

**A STUDY ON CHALLENGES FACED BY CUSTOMERS WITH
E-BANKING SERVICES IN CHENNAI CITY**

Submitted in partial fulfillment of the requirements for the award of
Master of Business Administration

By

**LINDA PATRICKA P T
REGISTER NO: 39410247**



SCHOOL OF BUSINESS ADMINISTRATION

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with “A” grade by NAAC | 12B Status by UGC | Approved by AICTE

Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai – 600 119

April - 2021



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Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai –
600 119

www.sathyabama.ac.in

SCHOOL OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of LINDA PATRICKA P T 39410247 who carried out the project entitled **“A study on challenges faced by customers with E-banking services in Chennai city”** under my supervision from January 2021 to March 2021.

**Dr. R.THAMILSELVAN M.Com., M.B.A., M.Phil, B.Ed., Ph.D.,
Internal Guide**

**Dr. BHUVANESWARI .G, MBA., Ph.D.,
Dean – School of Management Studies**

Submitted for Viva voce Examination held on _____

Internal Examiner

External Examiner

DECLARATION

I **LINDA PATRICKA P T 39410247** hereby declare that the Project Report entitled “**A study on challenges faced by customers with e-banking service in Chennai city**” done by me under the guidance of Dr.R.Thamilselvan M.Com., M.B.A., M.Phil., B.Ed., Ph.D is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

DATE:

PLACE:

SIGNATURE OF THE CANDIDATE

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ABSTRACT

Banking plays a vital role in the economy. Without money people cannot afford their living. There are frequent transactions between accounts and banks every single day. Nowadays, to make it even easier for people to make their transactions, E-banking is introduced. This helps them to withdraw money and also to transfer it by just some taps on their mobile phones, tabs or laptops. Though it seems easy, it also has its other side which is more of problems like hacking, technical errors, wrong transactions etc. This study focuses on the major problem which is faced by people, that is the security and privacy. This factor is very much important as it has the full database of the customers. This cannot be made extinct but can reduce the affected percentage by taking some security and privacy protocols. This study also checks how customers are relaying on the E-banking services. The suggestions of using the two factor authentication, voiceprints and some strict rules by the government can surely reduce the problems in security and privacy.

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CHAPTER- I

INTRODUCTION

1.1. INTRODUCTION:

The project titled “**Challenges faced by customers with E-banking services in special reference in Chennai**” focuses on the services which are availed by the banking sectors through electronic mode. As technology is growing rapidly we could see how banking sectors are improvising their services which satisfy its customers. Most of the services are provided in electronic mode (E-Banking) which is also known as “Green Banking”.

Electronic Banking is done on a software platform that connects the customers using online through the internet. This form of banking is highly encrypted which avoids leaking of one’s bank details with others. It also works as a tool to win over the customers by providing the best services for people without approaching the bank for making a transaction.



ELECTRONIC BANKING

FIGURE 1.1

E-Banking helps to transfer cash, print paper documents, applying for various loans, for making a single transaction. Now they can make a transfer just by a single tap using mobile phones, tabs and desktops. The E-Banking services are provided 24/7 for the customers designed for their easy access to their bank accounts. All banking

institutions like ICICI, HDFC, Citibank, etc have provided the electronic payment facilities for its customers in its best own way. Customers who are satisfied with these facilities endow with their loyalty toward the banks. paying bills, and receive documents online. This service is very convenient and is quick to make payments. It also saves time for the customers which avoid waiting for hours in the bank.

1.2. BANKING PROFILE:

E-banking is defined as,

“E-banking is a blanket term used to indicate a process through which a customer is allowed to carry out, personal or commercial banking transactions using electronic and telecommunication network.”

1.2.1. Banking Industry:

The earliest example of banking activities has been recorded at various times in ancient history. During 2000 BCE, in Babylonia, temples were the center of economic activity as trade was limited to the internal borders. Both palaces and temples issued loans and wealth to the people. Merchants used goldsmiths vault to store their wealth and gold in exchange for a fee. With passing time, goldsmiths started lending money to people.

The first bank to open in the world is Banca Monte dei Paschi di Siena, established by Giovanni Medici in 1397, Italy. This bank is headquartered at Siena, Italy and continues to operate. Meanwhile, modern banking practices emerged in the 17th and 18th centuries. Modern banking in India emerged in the last decade of the 18th century when the very first bank of India originated. Bank of Hindustan was established in the year 1770 and dissolved in 1829. General Bank of India was the second bank to establish in India in the year 1786 and liquidated in 1791. It was Bank of Calcutta that was incepted in the year 1806 and grew to become the largest bank of India that still exists in the form of State Bank of India. This was one of the three banks founded by presidency government of India. The other two were Bank of Bombay and Bank of Madras. All three were merged into Imperial Bank of India in 1921. Years after independence, it became State Bank of India. As for Reserve Bank of India, it was established and registered under the Reserve Bank of India Act, 1934, in 1935. It was in 1949 when Banking Regulation Act was enacted, RBI was made the apex bank that could control, regulate and, monitor the banks of India.

During the first phase of nationalization, the Government of India nationalized 14 banks in 1969. This includes Allahabad Bank, Bank of Baroda, Bank of India, Bank of Maharashtra, Central Bank of India, Canara Bank, Dena Bank, Indian Bank, Indian Overseas Bank, Punjab National Bank, Syndicate Bank, UCO Bank, Union Bank, and United Bank of India. In the second wave of nationalization, six more banks were nationalized in the year 1980. These banks were Punjab and Sind Bank, Vijaya Bank, Oriental Bank of India, Corporate Bank, Andhra Bank and New Bank of India.

In the year 1988, the computerization of banks started. Since then the industry has experienced massive technological development. There has been a digital revolution of sorts that has changed Indian banking system from conventional banking to convenient banking. Over the decades, banks have developed enormously with the help of information technology and artificial intelligence.

Recently, Indian Government created another milestone in the development of Indian banking industry by launching online payment systems United Payments Interface (UPI) and Bharat Interface for Money (BHIM) by National Payments Corporation of India (NPCI). Today, banks in India aim to provide fast, accurate, and quality banking experience to their customers with the help of internet banking and online banking.

1.2.2. HISTORY OF E-BANKING:

- Firstly, E-Banking came into existence in USA and Europe during the beginning 1980's though it was popular at the Late 1960's.
- In 1980's, people started using phone lines to access the banking system.

Evolution of Electronic Payments

Coinciding with the evolution of payments has been the development of technological advances that have created a frictionless, global ability to move money anywhere anytime.



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EVOLUTION OF ELECTRONIC PAYMENTS

FIGURE 1.2

- At 1994, Stanford Federal credit union offered the online internet services to all of its members.
- After seeing members using such technologies, other members from Well Fargo, Chase Manhattan, Security First Bank also started using these online services.
- As the technology started growing there was introduction of mobile. Many people were using mobile which later on changed as smart phones.
- Mobile apps were introduced where people can access their financial information's by visiting those applications.
- Now we can see more innovative scheme and plans are being introduced in order to make customers life easier and quicker.

Some of the type of payments in e-banking is mention in figure: 1.3;

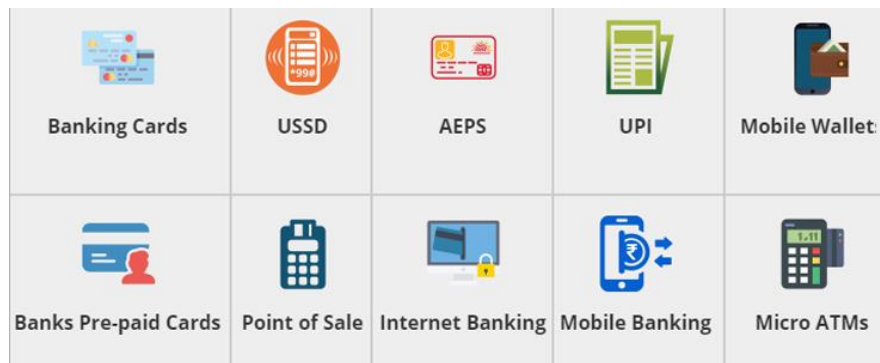


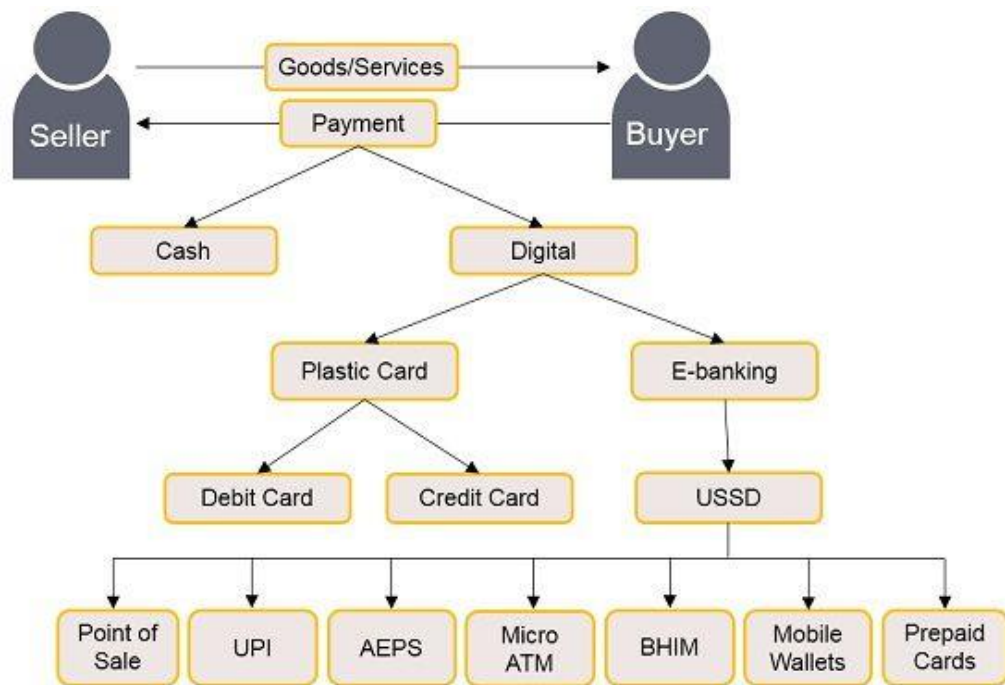
FIGURE 1.3

In simple words, e-banking refers to banking online process where the customer can perform various transactions over the internet. The transactions are end-to-end highly encrypted at both the ends and it is completely quick, safe and secure. It allows 24/7 access to the bank account and the customers can perform transaction anywhere and anytime. It also sends notifications and alert messages to get updated with the banking transactions, changes in the rules and information on any new schemes. It is convenient and easy for customers, as they are not required to visit the bank branch every time.

