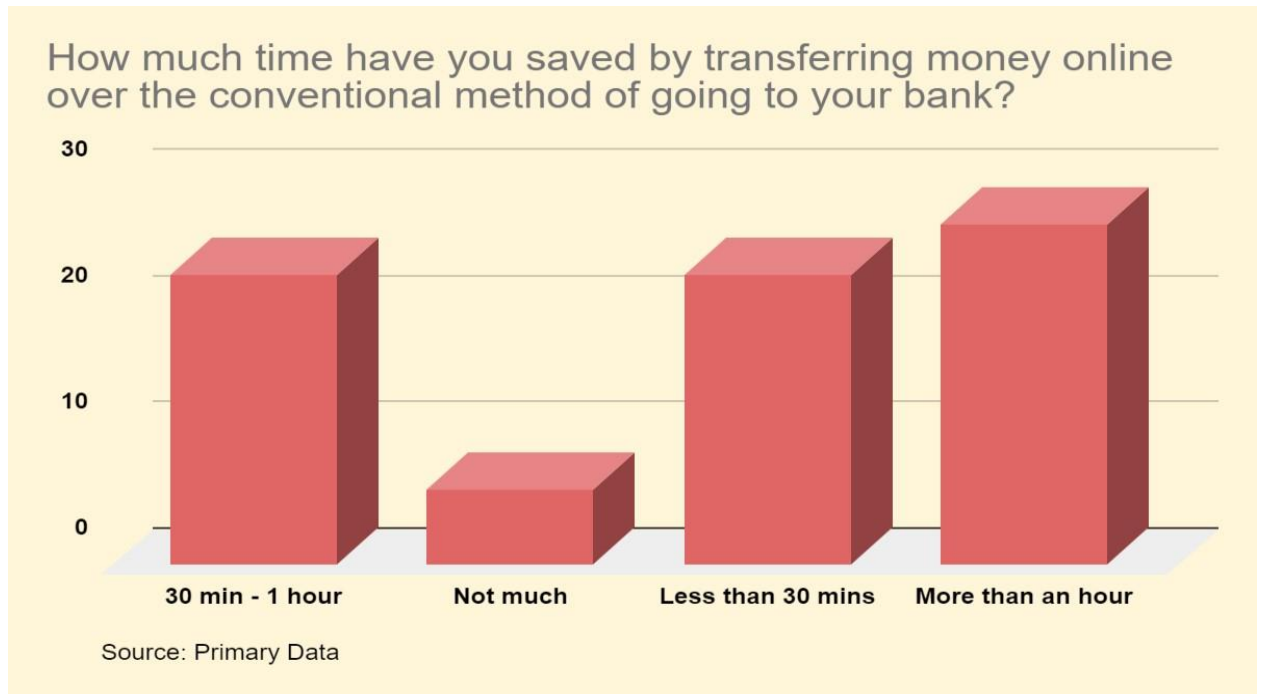
The responses collected from the questionnaire make us very clear that a large number of us have started using mobile applications for making transactions in our daily lives. We have been paying with these applications for numerous things whether it be paying for groceries, or paying for a taxi or getting our phone recharged. These applications have really made lives easy and secure as one does not need to carry cash with himself in the current time where the rate of crime is increasing day by day.