In a nutshell, any type of banking transaction performed through electronic mode comes under E-banking. It is a secure, fast and convenient electronic banking facility that allows its customers to undertake online banking services anytime during the day and at any place using the internet, for which the customers used to visit the banks in earlier days. It promotes paperless/cashless transactions. One can transfer money at ease and can also open/close accounts anytime a customer need. All the services can be done sitting in one place. The types of services covered under E-banking are;

1. **Internet Banking:** A banking facility provided to the customers through which the customers are able to perform a number of monetary and non-monetary transactions, using the internet, through the bank's website or application.

2. **Mobile Banking:** Almost all the banks have designed their mobile applications with which you can perform transactions at your fingertips. For this, four things are required – a Smartphone, internet, mobile application, and mobile banking service linked in your bank account. It can help to transfer amount from one account to another, check balances and other financial information and also helps to pay bills. Mobile banking consists of three inter-related concepts like Mobile Brokerage, Mobile Accounting and Mobile Financial Information Service.
3. **ATM:** Automated Teller Machine, popularly known as ATM is one of the most common and initial service, provided under e-banking. It is not just a machine with which you can withdraw cash as and when required, but it also allows you to check your account status, transfer fund, deposit fund, changes mobile number, change Debit Card PIN, i.e. Personal Identification Number. ATM helps in cash withdrawals, deposit cash/cheques, fund transfer, balance enquiry and can change ATM pin number (Personal Identification Number).
4. **Debit Card:** Debit cards are used in our day to day life so as to perform end number of transactions. Debit cards are linked to the customer's bank account and so the customer only needs to swipe the card, in order to make payment at Point of Sale (POS) outlets, online shopping, and ATM withdrawal. In this way, the amount is deducted from the customer's account directly.



DIVISION OF E-BANKING

FIGURE 1.4

5. **Credit Card:** Just like a debit card, a credit card is also a payment card which the banks issue to the customers on their request, after checking their credit score and history. It enables the cardholder to borrow funds up to the pre-approved limit and make payment. The limit is granted by the banks which issue the card. The cardholder promises to repay the amount within a stipulated time, with some charges, for the use of credit card.
6. **Point of Sale (POS):** Points of sale system refers to the point, in terms of date, time and place (retail outlet) where the customer makes a payment, using a plastic card, for the purchase made or services received.
7. **Electronic Data Interchange (EDI):** EDI is a new mode of communicating information between businesses electronically using a standardized format, which was conventionally paper-based.
8. **Electronic Fund Transfer (EFT):** When money is transferred electronically from one bank to another, it is called as electronic fund transfer. It covers direct debit, direct

deposits, wire transfers, NEFT (National electronic Fund Transfer), RTGS (Real Time Gross Settlement), IMPS (Immediate Payment Service), etc.

9. **Digital Wallet (Electronic wallet):** ` Electronic wallets being terribly helpful for frequent internet buyer's square measure commercially out there for pocket, palm-sized, handheld, and desktop PCs. They provide a secure, convenient, and moveable tool for on-line searching. They store personal and money info like master cards, passwords, PINs, and far a lot of. To facilitate the credit-card order method, several firms square measure introducing electronic billfold permit you to stay track of your charge and shipping info in order that it are often entered with one click at taking part merchants' sites. E-wallets can even store e checks, e-cash and your credit-card info for multiple cards.

1.2.3. USES IN E- BANKING:

- E-banking helps people to make money transactions from one account to another within minutes. This reduces loss of time and is quick in making transactions.
- Almost most of the banks are having this online facility to cope up with the modern technology.
- It helps in making payment on one's loan, insurance, bills etc.
- Anyone can opt for loan through the e-banking. According to the credit score calculated, the bank provides them with loans.
- E-banking saves lot of time and transition cost than to while away time in bank for hours.
- All the financial information can be known from one's mobile phones, laptop, tabs, desktop etc anytime and from anywhere.
- There is lesser work load and chances of fraud can be minimized.
- It is very easy to make utility payments anytime and anywhere.

1.2.4. CHALLENGES IN E-BANKING:

- There is privacy and security problem which make the people feel insecure from not using the e-banking services which is offered by the bank.
- People are still afraid in exposing their financial details in online platform like debit card details while paying bills and transferring amount.
- Some websites may be in default condition.
- Payments process sometimes may be delayed.
- Debited and credited amount information can be received slowly.
- Illiterates find it very difficult for using the E-Banking services as they don't know to operate.
- Simple mistakes by clicking any wrong button may cause big problem.

The e-banking has both pros and cons. In this modern world, people tend to do works as quick as possible. In this fast moving world e-banking plays an important role as it helps people in various ways. Still challenges are faced by customers and those issues are being rectified by the banks as fast as possible. By doing this, it enhances people and makes life easier.

1.3. NEED FOR THE STUDY:

The need for the study, on the title “**Challenges faced by customers with E-Banking services in special reference in Chennai.**” is referred in terms of;

- To examine the Challenges and problems this is faced by the customers in Chennai while making transactions through online banking.
- To measure the customers preference on Electronic Banking than offline mode.
- To know on how many customers rely on these online services even considering the major problematic features.
- To examine on what the customers sense about the online mode banking in this faster growing period.

1.4. STATEMENT OF THE PROBLEM:

The major problem specified from the Title, **“Challenges faced by customers with E-Banking services in special reference in Chennai.”** is the problems and issues faced by customers while processing transactions through Electronic Banking.

Some of the problems which are faced by customers are;

- Technical issues are a major problem in Electronic Banking. Some banks may have their websites crashed like Error 404. It may sometimes doesn't make transaction when is of an urgent need.
- Privacy and security is always a root issue in E-Banking as customers are very much sensitive on their bank details which are to be exposed on an online platform as 'Hackers' are in and around networks.
- Some payments would buffer due to improper network connection.
- Payment details will be shown in the pass book after days.
- Some payments may take time to process and if that transaction should be done urgent, then the customer is in critical situation.

The specific problem which is to be undertaken in this project is PRIVACY and SECURITY. Though the transactions are highly encrypted on both ends still there are hacking, cyber stalkers, phishing problems, etc. Even if these are rectified too the customers may find it difficult and frightened in entering their bank details in online banking. The relevance of the problem is that these issues have a major consequence that affects the customers directly as well as indirectly. These problems need to rectify so that the customers may use electronic banking payments in the future. As technology is growing at its own pace, there will be days where everything should be done in online mode itself. These may help the customers better understand the issues and have them at a safe place while making any transactions.

1.5. OBJECTIVES OF THE STUDY:

Primary Objectives: To study the challenge and issues faced by the customers while making transactions through Electronic Banking.

Secondary Objectives:

- To analyze how often customers rely on the online payments besides the Challenges and issues in online banking.
- To check on the value provided by the bankers for the customers in security and privacy.
- To measure the Customers point of view towards the banking through online.
- To investigate on how many customers prefer Internet Banking rather than Offline payments in reference in Chennai.

1.6. SCOPE OF THE STUDY:

The major scope of study, on the topic “**Challenges faced by customers with E-Banking services in special reference in Chennai.**” is to find out the problems and issues faced by every customer while making a transaction. As the process is done in online platform there would be many challenges to overcome while using such technologies. This study will help to know the types and kinds of problems and challenges that are faced and the rectification and solution of those issues. This study also measures the customer's point of view on Electronic Banking as a whole with reference in Chennai.

1.7. LIMITATIONS OF THE STUDY:

- Many statistical tests and formulas are required to calculate and are also difficult to provide the approximate values.
- This study is done with reference in Chennai, with the sample size of 150 to 200 and therefore dependability of the project is not certain.
- Every customer point of view differs from one another which are tedious to compile.
- The problems and issues can be analyzed but some other new issues are still out of the box.
- Convenience sampling is used and hence it is not the true representation of the universe.

1.8. Chapter Framework:

CHAPTER 1: INTRODUCTION

This chapter discusses about introduction to E-banking services, Banking profile, Need for study, Statement of problem, Objectives of study, Scope of study and Limitations of study.

CHAPTER 2: REVIEW OF LITERATURE

This chapter discusses about fifty theoretical reviews of literature by various authors who had conducted research on the topic relating to the Challenges and issues faced by E-banking services.

CHAPTER 3: RESEARCH METHODOLOGY

This chapter discusses about Research design, Primary data, Secondary data, Sample size, Sample Plan, Population, Sampling Frame, Sampling unit, Sampling design/ sample selection method, Period of study, Statistical tool used for the study and Hypothesis of the study.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

This chapter discusses about data analysis and their interpretations derived from the questionnaire with suitable charts. It also shows the percentage analysis and statistical tool calculations from the study.

CHAPTER 5: FINDINGS, SUGGESTIONS AND CONCLUSION

This chapter discusses about Findings, Suggestions, Conclusion, Reference, Appendix and bibliography.

CHAPTER - II

REVIEW OF LITERATURE

2.1. REVIEW OF LITERATURE:

1) **Title and Author:** E-BANKING: REVIEW OF LITERATURE, Anukool Manish Hyde.

Journal Name: Prestige e-Journal of Management and Research, Volume 2, Issue 2 (October, 2015) ISSN 2350-1316.

This study tells about the features of the banking industry across the globe has been that it is increasingly becoming turbulent and competitive, characterized by an increasing trend towards internationalization, mergers, takeovers and consolidation of the banking industry. This has given a myriad of options to customers in choosing banking services and has attracted many. It is obvious that e-banking and payments are likely to advance. This study attempts to explore literature review on e-banking and gives conclusion on the basis of past studies. It has concluded as, people are still not fully aware of advantages of e-banking but those who are tech savvy are using e-banking successfully. Important thing is that people need to be technically sound so that they can use e-banking facility properly.

2) **Title and Author:** DIGITAL TECHNOLOGY IN THE REALM OF BANKING: A REVIEW OF LITERATURE, Varda Sardana and Shubham Singhania

Journal Name: IJRFM 2018, P-ISSN: 2617-5754, E-ISSN: 2617-5762; 1(2), pp: 28-32.

This paper reviews the theoretical literature on the growth of digital and information technology in the Indian banking industry. The stupendous advancements in digital technology have transformed the way banks operate. One of the latest outcomes of this is digital banking such as deposits, ATMs, debit cards, mobile payments, and the like. The increase in competition and various other challenges in the banking sector are pushing the banks to adopt new digital models that present unique sources of value to them. This paper examines the extent and the direction of the effect of digital

technology in the domain of Indian banking. The survival and success of an 'internet only' model or a 'pure' digital bank is bleak in India. Hence, despite the appeal of digital offers, banks need to balance their traditional physical presence with digital presence. Indian banks need to deal with the possible negative outcomes of digital disruption on their value by stimulating digital awareness and achieving critical mass- which would ultimately lead to word of mouth promotion.