Chart: 6



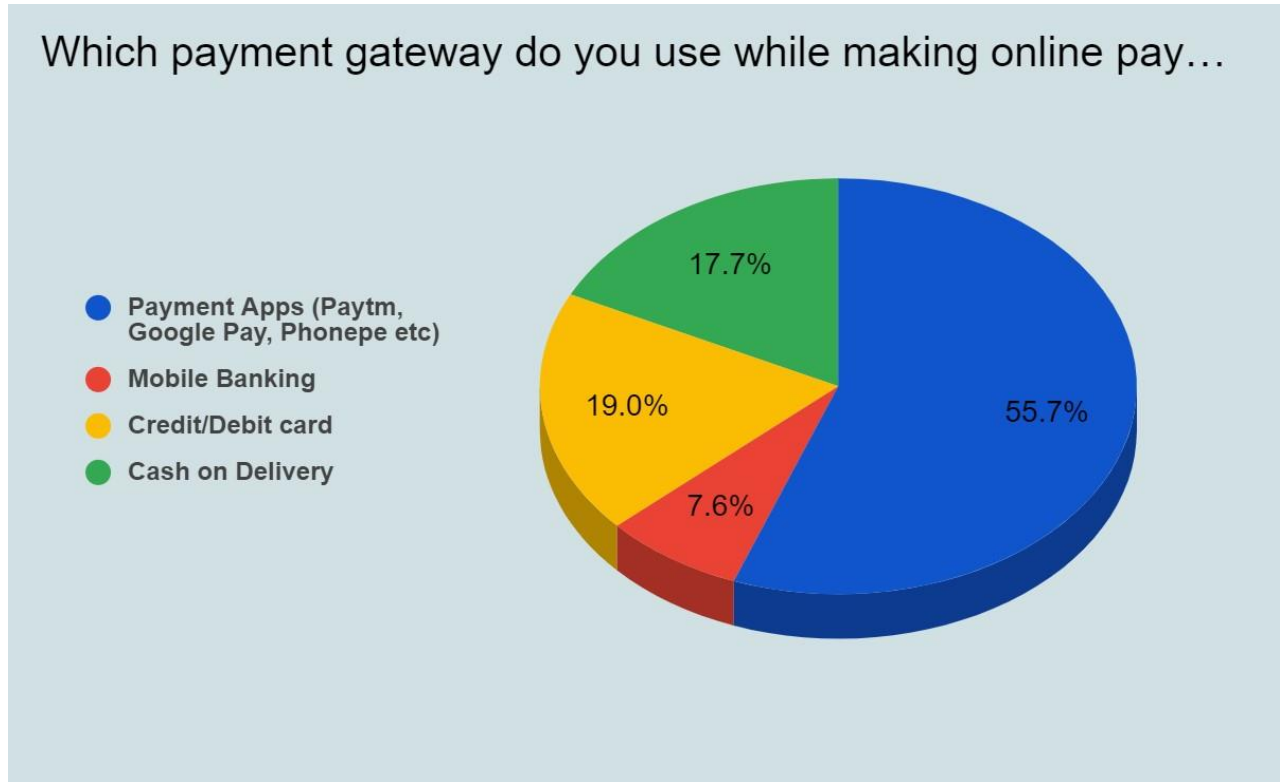
The above bar graph points us that the people use the mobile applications majorly for making their daily transactions. The smartphone has reached in everybody's hand with high speed internet in it which have made people to shop from their homes only. The online shopping platforms provide so many options to chose from for a product which make the customers so selective that a poor shopkeeper can not afford to give. Society have started paying for their bills from their phones whether it be rent of the house, electricity bills, tax filings, challans and many more.

Chart:7



At the present time each one of us wants to save every single minute of our day. Even for very simple things like to withdraw cash or to transfer money to someone's account one usually requires to get in a queue for a long time, from the responses we can concluded that these applications have saved at least 15min to an hour from their day which could be used for some productive work. Just to save their time people have shifted toward these e-payment apps as these simple things can be done with just aa click of a button.

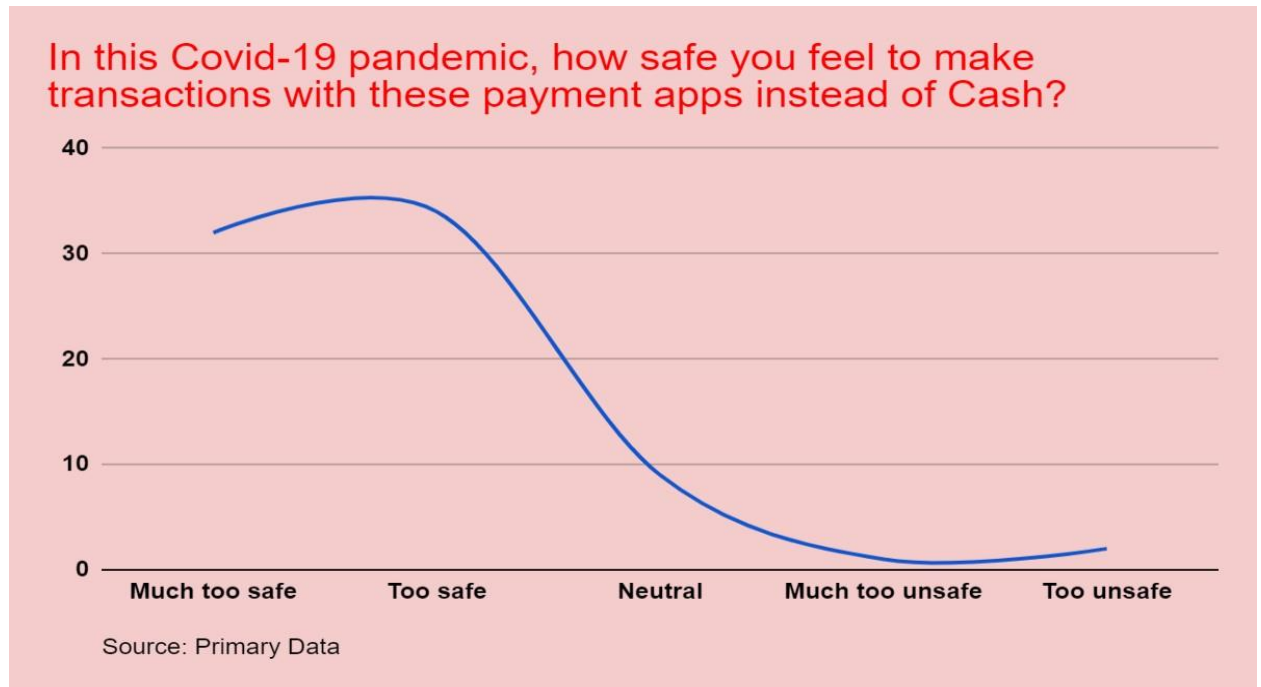
Chart: 8



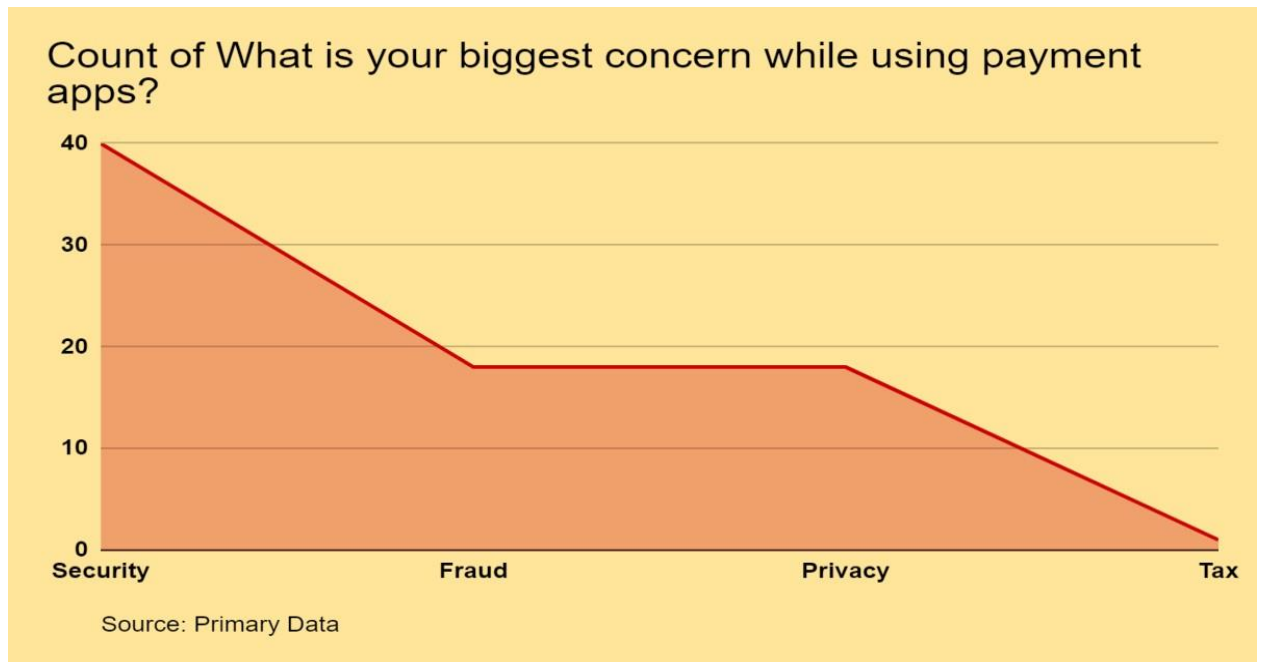
With the lightning speed of technological advancement, one has to adapt to the current time to match the pace. The choices have also changed from the past to the current time. People used to make their transactions with cash, the introduction of credit cards made the lives easier.