3) Title and Author: FACTORS AFFECTING JORDANIAN ELECTRONIC BANKING SERVICES , Hassan Rawwash, Fawzieh Masad, Odai Enaizan, Bilal Eneizan, Mohammad J Adaileh, Ashraf Musa Saleh, Rad Almestarihi.

Journal Name: Management Science Letters, SSN 1923-9343 (Online) - ISSN 1923-9335(Print), Volume 10 Issue 4, pp.915-922, 2020.

This study aimed to identify the factors influencing on electronic banking services provided by Jordanian banks. Perceived usefulness, ease of use, trust, privacy and security and convenience are the factors investigated in this study. Results of the study found that perceived usefulness, ease of use, trust and privacy directly and positively influenced on e-banking usage. Convenience was found to have no effect on e-banking services. The study recommends that an understanding the factors affecting e-banking is very essential for the practitioners who seek new ways of banking services in the current competitive environment.

4) Title and Author: INFLUENCE OF SECURITY AND TRUST ON ELECTRONIC BANKING ADOPTION IN SLOVAKIA, Vejacka, Martin, Štofa, Tomáš

Journal Name: Technická univerzita v Liberci, 2017, ISSN: 2336-5604 (Online), 1212-3609 (Print).

This study tells about the Dynamical development of information and communication technologies have been one of the major factors of economic growth in recent decades. Electronic banking as a part of electronic commerce is nowadays very important distribution channel for banking services. With the intense development of information and communication technologies also several forms of electronic banking

arose and also vanished. The important issue is trust of bank customers in the form of electronic banking used. Banks' customers also sensitively perceive security of electronic banking forms used by them. The results reveal that all factors investigated have statistically significant direct and indirect effects on electronic banking adoption by users on the Slovak retail banking market.

5) Title and Author: ELECTRONIC BANKING SECURITY AND CUSTOMER SATISFACTION IN COMMERCIAL BANKS, Belás, Jaroslav; Korauš, Michal; Kombo, Felix; Korauš, Antonín

Journal name: Journal of Security and Sustainability Issues, 2016, ISSN 2029-7017, Volume 5, Issue 3, p.p 411-422.

The study on the Electronic banking security and customer satisfaction in commercial banks checks on the customers who are satisfied with the responses taken prior to the commercial banks. It focused on the electronic banking services which are availed by the banking sectors. Electronic forms of banking are used by more than 90% of the respondents, particularly by university educated ones. The results thus confirmed that security issues currently influencing also customer satisfaction and loyalty have become a crucial element of bank activities. A vital component of this is also the customers' awareness of security measures and threats. It cannot be declared that banks do not realize such activities but resulting from our research we opine the banks do not do it in a correct way. If they did, we assume the level of trust in electronic payments security would be at higher levels.

6) Title and Author: THE EFFECT OF SECURITY AND EASE OF USE ON REDUCING THE PROBLEMS/DEFICIENCIES OF ELECTRONIC BANKING SERVICES, Armend Salihu, Edmond Hajrizi, Muhamet Ahmeti.

Journal name: IFAC- PapersOnLine, Volume 52, Issue 25, 2019, Pages 159-163

The study tells about the use of technology in banking operations has facilitated many daily banking activities. However, the use of technology in electronic banking services has its problems/deficiencies as well. The aim of this study is to examine the

impact on electronic banking services of security and ease of use. After a thorough review of the literature, this study provides a statistical analysis through a distributed questionnaire to examine the effect of security and ease of use in decreasing issues with electronic banking. Regression analysis demonstrates that security and ease of use of electronic banking services have a negative effect on issues with electronic banking services, which implies that with enhanced security and/or ease of use their issues are decreased.

7) Title and Author: E-BANKING CHALLENGES IN PAKISTAN: AN EMPIRICAL STUDY, Zahoor Hussain, Dayal Das, Zulfiqar Ali Bhutto, Muhammad Hammad-u-Salam, Fauzia Talpur, Glub Rai

Journal name: Journal of Computer and Communications , Vol.5 No.2, February 2017.

This study demonstrates on the Electronic banking provision networks that replaces and replicated various activities currently executing by the bank. Hence e-banking now plays a vital role to carry out the individual as well as corporate financial activities execution. The research article explores the current trends in the e-banking uprising that has set a goal in the Pakistani banking sector to provide any easy interface to their customers which avail the e-banking services without any physical presence in the bank vicinity. This empirical study was carried out in Pakistan which indicating the current issues encounter by the e-banking application in various banking industries. The analysis in this paper further reveals that approachability of internet in banking sector makes customer reluctant to access their bank accounts electronically. The usage of e-banking significantly affects the customer trust due to unavailability of cyber security.

8) Title and Author: THE CHALLENGES OF ADOPTING THE USE OF E-BANKING TO THE CUSTOMERS: THE CASE OF KASAMA DISTRICT BANKING CUSTOMERS, Saviour Lusaya.

Journal name: Scholar Journal of Applied Sciences and Research, Article Number: SJASR115, Vol: 1, Issue: 2 (26-31).

The study tells the technological advancement which was imperative that banks and their customers switch to the new ways of banking called e-banking. This study therefore investigated the challenges of adopting the use of e-banking by customers. The results of the study found that availability of information on e-banking, education level and the cost associated with e-banking were the significant challenges to adopting and use of e-banking by customers. It was concluded that making information available would increase the number of customers using e-banking. The researcher therefore recommended that Banks embark on information dissemination on the use of e-banking, benefits and cost of e-banking and that though security did not significantly affect e-banking usage, the bank should guarantee security of the accounts.

9) Title and Author: DEVELOPMENT OF A FRAME WORK FOR E BANKING CHALLENGES IN RURAL INDIA Dr. S.Saravanan , M.Dharani

Journal name: Pramana Research Journal, Volume 10, Issue 2, 2020, ISSN NO: 2249-2976, pg: 63-69.

This study explains E-banking is a technique designed for the purpose of online banking that enables the customers for easy and safe access to their bank account. E-banking provides enormous benefits to customers in terms of quick, simple and even large amount transaction at anytime anywhere through internet. But also the customer faces lot of challenges in e-banking due to lack of clear knowledge about the e-banking system. This paper is highlighted the challenges faced by the customers in e-banking and suggesting the measures to overcome these challenges. This will help in future how e-banking service technologies can be developed for rural customers of Indian Banking sector.

10) Title and Author: THE IMPACT OF E-BANKING SERVICES IN INDIA, Sri Balakrishnan and R. Bharthvajan

Journal name: Malaya Journal of Matematik, Vol. S, No. 2, ISSN: 3286-3288, 2020.

The study tells on the E-banking has emerged as a new technology through the internet to promote the growth and efficiency in the Banking sector. It helps to access

the financial institution connected through electronic banking system. It provides many services whereby the banking sector and the customers can communicate through the internet with ease. The research paper focused on e-Banking, benefits, services, application in today's business. E-banking is highly comfortable in our daily life and in fact it has made our life easier and convenient and over all we are able to enjoy quality services smartly. It also resulted in efficiency and time saving methods. Also Internet is the cheapest delivery channel for banking products as it allows the entity to reduce their branch networks and downsize the number of service staff. For banks, Internet has opened up new horizons and moved them from local to global frontiers.

11) Title and Author: A NEW APPROACH TO ENHANCE INTERNET BANKING SECURITY, M. F. Mridha, Kamruddin Nur, Alope Kumar Saha , Md. Akhtaruzzaman Adnan

Journal name: International Journal of Computer Applications ISSN: (0975 – 8887) Volume 160 – No 8, February 2017, Pp. 35-39.

These research works emphasize the protection of online banking. At first, E-banking is analyzed for all kinds of vulnerabilities and a practical investigation of all type of attacks is carried out. In this paper, a security-aware architecture is introduced to protect from several attacks. The proposed system has a secure protocol and certificate verification mechanism. The proposed system checks the authenticity of the sender first; then if appropriate, processes the incoming messages and stores them for further processing. This covers everything from phishing site detection to two-factor authentication. Having declared all current schemes for protecting online banking lacking in some way, the key aspects of the problem are identified. This is followed by a proposal for a more robust defense system which uses a small security device to create a trusted path to the customer, rather than depend upon trusting the customer's computer. This is followed by a description of a demonstration implementation of the system. In this work, a data processing secure protocol and a certificate per transaction are proposed to provide extra security.

12) **Title and Author:** IMPACT OF E-BANKING SERVICE QUALITY ON CUSTOMER SATISFACTION, Jyotsna Sharma, Jagdeep Singh, Amandeep Singh

Journal name: International Journal of Recent Technology and Engineering (IJRTE)
ISSN: 2277-3878, Volume-8 Issue-5, January 2020, pp.2296-2300.

The main objective of this paper is to measure the impact of E-banking service quality on customer satisfaction. The random sampling technique has been taken up for the survey by keeping due care for the availability and easiness of the customers. The Multiple regression technique has been employed to measure the effect to service quality dimension on the customer satisfaction. The paper examines the relative strength of each dimension affecting customer satisfaction. It has been found that the overall regression model has been a reasonable fit and there is a statistically significant association between service quality dimension and customer satisfaction. The results of the study it has been concluded that tangibility, credibility, responsiveness, security and communication impacts customer satisfaction towards e-Banking services.

13) **Title and Author:** E-BANKING SERVICES IMPACT AND CUSTOMER SATISFACTION IN SELECTED BANK BRANCHES IN IBADAN METROPOLIS, OYO STATE, NIGERIA , Haadi Babatunde Asiyanbi, Ajibola Abdulrahmon Ishola.

Journal name: SSN 2369-407 (Online) – ISSN 2369-7393 (Print), Vol 4 Issue 4, pp.153-160, 2018.

This study perused the impact of E-banking services on customer satisfaction of selected bank customers in bank branches located in Challenge, Dugbe, Agbeni, Gbagi, Ojoo, and Secretariat districts in Ibadan metropolis. The study employed a cross-sectional survey design and convenience sampling technique. Constraints experienced include internet network failure, bank fraud and business loss due to failed e-transactions. Customers were satisfied with e-banking due to its cashless nature, cash accessibility, saves time from bank visitation and seamless transactions. The study exhibited that customers used and were glad with e-banking products.

Customers' segmentation and more investment in e-banking infrastructure were advised for promoting electronic banking services.

14) **Title and Author:** DIGITALIZATION & CUSTOMER PERCEPTION TOWARDS THE BANKING SERVICES, Deepa Joshi and Sapna Parihar.

Journal name: A Peer Reviewed Research Journal, Vol. XXIII Issue 2 September 2017, pp.133-141.

This study tells about all banking transaction from home without visiting and spending time in queues and all the services are available for 24x7 are the main attraction of the e-banking system. Even after catering so many facilities the customer perception differ in service quality issues. The present study reveals the customer perception towards the service quality in e-banking facilities. Respondent were asked to respond on various service quality dimensions such as privacy, transparency, reliability, technical difficulty, ease of transaction etc. The data has been collected through a self designed questionnaire from 100 respondents and analyzed through chi-square test. The results show that e-services ensure privacy, service quality, conveniently transfer the information within the bank, and increase the service and also cheaper than the manual service. On the other hand customers also believe that digitalization creates the issues of accuracy, threats of losing information and technical problem while transactions.

15) **Title and Author:** E-BANKING EFFECTS ON CUSTOMER SATISFACTION: THE SURVEY ON CLIENTS IN JORDAN BANKING SECTOR, Thabit Altobishi , Gizem Erboz & Szilárd Podruzsik

Journal name: International Journal of Marketing Studies; Vol. 10, No. 2; 2018, ISSN 1918-719X, E-ISSN 1918-7203,pp. 151-161.

This study tells about the managers in financial organizations and institutions are willing to maintain customer satisfaction, in order to minimize their cost and strengthen their competitive advantage. In Jordan, most of the commercial banks offer their banking services electronically. The reviewed literature indicates that convenience, privacy, cost, ease of use, personalization and customization and

security are six indicators that affect level of customer satisfaction with E-Banking. The survey questions conducted in these six indicators and statistical results shows a positive relationship between level of customer satisfaction and usage of E-Banking among customers. There is positive relationship between five indicators and level of customer satisfaction and usage of E-Banking. Only Privacy is not discovered to have an effect on Customer Satisfaction in Jordan.

16) Title and Author: SECURITY: CHALLENGE OF E-BANKING SERVICE PRACTICE IN BANGLADESH, Dr. Mia Muhammad Mustafiz Munir and Prodip Chandra Bishwas.

Journal name: The Jahangirnagar Journal of Business Studies, Vol. 8, No. 1, June 2019, pp. 186-196.

The study enumerates about the banking sector of a country plays an important role in an economy. E-banking is well known term in Capital City of Bangladesh but not around the country. E-banking has been emerged due to digitalization. Most of them are not using the services due to scared of security like spamming, credit card frauds, and ATM frauds etc. The study focused on only the security issue which is a challenge to expand E-banking services in Bangladesh. It is recommended that the issue of cyber security should be addressed properly so that the technological systems are safeguarded from the threat and also to the bridge the assimilation gaps between customers and banks.

17) Title and Author: CHALLENGES OF ADOPTION OF INTERNET BANKING SERVICE IN COOPERATIVE BANKS IN INDIA, Dr. Rajesh Jha and Dr. Ratikanta Ray.

Journal name: Dogo Rangsang Research Journal, UGC Care Group I Journal, ISSN: 2347-7180 Vol-10 Issue-07 No. 18 July 2020, pp.1-10.

This study tells about the advancement in Information and Technology sector has brought about the unique transformation in development process of Indian economy consisting of several sectors including banking sector per se cooperative banks. There are several challenges such as bank location, demographic characteristics,

acute shortage electricity supply, customers' education, security and assurance, quality service, trust factor, privacy risk, transaction costs, etc. in adopting internet banking service in cooperative banks in India. It is suggested that legal protection to authorized users, superior quality service, proper customers' education, regular electricity supply, confidence building measures, low cost transactions, high speed internet connection, better consumer relations, etc. may encourage adoption of internet banking service in cooperative banks in India in the days to come.

18) Title and Author: A STUDY ON THE AWARENESS AND PROBLEMS OF CUSTOMERS TOWARDS E-BANKING SERVICES IN MADURAI, Dr.K.Nisha, Mrs.A.Yoga Lakshmi and Mrs.S.Satyavani

Journal name: DogoRangsang Research Journal, ISSN: 2347-7180, Vol-10 Issue-06 ,June 2020, pp. 335-342.

This study enumerates e-banking is banking services done with the help of internet. Ebanking services make the banking transactions easier for the customers. It provides banking services 24x 7. The customers face a lot of problems in banks today. The new age Indian customer has come to expect a lot more from banks than mere mechanisms to save. Customers are more knowledgeable, demanding, analytical and aware of their rights. There are many problems faced by customers while utilizing e-banking services like complex procedure, no updated information and delay in service. SBI which has a large network of branches even in the remotest part of the country has the largest illiterate customer population. It should try to simplify its procedures according to the need of the customers. Besides, the banks should allow the customers to express their difficulty in transacting business rather than avoiding such circumstances and provide awareness.

19) Title and Author: A STUDY ON IMPACT OF COVID-19 ON CUSTOMER SATISFACTION TOWARDS E-BANKING SERVICES, Dr .Arati Jadhav

Journal name: REFEREED JOURNAL, ISSN 00973-5372, pp. 59-64.

Banking sector has come up with a lot of new initiatives which are oriented to provide a better customer service and facilities with the help of information technology. ATMs,

Mobile banking, Internet banking, Credit/debit cards, Payment apps have emerged as delivery channels for traditional banking products. Covid-19 pandemic has devastated the world economy and financial markets. Covid-19 the pandemic affected many sectors including unorganized sector, Education, Finance E-commerce, Aviation, Tourism and Banking. The present study aims to study the impact of covid-19 on customer satisfaction towards e -banking services like ATM, internet banking, mobile banking and problems faced by the customers in accessing these services during Covid-19. The nature of banking services may still be the same but the way they are being offered has been changed dramatically.

20) **Title and Author:** DIGITAL V-CARD - THE FUTURE SECURITY, Adithya Kishor Prasad and Sagar U S.

Journal name: International Journal of Innovative Research in Computer Science & Technology (IJIRCST), ISSN: 2347-5552, Volume-8, Issue-3, May 2020, pp.4.

The paper focuses on designing and developing a user interface to help out the community in making a secure and also a better use of ATM cards using virtual ATM card application. The problem is when the PIN is known to hackers then it very easy to use the ATM card. To resolve this, the Virtual ATM cards come for the rescue. The number of ATM card changes after every transaction. This helps the user to keep the ATM card number more securely for efficient cardless transactions. The virtual ATM card project is implemented using web technology and Android Studio software using java language. After every transaction, the card number automatically gets destroyed and creates a new card number for the user. The PIN can change, or it can be auto-generated PIN by bank server so that the security can be improved.

21) **Title and Author:** DIGITAL PAYMENT: EMPIRICAL STUDY ON USAGE OF DIGITAL PLATFORM IN MAKING DIGITAL PAYMENTS, N. Divyapriya and R. Velanganni.

Journal name: Malaya Journal of Matematik, Vol. S, No. 2, ISSN NO: 3586-3589, 2020, pp. 3586- 3589.

The study tells on the dynamic payment landscape which is widening and changing, and digital payment platforms are continuing to evolve robustly. UPI has become a significant Indian payment choice. Cantered on reduced pain in conventional services such as NEFT and RTGS, banking services are made more available to a larger audience. The present study has carried out with an objective of determining the usefulness of digital payments in Chennai city. The usage of digital banking is emerging by leaps and bound hence common man needs to adopt digitalization. The results show Substantial numbers of users prefer digital banking on weekly basis and find it convenience in its operations. Majority of digital payment users agree with importance of cashless transactions in promoting digital payments.

22) Title and Author: E-BANKING: BENEFITS AND ISSUES, Dr. Hajera Fatima Khan.

Journal name: American Research Journal of Business and Management ISSN-2379-1047 Volume 3, Issue 1, 7 Pages, 2017.

This study demonstrates that the E- Banking plays a very vital role due to the fact that it's the cheapest way of providing banking services. The customers are committed to using the service, as well as banks is able to retain the major interest of its users. Beside the enormous benefits e-banking is a difficult business and face a lot of challenges like usefulness, security and privacy. Many customers think that it is not easy to use online banking system as people want their money to be safe and secure. To overcome with the issues, the banks should provide more facilities and convenience to the customers by taking all steps and measures to make online transactions safer and secure for the customers.

23) Title and Author: A STUDY ON CUSTOMER SATISFACTION OF E-BANKING SERVICES IN PUBLIC SECTOR BANKS IN CHENNAI DISTRICT, R. Suguna, Dr. A. Ravikumar.

Journal name: Journal of Critical Reviews 2021, Vol: 8, Issue: 1

The study talks that the banks are digitalizing their services and providing better E-Services to their customers; there is a lack of complete digitalization because of

some illiterate customers. It is impossible to educate them all, but it is possible to train them by conducting training sessions, the technological facts related to banks and their customers are hacked by some unauthorized persons, but this can be overcome by developing highly protected networks and applications used for E-Services in banking.

24) Title and Author: SECURITY PERCEPTION OF E-BANKING USERS IN INDIA: AN ANALYTICAL HIERARCHY PROCESS, Mahesh Kumar, And Sanjay Gupta.

Journal name: Banks and Bank Systems, ISSN PRINT 1816-7403, ISSN ONLINE 1991-7074, 2020, pp. 11-20.

The study aims at investigating e-banking users' perception with regard to online risk for public, private and foreign banks. Online risk perception for banks was assessed on three major risk parameters, i.e. security aspect, privacy aspect, and trust; using a multiple-criteria decision-making tool, called the Analytical Hierarchy Process (AHP). The findings of this study have various implications for both research and practice. Private and foreign banks in India may adopt appropriate marketing strategies to achieve a favorable perception.

25) Title and Author: DEVELOPMENT OF A SECURE MOBILE E-BANKING SYSTEM, Raphael Olufemi Akinyedea , Odoseiye Aidohelen Esese.

Journal name: International Journal of Computer (IJC) ISSN 2307-4523 (Print & Online), 2017, Volume 26, No 1, pp 23-42.

The study is on the mobile banking refers to the usage of a telephone or different cellular device to carry out on-line banking responsibilities. Those responsibilities encompass account balance enquiry, funds transfer, bill payment, finding an ATM, etc. Considering the excessive fee of adoption of this technology, quite a few concerns are raised as regards user authentication, data confidentiality, non-repudiation, data integrity and service availability. Results obtained suggest that the model is viable as data encrypted and hashed could not be decrypted by an attacker compared to other existing models.

26) Title and Author: CREATING A SAFE MODE IN BANKING TRANSACTIONS AND ITS EFFECTS ON THE SPEED OF COMMERCIAL TRANSACTIONS LEO SUNG, Pei-Zheng Zheng

Journal name: International Research Journal of Management Sciences, Vol-4 (1), ISSN:2147-964x, pp.70-73, 2017.