Mobile Banking made the credit cards outdated as it helped people to save their time by not feeding the information again and again in various websites. Payment application is the most commonly used payment method by now. The analysis from the responses tells that around 55% of people are using this mode of payment.

Chart:10

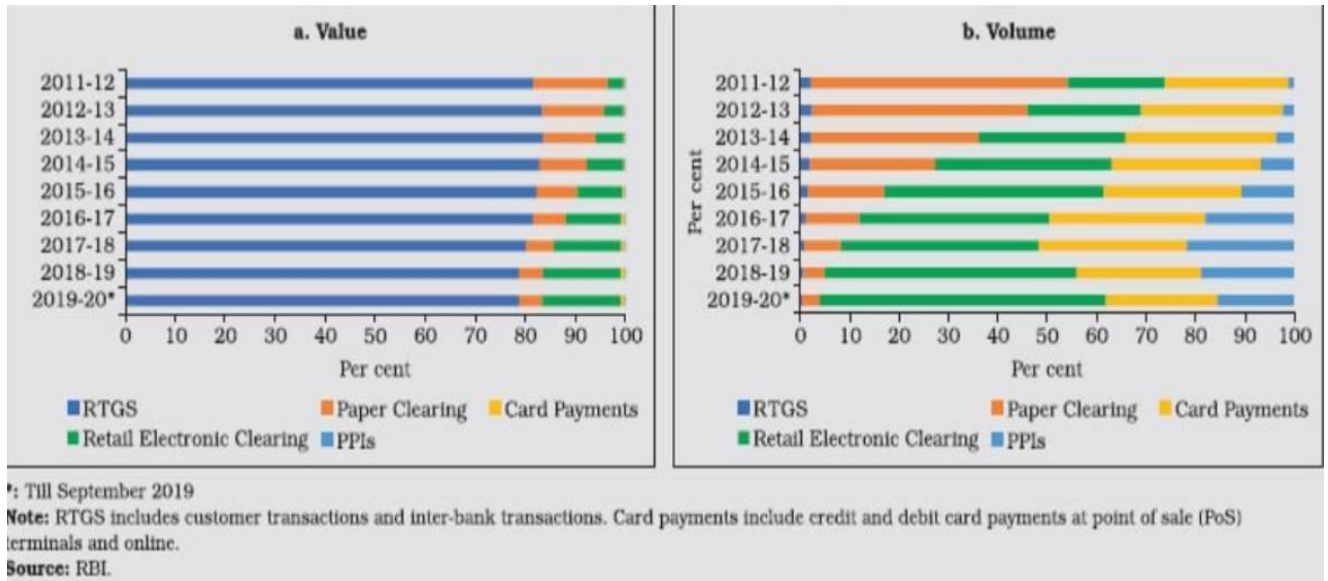


The e-payment system has also proved to be a great alternative to make transactions. The method of cash payment in the current Covid-19 pandemic can be a source of widespread of the disease, therefore people personally feel making payment with mobile applications much too safer than cash. The Reserve Bank of India also suggested people to make online transactions as much as possible.