The study is on the Internet Banking has become the person's basic requirement in today's era. This basic requirement of internet banking is followed by some problems like FOBIA attack also. FOBIA is new emerging attack of Internet Banking in which the Internet Banking user is pressurized to transfer money to an unknown account from his account. In this research paper we have proposed a well planned framework of a security mechanism for FOBIA. This security mechanism performs the detection, prevention and recovery of FOBIA. We have named this security mechanism as Safe Mode Login Transaction (SMLT). SMLT starts the process of preventing as soon as it detects the FOBIA and helps the user to escape from becoming the Victim of FOBIA.

27) Title and Author: UNIFIED PAYMENT INTERFACE (UPI): A CATALYST TOOL SUPPORTING DIGITALIZATION – UTILITY, PROSPECTS & ISSUES, Roshna Thomas Ph.D Scholar and Ahmedabad Dr. Abhijeet Chatterjee

Journal name: International Journal of Innovative Research and Advanced Studies (IJIRAS), Volume 4 Issue 2, February 2017, ISSN: 2394-4404.

This study is based on UPI allows the customer to make transactions both big and small instantly and that too free of cost. Though UPI is loaded with clear vision and superior objectives from the government and the NCPI it is still far from adoption as there are technical, psychological and fundamental factors responsible. The study concludes that UPI is a tool with compatible features that can make monetary transactions easy and affordable to the customers though it is difficult to sideline the challenges. UPI identity syncs to Aadhaar's verification and connects to the merchant for the settlement and lets the issuing bank to close the transaction. Thus a robust Aadhaar platform is one of India's superior achievements which will aid the country to digitalize its payment services through UPI.

28) Title and Author: IMPACT OF TECHNOLOGY ON THE USAGE OF MONEY, Sahil Raj Avari, Rajat Lath, Mounika Veeragandham

Journal name: International Journal of Research in Engineering, Science and Management Volume 4, Issue 1, January 2021, ISSN (Online): 2581-5792, pp 114-118.

This paper mainly focuses on how technology impacted the payment methods. As per the sources digital payments leads to increase in employment and also reduces the risk of corruptions, theft, carrying huge amount and etc. Digitalization helps an individual to transfer amount from one account to another account easily with high security. Banks play a major role in digitalization, few of the instrument are debit cards, credit cards, internet banking, mobile banking and etc. In 2016, when demonetization was decided, people started to pay digitally instead of giving paper cash. In changing environment many technologies are implemented in banking sector and still going on. Over the time, even individuals slowly adapting the technology and started paying their bills, transferring amount via smart phones, cards etc.

29) Title and Author: E-COMMERCE IN INDIA: E- PAYMENT METHODS, TRENDS AND CHALLENGES, Dr.G.Damodhar and Dr.T.Suneetha.

Journal name: International Journal of Engineering Applied Sciences and Technology, 2020 Vol. 5, Issue 7, ISSN No. 2455-2143, Pages 275-279.

This study is on the E-commerce which provides the potential of shopping for and commerce product and services on the web and different on-line environments. In Ecommerce cash exchange is in electronic form and known as electronic payment. E-Payments has created their approach easier through open-end credit, master card, ECS, EFT, RTGS and NEFT. Being user friendly and fewer long than manual process, it helps concern to expand its market reach/expansion of the E-commerce. The risk to the net payments is the every of payments information, personal information and dishonourable rejection on the part of customers. t to ensure an affordable minimum level of security on the network. If the shopper needs to take

care of privacy, then they select those payment ways that guarantee the next level of privacy like E-cash or web Bill Checks.

30) Title and Author: TRUST ISSUES? THE NEED TO SECURE CONTACTLESS BIOMETRIC PAYMENT CARDS, Henrik Nilsson.

Journal name: Biometric Technology Today, Volume 2021, Issue 1, January 2021, Pages 5-8

This study writes on the trust issues by fingerprint authentication as a mature and trusted technology, refined through a decade of mass adoption across the mobile world. With biometrics now in over 80% of smart phones, it is also a preferred technology that has rapidly overtaken PIN authentication as the means to secure access to devices, make payments and secure applications.

31) Title and Author: A PERSPECTIVE ON USING BLOCKCHAIN FOR ENSURING SECURITY IN SMART CARD SYSTEMS, Ankur Lohachab.

Journal name: IGI Global Publisher of Timely Knowledge, 2021.

This study explains about the Blockchain for security purpose. Due to the momentous growth in various commercial and government organizations are exploring possibilities of mass issuance of smart cards in different applications. These systems can be subjected to a range of security attacks – from hardware exploitation to exploitation of software bugs, from unauthorized data access to social engineering, and so forth. In the future, where many sectors will be trying to adopt the concept of Blockchain, it will create new opportunities for benefiting citizens with enhanced security over their data. In this chapter, the author performs in-depth analysis over the role of Blockchain in securing the smart card ecosystem.

32) Title and Author: COMPARING FINGERPRINT-BASED BIOMETRICS AUTHENTICATION VERSUS TRADITIONAL AUTHENTICATION METHODS FOR E-PAYMENT, ObiOgbanufe and Dan j.Kim.

Journal name: Decision Support Systems, Volume 106, February 2018, Pages 1-14.

The study tells about the Biometrics authentication for electronic payment is generally viewed as a quicker, convenient and a more secure means to identify and

authenticate users for online payment. This view is mostly anecdotal and conceptual in nature. The aim of the paper is to shed light on the comparison of perceptions and beliefs of different authentication methods for electronic payment (i.e., credit card, credit card with PIN, and fingerprint biometrics authentication) in an e-commerce context. This research model with hypotheses that evaluate and compare the individual's perceptions of the payment authentication methods, trust of the online store, and the willingness to continue using the website account associated with the payment authentication method. The results show that biometrics authentication significantly influences the individual's security concern, perceived usefulness, and trust of online store.

33) Title and Author: THE DETERMINANTS OF ELECTRONIC PAYMENT SYSTEMS USAGE FROM CONSUMERS' PERSPECTIVE, Emrah Oney, Gizem Oksuzoglu Guven & Wajid Hussain Rizvi.

Journal name: Economic Research-Ekonomska Istraživanja, ISSN: 1331-677X (Print) 1848-9664 (Online) Journal, 2017, VOL. 30, NO. 1, pp. 394–415.

This paper discusses about the Electronic Payment Systems (EPS) have been improving individuals' quality of life through providing ease of payment for online transactions. The effects of trust and security on the use of EPS have long been recognized in e-commerce literature. The findings indicate that both perceived security and trust have a significant influence on EPS use. Technical protection and past experience have been found to be the common determinants of perceived security and trust. This finding shows that consumers are not only considering the security but also convenience of the procedures for EPS.

34) Title and Author: LOSS OF PRIVACY IN ELECTRONIC PAYMENT SYSTEMS, Aleksandra Pešterac and Nenad Tomić.

Journal name: The Annals of the Faculty of Economics in Subotica, Vol. 56, No. 43, pp. 135-149, 2020.

The study enumerates the emergence of new information technologies, such as the Internet of Things, the fifth generation of mobile Internet, artificial intelligence, Big

Data, machine learning and blockchain has led to significant changes in the social and business environment. The development of the Internet of Things, as a global technical infrastructure that connects objects by adding microprocessors and communications software to them, has become an important basis for the further progress of electronic payment systems. In the process of further improvements, the system faces the great challenge of protection against the unauthorized use, modification or destruction of data. An even greater challenge is the potential abuse of users' personal data by business entities or government agencies. The paper focuses on the challenges of protecting the privacy of users of electronic payment systems in a smart environment. The inclusion of blockchain technology in the electronic payment systems architecture in the IoT environment is a recommendation for all future research.

35) Title and Author: ELECTRONIC PAYMENT SCHEMES BASED ON BLOCKCHAIN IN VANETS, Xinyang Deng; Tianhan Gao.

Journal name: IEEE Access (Volume: 8) Pages: 38296 - 3830324 February 2020, Electronic ISSN: 2169-3536.

This study tells on the Vehicular ad-hoc networks (VANETs) which are considered as an important part of intelligent transportation system (ITS). Depending on the interconnection between vehicles and roadside units (RSUs), VANETs can provide a variety of application services for drivers and passengers. Due to the necessary service cost, many applications have to face the problem of how to charge vehicle for the services. This paper, which relies on blockchain technology, takes park toll management system and electronic toll collection system (ETC) as scenarios. Two payment schemes, V-R transaction and V-Rs transaction, are then proposed. The security and performance analysis show that the proposed schemes are efficient and robust.

36) **Title and Author:** A RISK PERCEPTION ANALYSIS ON THE USE OF ELECTRONIC PAYMENT SYSTEMS BY YOUNG ADULT, Noor Raihan Ab Hamid, And Aw Yoke Cheng.

Journal name: Wseas transactions on information science and applications, E-ISSN: 2224-3402, Issue 1, Volume 10, 2020, pp 26-35.

The study is based on the use of technology in commercial activities for many years have led to the emergence of various new supporting services in the marketplace. Among the services is the e-payment which enables payment done via the electronic medium and without involving any physical cash. This study aimed to identify young adult's perception of e-payment risk and their behavior towards different payment methods. The findings showed significant difference in perceived risk between cash and E-Payment but less significant in terms of volume of purchase. We discuss the implications of the findings to service providers and policy makers and offer some recommendations to improve the E-payment systems quality.

37) **Title and Author:** BIOMETRIC BASED THREE-FACTOR MUTUAL AUTHENTICATION SCHEME FOR ELECTRONIC PAYMENT SYSTEM USING ELLIPTIC CURVE CRYPTOGRAPHY, D. Malathi; N.Sasikaladevi

Journal name: *Malaysian Journal of Computer Science*, p. 39-60, ISSN 0127-9084, Date accessed: 03 February. 2021.

The study tells about the Electronic payment system plays a vital role in e-commerce and other financial transactions with ever-increasing acceptance of smart device based applications. To ensure secure transactions, various authentication schemes have been proposed in recent times. But existing password and smart card-based traditional e-payment systems have some limitations and also raises security concerns as it is prone to security issues if the password is guessed or smart card is stolen. Thus to enhance the security and to reduce the computational cost, biometric authentication based payment protocol using elliptic curve cryptography (ECC) is proposed. Since biometric features are unique and also cannot be stolen or reproduced. The proposed system resists various security attacks like impersonation attack, replay attack, session key agreement, man-in-the-middle attack, and user

anonymity. Thus the proposed authentication protocol is convenient for the electronic payment system.

38) Title and Author: STATE OF CYBER CRIME SAFETY AND SECURITY IN BANKING, Lubna Tabassum.

Journal name: International Journal of Scientific Research and Engineering Development— Volume 3 Issue 4, July –Aug 2020, ISSN: 2581-7175.

The study analyzes the security of threats and online transactions affecting banking systems. In the 21st century, these threats have started to penetrate online banking, focusing on banking systems with the help of pools of software engineers worldwide, from online lending to a fake lottery. Banking companies are confronted with fraud and fraud problems that assimilate customers and financial professionals working in banking institutions. Risk issues arise from the underlying malware that can affect payment information disclosure systems that allow us to use current hacking techniques. For example, electronic threat checks include biometric confirmation machines (PVN) that expel fraudsters from banking operations. Preparing for cyber security will allow banking services and individuals to improve security efforts. Reports suggest that cyber risk is a significant emergency that can affect banking systems and reduce opportunity odds.

39) Title and Author: CASHLESS TRANSACTIONS: A STUDY ON INTENTION AND ADOPTION OF E-WALLETS, Marvella Yang , Abdullah Al Mamun , Muhammad Mohiuddin , Noorshella Che Nawi and Noor Raihani Zainol.

Journal name: MDPI,2021, Volume 13 Issue 2,pp.1-18.

This study explored the effect of perceived usefulness, perceived ease of use, social influence, facilitating condition, lifestyle compatibility, and perceived trust on both the intention to use an e-wallet and the adoption of an e-wallet among adults by using the unified theory of acceptance and use of technology (UTAUT). As a result, perceived usefulness, perceived ease of use, social influence, lifestyle compatibility, and perceived trust displayed a significant positive effect on both intentions to use an e-wallet and adoption of an e-wallet. Ultimately, such carefully sculpted policies may

promote the digital platform and web-based application, apart from encouraging higher rates of e-wallet adoption in developing countries.

40) **Title and Author:** A STUDY ON THE FUTURE OF DIGITAL PAYMENTS IN INDIA, Ashish Baghla.

Journal name: IJRAR- International Journal of Research and Analytical Reviews, Volume 5, Issue 4, 2018, E-ISSN 2348 –1269, Print ISSN 2349-5138.

This paper seeks to identify the present trend towards the adoption of digital payments in India. Initially the Government was providing considerable incentives for digital payments but now a decline has been seen in this push. This paper tries to identify the reasons for adoption of digital payments by people in India and it also tries to find out the problems faced by people in making Digital Payments. The biggest challenge in front of government is the lack of knowledge and awareness among people and fear of loss of money by use of digital payment methods risk of hacking. The government needs to tackle these challenges to have cashless economy and to give a boost to digital payments.

41) **Title and Author:** AN IDENTITY-BASED ELLIPTIC CURVE CRYPTOGRAPHY FOR MOBILE PAYMENT SECURITY, O. R. Vincent, T. M. Okediran, A. A. Abayomi-Alli & O. J. Adeniran.

Journal name: SN Computer Science (2020).

The study is on Security breaches have been observed in different dimensions in mobile payment system. The violation of user's privacy is a common phenomenon in mobile payment transactions. This study presents an improved security scheme for a mobile payment system using elliptic curve cryptography over a binary field with International Mobile Equipment Identity to ensure higher security. The scheme uses a payment gateway for registration and maps all input text to elliptic curve points using ASCII values. Payment details are stored on the gateway, which is encrypted but decrypted only with merchant's decryption key. The result shows that the scheme provides integrity, confidentiality and privacy; it also proposed its scheme is time-

efficient and computationally inexpensive for resource-constrained environment like mobile payment system.

42) **Title and Author:** ISSUES AND SECURITY MEASURES OF MOBILE BANKING APPS, Sameer Hayikader, Farah Nurafiqah Hanis binti Abd Hadi , Jamaludin Ibrahim.

Journal name: International Journal of Scientific and Research Publications, Volume 6, Issue 1, January 2016, pp. 36-41, ISSN 2250-3153.

The study is based on the mobile apps are a used to designate the act or process by which application software is developed for handheld devices, such as personal digital assistants or mobile phones. There are some cases where the mobile internet banking apps have some problems that might cause loss of money. Therefore, in this paper we will examine issues on the architecture, and some security issues of mobile internet banking apps. And then we will explore some security measures to deal with the associated security challenges. In conclusion we found that mobile banking apps need to have a foundation to enhance app security and support future technologies. This ensures that mobile apps and their security framework remains future-proof and requires fewer resources to manage long-term.

43) **Title and Author:** E-BANKING AND MOBILE BANKING EFFECTS ON CUSTOMER SATISFACTION, Osly Usman, Terrylina A Monoarfa, Marsofiyati Marsofiyati.

Journal name: Publishers of distinguished Academic. Scientific and Professional journals, ISSN 2369-7407 (Online) - ISSN 2369-7393 (Print), Quarterly Publication, Volume 6 Issue 6 pp. 1117-1128, 2020.

The study is based on the bank which tries to provide ease of service by utilizing information technology for safe and appropriate services in the transaction. The Bank also provides ease of service in the aspect of flexibility, efficiency, and simplicity. Customers do not need to come to the bank and wait for the long queue with e-banking. E-banking products have a wide range of derivative products, including one of the latest products in the form of mobile banking that is known as M-banking.

Mobile banking is one part of the e-banking which is a banking information service via the new wireless offered by the bank using mobile technology to support smooth and ease of banking activities. The results show that expectancy performance enhancement, Effort Expectancy, Social Influence, Condition and Security Facilitating will cause Enhancement Behavior Intention Behavior Use directly and indirectly, which means that if we want to upgrade Behavior Intention and Use Behavior, we need to increase this variable.

44) Title and Author: THE CHALLENGES AND OPPORTUNITIES OF BLOCKCHAIN TECHNOLOGIES, Benedetta Cappiello.

Journal name: October 2020, Publisher Name Springer, Print ISBN978-3-030-52721-1, Online ISBN978-3-030-52722-8.

The study is on both from a private and a public perspective, distributed ledger technologies in general, and block chain in particular, can introduce significant opportunities in national and international legal systems, while at the same time posing new and unexplored challenges. Lawyers, economist, sociologist and market operators are faced with complex issues that require a deep and technical understanding of distributed ledger technologies to go beyond the state-of-the-art and fully grasp the potential of these new tools.

45) Title and Author: A STUDY ON INDIVIDUALS BEHAVIOUR TOWARDS E-BANKING AND M-BANKING IN BHUBANESWAR CITY, Aditya Prasad Sahoo, Gayatri Pati.

Journal name: A GLOBAL JOURNAL OF SOCIAL SCIENCES (ISSN – 2581-5830) Impact Factor: SJIF - 4.998, IIFS - 4.375, pp.32-39.

The study is on the Modern era of technological advancement bringing innovative way of delivering service to the customers. Internet has become a common platform for satisfying the customers. Internet banking generally includes online banking, mobile banking and Automatic Teller Machines etc. All the banks are providing facilities through online mechanism to their customers and are investing huge amount in acquiring the ICT technology in their work. But a question arises are the customers

really aware regarding usage of this ICT technology for performing banking transactions. So is it the responsibility of the banks to make literate their customers for using online banking services. Proper mechanism to provide information regarding usage of online banking at branch level in all banks must be initiated. Frequent online banking training sessions should be conducted by the bank for their customers. Online banking training sessions should be organized by the banks in colleges and institutions providing higher education. This will encourage youths to use online banking. Public relations officers should be given an additional duty of making aware the customers to go for E-banking and M-banking.

46) Title and Author: E-BANKING SECURITY: INTERNET HACKING, PHISHING ATTACKS, ANALYSIS AND PREVENTION OF FRAUDULENT ACTIVITIES, Alhuseen O. Alsayed, Anwar L. Bilgrami.

Journal name: International Journal of Emerging Technology and Advanced Engineering Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 7, Issue 1, January 2017). Pp.109-117.

The study tells on the introduction of internet banking to the banking sector, many users have discovered hard ways that their use of e-banking can place their financial data at risk. Therefore, security has become a frequent concern for both banks and users. A phishing attack refers to any modes to trick customers into thinking that their financial institution is requesting information from them, when in reality; the request is coming from the hacker. Phishing leads to online identity theft, because it involves an unauthorized individual or group stealing confidential data. The objective of this research is to investigate how phishing hackers attempt to steal users' data and conduct financial fraud. In turn, it explains how bank users can secure their online transactions with security solutions. There are some signs to identify an attack sent by email.

47) Title and Author: DIGITALIZATION IN BANKING: CONVENIENCE VERSUS SECURITY THREAT, Anjali Khurana.

Journal name: International Conference on Sustainable Computing in Science, Technology & Management (SUSCOM-2019).

The paper is based on the Electronic contact has taken the place of face to face contact. Managers are replaced by robots. Internet banking is the most convenient form of banking which allows the customer to transact from anywhere at any point of time. Today, there is no banking hours. Internet banking has given the freedom to transact 24x7. As people are facing the problem of time scarcity, internet banking is a quick solution to it as there are no long queues now to wait whole day for the turn. Banking is just a click away.

48) Title and Author: ELECTRONIC BANKING FRAUD IN INDIA: EFFECTS AND CONTROLS, Dr. Seema Thakur.

Journal name: International Journal of Science and Research (IJSR) ISSN: 2319-7064, Volume 8 Issue 10, October 2019, pp. 823-829.

This paper examined the nature of electronic banking related fraud on deposit money banks in India, its effects and the controls put in place to prevent financial loss. . The practice of e-banking has significantly increased the volume of banking transactions. It has also improved service delivery to customers and easy. The study shows that the effect of electronic fraud would result in loss of money which belongs to either the bank or customers. It could also destroy the bank's reputation among others. The researcher concluded that despite the security problems associated with electronic banking practice in India, it has improved the operational efficiency of banks. Based on these findings, the researcher recommends that Government through CBN should provide adequate security measures for various electronic banking channels, review of BVN framework and sensitization of customers on electronic banking operations among others.

49) Title and Author: ADVANCE SECURITY AND CHALLENGES WITH INTELLIGENT IOT DEVICES, Neha Sharma.

Journal name: Proceedings of Second International Conference on Smart Energy and Communication pp 177-189, 2021.

The study is based on the Internet of things opens the doors for various sectors in advancements but cognitive devices security is become major threat with

advancements in IoT. Now, devices are connected with advance and high connectivity Internet and stored over different types of clouds. So, this paper aims purely security to these smart cognitive devices with assistance of deep learning, artificial intelligence with IoT with big data assistance, and discusses the security issues with intelligent devices with different useful applications on day by day basis as well as provides proposed secured methodology for “Smart ATM”. This paper also proposes “Smart Laser Fencing” for the Hi-Tech security of smart devices with “Deep-fi Geo-Fencing,” and this eliminates the major security threats in various smart devices and decreases the rate of cyber-crimes majorly in e-money transactions as well as in other various domains.