Chart: 11

One of the biggest concerns in the mind of the people is the safety issues. The fear of getting their personal information leaked or getting their bank accounts hacked making them to suffer a huge loss has been the major limitation of the mobile banking applications. The responses obtained from the people tells that the security and the privacy need to be improved.

Observations :-



From the above chart we can observe that the online payment options like RTGS and NEFT have become more popular than the card payments and paper clearings in terms of value. The mode of payment with cash is becoming outdated because of time taking process and fear of theft and loss.

Major reasons why consumers want to adopt digital payments :-

- Demonetization
- Customer retention/demand
- Ease of use/ better experience
- Transparency/enables business analytics
- Compliance/ tax incentives
- Safety & security

Major reasons why consumers do not want to adopt digital payments:-

- Lack of awareness
- Fear of being cheated
- High transaction cost
- Cash flow gets impeded
- Fear of government tax regulations

- f) Personal data security

Suggestions / Recommendation :-

For smooth implementation of digital payment the following measures are recommended:-

- 1) Government should bring transparency and efficiency in e-payment system, strategies used by the government and RBI to encourage cashless transactions by licensing payment banks, promoting mobile wallets.
- 2) Government should withdraw service charge on cards and digital payment.
- 3) Measures to discourage use of cash, by introducing charges on withdrawal of money beyond a limit.
- 4) Campaign should be conducted time to time to make people aware of electronic payment and benefits. Especially in rural areas to educate less qualified people regarding uses of ATM, Debit card, Credit card etc. and also explain them about security and privacy of their account
- 5) In school banking skills should be taught so that they do not face any hinderance toward basic procedures.

Concluding Remarks

The study was focused on the factors which inclined the consumers toward the adoption of digital payment gateways. The results together indicate that the upcoming generation will adopt the advanced technologies for making payments which will fulfill the aim of cashless economy. The cash transactions would become obsolete to them. In the study it is observed that a large amount of people are aware of electronic payment system and more & more people are knowing about it.

It becomes the responsibility of the banks to make their gateways more convenient and time saving, secure so that the consumer can rely on them. The Reserve Bank of India and the owners of payment banks in India must

try linking and extending banking services with payment banks. KYC will become mandatory to avoid the frauds while making transactions. The time has already arrived where a transaction can be done just by waving your card above the machine, and the future is the Artificial Intelligence where the payment would be possible by our fingerprints and facial recognitions.

REFERENCES

Hsiao-Cheng Y., Kuo-Hua H., & Pei-Jen K. (2002). Electronic payment systems: An Analysis and Comparison of Types. *Technology in Society* 24, 331–347.

Shifa Fathima, J. “Digital Revolution in the Indian Banking Sector.” *Shanlax International Journal of Commerce*, vol. 8, no. 1, 2020, pp. 56–64.

Krishna, K.Vinitha & Shanmugam, Vasantha. (2020). “Usage of E-Payment and CustomerSatisfaction”. https://www.researchgate.net/publication/341878365_Use_of_E-Payment_and_Customer_Satisfaction

Urvashi Solanki, (2018). "Impact of Electronic Banking on Customer Satisfaction" Published in *International Journal of Trend in Scientific Research and Development (ijtsrd)*.

Atul Kumar Mishra | Dr. Rajesh Rathore (2019). "Effects of Demonetization on Digital Marketing & E - Payment Gateway" Published in *International Journal of Trend in Scientific Research and Development (ijtsrd)*.

Ridam Verma, Dr. Rishi Manrai(2019). “Demonetization and Impact on Digital Payments.” *Journal of General Management Research*, Vol. 6, Issue 2, July 2019, pp. 48–60

Neha Mehta, Sweety Shah(2020). “Payment Banks: Digital Revolution in Indian Banking System.” *International Journal of Management and Humanities (IJMH)* ISSN: 2394 – 0913, Volume-4 Issue-6, February 2020.