50) Title and Author: BLOCKCHAIN WITH INTERNET OF THINGS: BENEFITS, CHALLENGES, AND FUTURE Directions Hany F. Atlam, Ahmed Alenezi, Madini O. Alassafi, Gary B. Wills.

Journal name: I.J. Intelligent Systems and Applications, 2018, 6, pp. 40-48.

The study is on IoT benefits are unlimited, there are many challenges facing adopting the IoT in the real world due to its centralized server/client model. The Blockchain is a powerful technology that decentralizes computation and management processes which can solve many of IoT issues, especially security. This paper provides an overview of the integration of the blockchain with the IoT with highlighting the integration benefits and challenges. It concludes that integrating blockchain with IoT can bring many advantages that improve many of IoT issues but at the same time, it introduces new challenges that should be addressed.

CHAPTER – III

RESEARCH DESIGN AND METHODOLOGY

3.1. RESEARCH DESIGN:

The objectives of the study are;

- To analyze how often customers rely on the online payments besides the Challenges and issues in online banking.
- To measure the Customers point of view towards the banking through online.
- To investigate on how many customers prefer Internet Banking rather than Offline payments in reference in Chennai.

And type of research design that is used for this research is **Descriptive research**. The method in which the study undergoes is **QUESTIONNAIRE**.

The descriptive research aims at obtaining complete and accurate information for the study, the method adopted must be carefully planned. It uses methods like quantitative analysis of secondary data, surveys, panels, observations, interviews, questionnaires, etc.

3.2. PRIMARY DATA:

The primary data has been collected through Questionnaires from the required sample size. The questionnaire was distributed with open ended questions like multiple choice questions, dichotomous questions (Yes or No) and Open ended questions (Demographic questions).

3.3. SECONDARY DATA:

The secondary data has been collected from Banking industry reports, online websites, journals and books.

3.4. SAMPLE SIZE:

The sample size for the project is 152 samples.

3.5. SAMPLING DESIGN/ SAMPLE SELECTION METHOD:

The present study Convenience sampling is adopted.

3.6. PERIOD OF THE STUDY:

The period of study can be observed for three months starting from January 2021 to March 2021.

3.7. STATISTICAL TOOL USED FOR THE STUDY:

The statistical tool which is used for the study is chi-square test and correlation.

3.8. HYPOTHESIS OF THE STUDY:

Hypothesis is an assumption to be proved or disproved. A research hypothesis is a predictive statement capable of being tested by scientific methods. That relates an independent variable to some dependent variable.

3.8.1 Null and Alternate Hypothesis:

These are the important hypotheses normally used in academic Research.

- ✓ Null hypothesis always start with negation (H_0) the hypothesis will be framed with way that as there is no association between variables.
- ✓ The hypotheses which are opposite and Alternate to null hypotheses are called as Alternate Hypotheses (H_1).

The hypotheses of the test are as follows:

Null hypothesis (H_0): There is no significant association between the two variables.

Alternative hypothesis: (H_a): There is a significant association between the two variables.

Chapter IV

DATA ANALYSIS AND INTERPRETATION

Table.4.1: Age of the respondents.

AGE	NO OF RESPONDENTS	PERCENTAGE (100%)
Below 20 yrs	14	9.21%
20-30 yrs	86	56.58%
30-40 yrs	27	17.76%
40-50 yrs	9	5.92%
50 yrs and above.	16	10.53%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 56.58% respondents are of 20-30 years of Age, 17.76% respondents are of 30-40 years, 10.53% respondents are of 50 years, 9.21% respondents are of below 20 years and the remaining 5.92% respondents are of 40-50 years.

INFERENCE:

The age category between 20-30 years are using the majority with 56.58% and are able to handle E-banking services in the best way.

AGE OF THE RESPONDENT

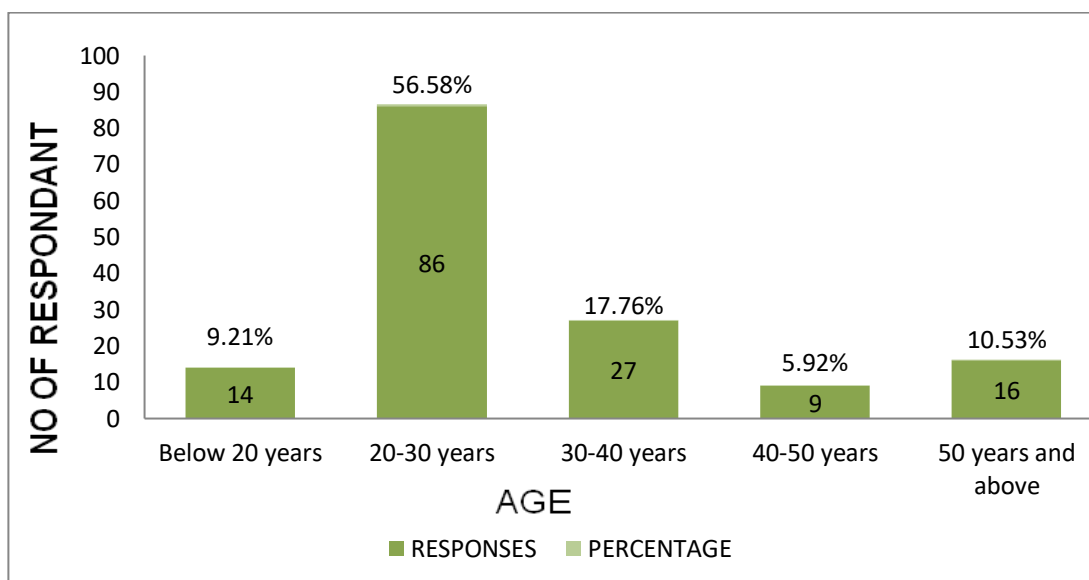


FIGURE .4.1

Table.4.2: Current occupation of the respondent.

OCCUPATION	NO OF RESPONDANTS	PERCENTAGE (100%)
Student	72	47.37%
Government Employee	12	7.89%
Private Employee	35	23.03%
Business	18	11.84%
Retired	4	2.63%
Housewife	11	7.24%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 47.37% respondents are Students, 23.03% respondents are Private Employee, 11.84% respondents are Business, 7.89% respondents are government employee, 7.24% of respondents are housewife and remaining 2.63% are Retired groups.

INFERENCE:

Students and private employee are the sectors from occupation who use E-banking services often with 47.37%.

OCCUPATION OF THE RESPONDENT

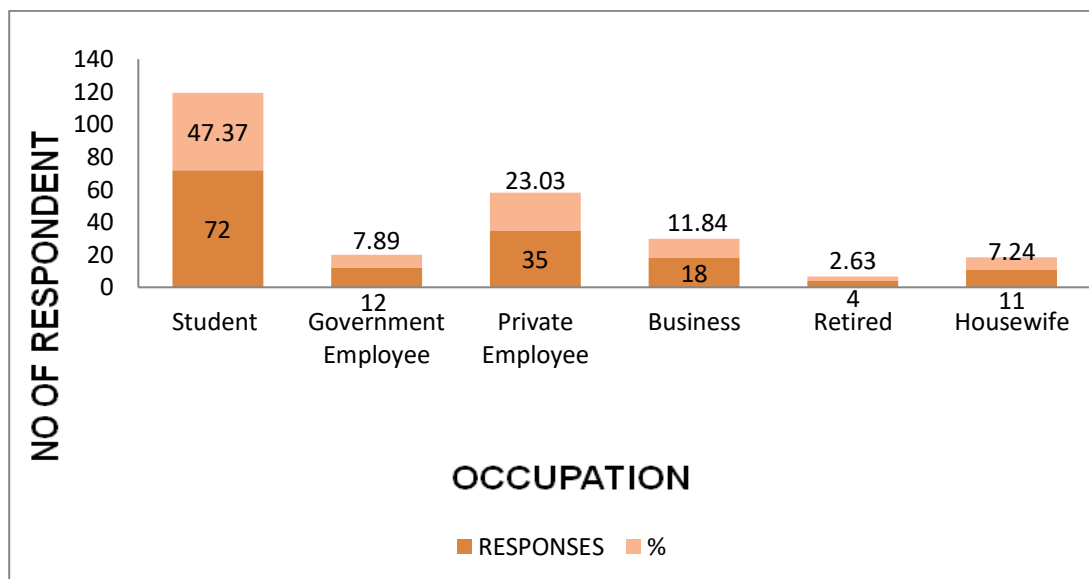


FIGURE.4.2

Table.4.3: Respondents based on Gender

GENDER	NO OF RESPONDENTS	PERCENTAGE (100%)
Male	53	34.87%
Female	99	65.13%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 65.13% respondents are Female and 34.87% respondents are Male.

INFERENCE:

The female respondent for this survey is high by 65.13%.

RESPONDENTS BASED ON GENDER

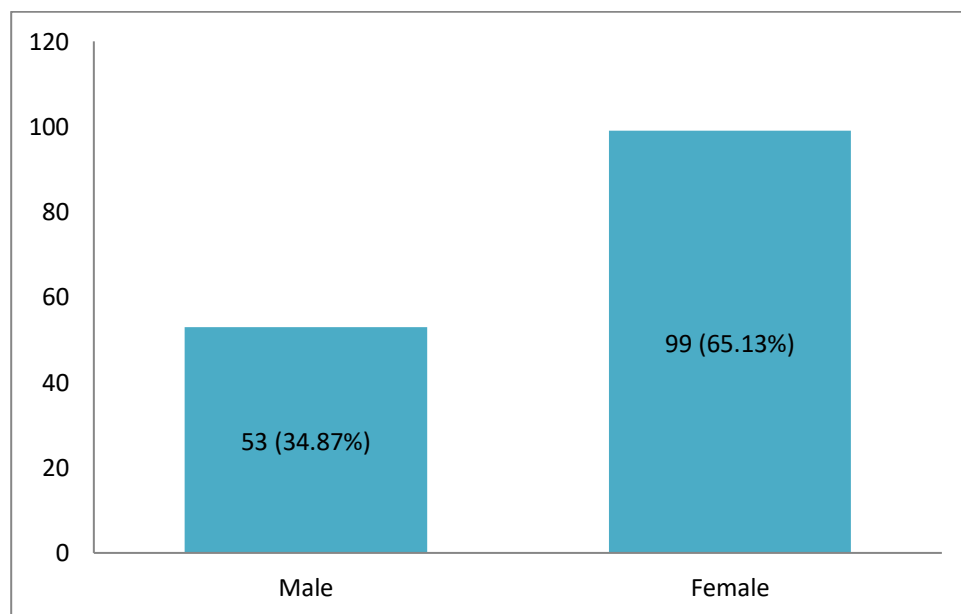


FIGURE.4.3

Table.4.4: Status on respondents having Bank Accounts

BANK ACCOUNT	NO OF RESPONDENTS	PERCENTAGE (100%)
Axis bank	7	3.47%
IDBI bank	6	2.97%
Bank of Baroda	11	5.45%
Kotak Mahindra bank	7	3.47%
Indian overseas bank	19	9.41%
Canara bank	19	9.41%
CC bank	2	0.99%
Bank of India	10	4.95%
City Union Bank	21	10.4%
HDFC Bank	15	7.43%
Indian Bank	19	9.41%
RBL Bank	2	0.99%
ICICI Bank	11	5.45%
Lakshmi Vilas Bank	2	0.99%
Karnataka Bank	2	0.99%
State Bank of India	47	23.3%
Punjab National Bank	2	0.99%
TOTAL	202	100

Source: Primary Data

INTERPRETATION:

From the above table, 23.3% of the respondents have bank account in State Bank of India, 10.4% are having bank account in City Union Bank, 9.41% are having bank accounts in Indian Bank, Indian Overseas Bank and Canara Bank, 7.43% are having bank account in HDFC Bank, 5.45% are having in Bank of Baroda and ICICI Bank, 4.95% are having in Bank of India, 3.47% are having in Axis Bank and Kotak Mahindra Bank, 2.97% are having bank account in IDBI Bank and remaining 0.99%

are having in CC Bank, RBL Bank, Lakshmi Vilas Bank, Karnataka Bank and Punjab National Bank.