Kabir, Muhammad & Saidin, Siti & Ahmi, Aidi. (2015). “Adoption of e-Payment Systems: A Review of Literature”. *International conference of E- Commerce*, October 2015.

Dr.M. Kavitha, Dr.K. Sampath Kumar.(2018). “A Study on Digital Payments System with

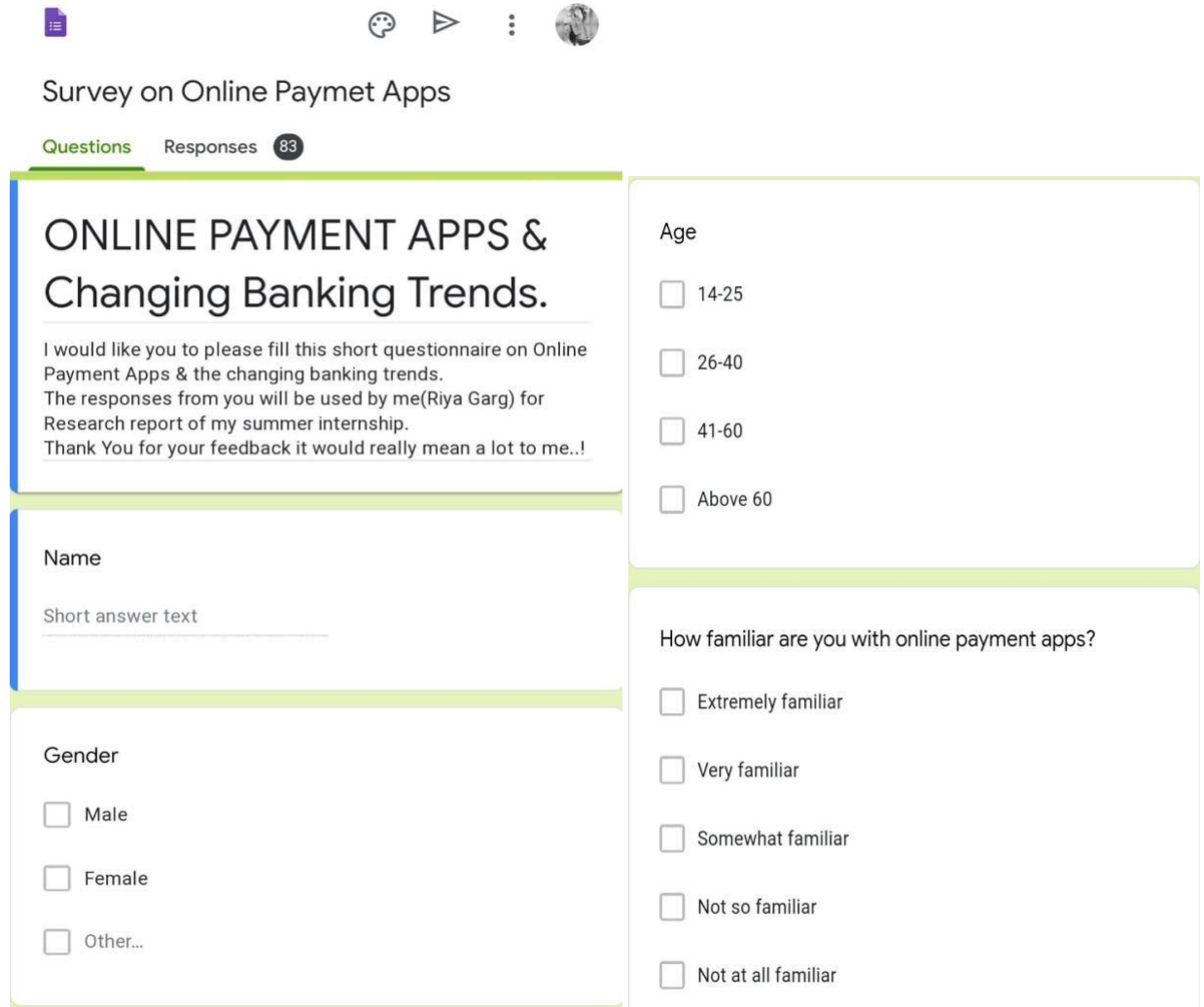
Perspective of Customer's Adoption". Eurasian Journal of Analytical Chemistry ISSN: 1306-3057 OPEN ACCESS 2018 13 (SP): 189-200

Sanghita Roy, Dr. Indrajit Sinha(2014). "Determinants of Customers' Acceptance of Electronic Payment System in Indian Banking Sector". International Journal of Scientific & Engineering Research, Volume 5, Issue 1, January-2014 177 ISSN 2229-5518

Prof. Sana Khan, Ms. Shreya Jain. "A Study on Usage of ePayments for Sustainable Growth of Online Business". IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668 PP 74-81

APPENDIX

Attached Questionnaire



Survey on Online Paymet Apps

Questions Responses 83

ONLINE PAYMENT APPS & Changing Banking Trends.

I would like you to please fill this short questionnaire on Online Payment Apps & the changing banking trends. The responses from you will be used by me(Riya Garg) for Research report of my summer internship. Thank You for your feedback it would really mean a lot to me..!

Age

☐ 14-25

☐ 26-40

☐ 41-60

☐ Above 60

Name

Short answer text

Gender

☐ Male

☐ Female

☐ Other...

How familiar are you with online payment apps?

☐ Extremely familiar

☐ Very familiar

☐ Somewhat familiar

☐ Not so familiar

☐ Not at all familiar

How long have you used these app?

- ☐ Less than 6 months
- ☐ 1 year - 3 years
- ☐ 3 years - 5 years
- ☐ Other...

Which payment app do you use?

- ☐ Paytm
- ☐ Google Pay
- ☐ Phonepe
- ☐ Other...

How frequently do you make transactions with these apps?

- ☐ Everyday
- ☐ Everyweek
- ☐ Everymonth
- ☐ Once or Twice a year

Why would you adopt an online platform over physical payment?

- ☐ convenience
- ☐ Cashback
- ☐ Time saving
- ☐ Discounts/Coupons

How often these apps have saved you from visiting your bank?

- ☐ Daily
- ☐ Once a week
- ☐ Once a month
- ☐ Rarely

Have you performed any of these activity online?

- ☐ Tax Filing
- ☐ Paying your Bills
- ☐ Online Shopping
- ☐ Other...

Please rank, how secure do you feel online transactions are?

- 1 2 3 4 5
- ☐ ☐ ☐ ☐ ☐

According to you, how much time have you saved by transferring money online over the conventional method of going to your bank?

- ☐ Less than 30 mins
- ☐ 30 min - 1 hour
- ☐ More than an hour
- ☐ Not much

<p>Which payment gateway do you use while making online payments?</p> <p><input type="checkbox"/> Cash on Delivery</p> <p><input type="checkbox"/> Credit/Debit card</p> <p><input type="checkbox"/> Payment Apps (Paytm, Google Pay, Phonepe etc)</p> <p><input type="checkbox"/> Mobile Banking</p>	<p>In this Covid-19 pandemic, how safe you feel to make transactions with these payment apps instead of Cash?</p> <p><input type="checkbox"/> Much too safe</p> <p><input type="checkbox"/> Too safe</p> <p><input type="checkbox"/> Neutral</p> <p><input type="checkbox"/> Too unsafe</p> <p><input type="checkbox"/> Much too unsafe</p>
<p>Do you think that you have used these online payment apps for transactions more than earlier in the current pandemic?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p>What is your biggest concern while using payment apps?</p> <p><input type="checkbox"/> Fraud</p> <p><input type="checkbox"/> Security</p> <p><input type="checkbox"/> Privacy</p> <p><input type="checkbox"/> Tax</p>

How likely would you use these apps in future?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<https://docs.google.com/forms/d/1WP0DQUUu6sVa5wSAqkfsK8aJ5A21kJ07P8DeQCqKtiw/edit>