INFERENCE:

23.3% of the respondents have bank accounts in State Bank of India followed by City Union Bank with 10.4%.

STATUS ON RESPONDENTS HAVING BANK ACCOUNTS

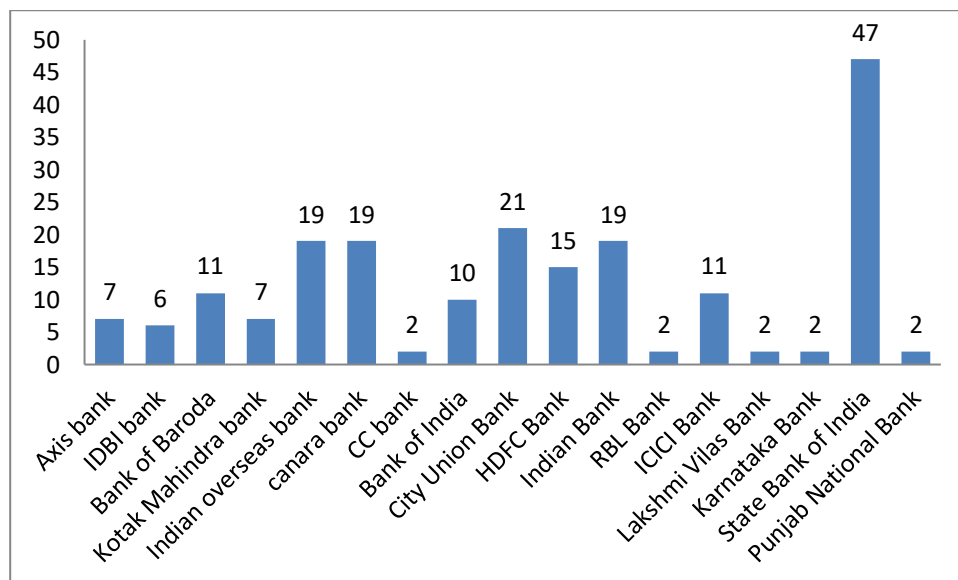


FIGURE.4.4

Table.4.5: Status on the using e-banking service for making day to day transactions.

STATUS	NO OF RESPONDENTS	PERCENTAGE (100%)
Always	31	20.4%
Often	50	32.9%
Sometimes	34	22.9%
Rarely	29	19.1%
Never	8	5.3%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 32.9% of the respondents are using the E-banking service often, 22.9% respondents are using E-banking services sometimes, 20.4% of the respondents are using E-banking services always, 19.1% of the respondents are using E-banking services rarely and remaining 5.3% of the respondents have never used the E-banking services.

INFERENCE:

32.9% of the respondents often use E-banking services for day to day transactions.

STATUS ON THE USING E-BANKING SERVICE FOR MAKING DAY TO DAY TRANSACTIONS

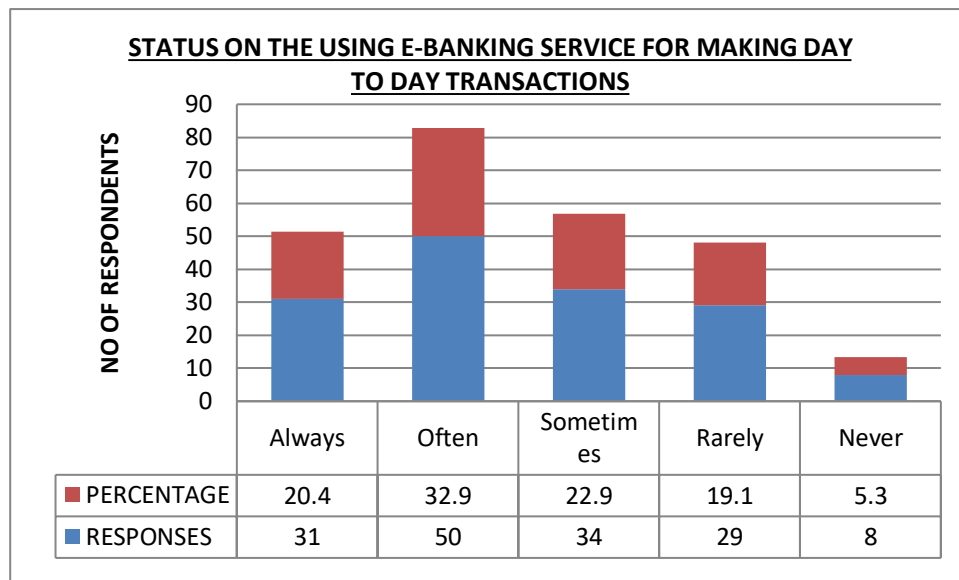


FIGURE.4.5

Table.4.6: Status on how many times the e-banking service is used in a day.

STATUS	NO OF RESPONDENTS	PERCENTAGE (100%)
Less than 3 times	93	61.18%
3-5 times	39	25.66%
6-9 times	12	7.89%
More than 9 times.	8	5.26%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 61.18% of the respondents have used E-banking service less than 3 times in a day, 25.66% respondents have used E-banking services for 3-5 times in a day, 7.89% of the respondents have used E-banking services for 6-9 times in a day and remaining 5.26% have used E-banking services for more than 9 times in a day.

INFERENCE:

Respondents of 61.18% use less than 3 times in a day.

STATUS ON HOW MANY TIMES THE E-BANKING SERVICE IS USED IN A DAY

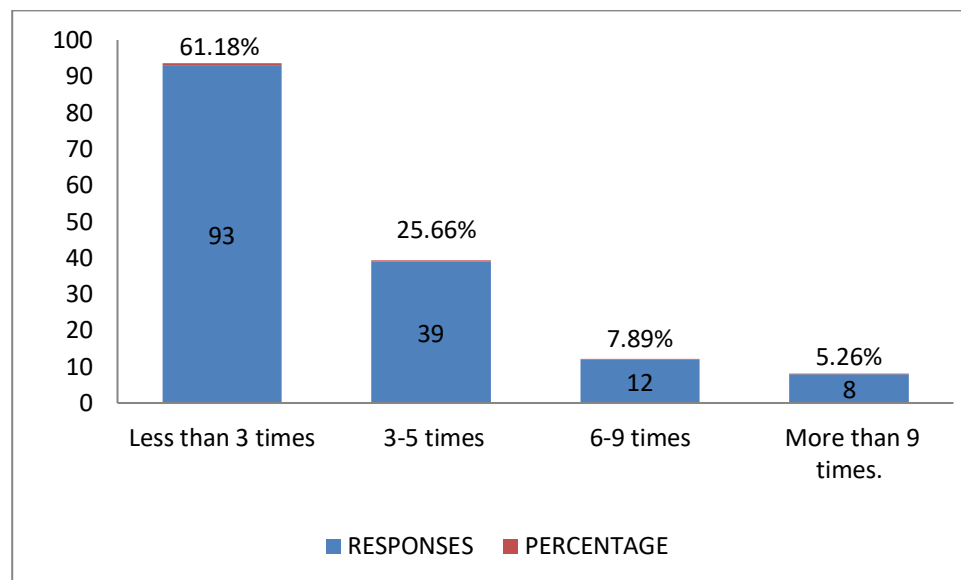


FIGURE.4.6

Table.4.7: Status on services which respondents use often

STATUS	ATM		Card Payment (Debit/Credit cards)		Digital wallets		UPI Transaction (scan and pay) like Gpay, Paytm etc.		Banking over Internet websites, Net banking and Mobile apps.		EFT (Electronic Funds Transfer) System - E-cheque.	
	No	%	No	%	No	%	No	%	No	%	No	%
Very Often	44	28.9%	30	19.7%	12	17.1%	41	26.97%	51	33.6%	16	10.53%
Often	55	36.2%	70	46.1%	26	22.4%	40	26.32%	29	19.1%	20	13.16%
Sometimes	35	23%	39	25.7%	31	32.2%	33	21.71%	37	24.3%	40	26.32%
Rarely	10	6.58%	3	1.97%	34	7.89%	21	13.82%	12	7.89%	30	19.74%
Very Rarely	8	5.26%	10	6.58%	49	20.4%	17	11.18%	23	15.1%	46	30.26%
TOTAL	152	100	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 36.2% of the respondents use ATM often, 28.9% use very often, 23% use sometimes, 6.26% use rarely and remaining 5.26% use very rarely. 46.1% of the respondents use card payments often, 25.7% use sometimes, 19.7% use very often, 6.58% use very rarely and remaining 1.97% use rarely. 32.2% of the respondents use digital wallets sometimes, 22.4% use often, 20.4% very rarely, 17.1% very often and remaining 7.89% use rarely. 26.97% of the respondents use UPI transactions very often, 26.32% use often, 21.71% use sometimes, 13.82% use rarely and remaining 11.18% use very rarely. 33.6% of the respondents use banking over Internet websites, Net banking and Mobile apps very often, 24.3% use sometimes, 19.1% use often, 15.1% very rarely and remaining 7.89% use rarely.

30.26% of the respondents use EFT very rarely, 26.32% use sometimes, 19.74% use very rarely, 13.16% use often and remaining 10.53% use very often.

INFERENCE:

E-banking services like banking through mobile, laptop or tabs is very often used by the respondents followed by ATM and Card Payments.

STATUS ON SERVICES WHICH RESPONDENTS USE OFTEN

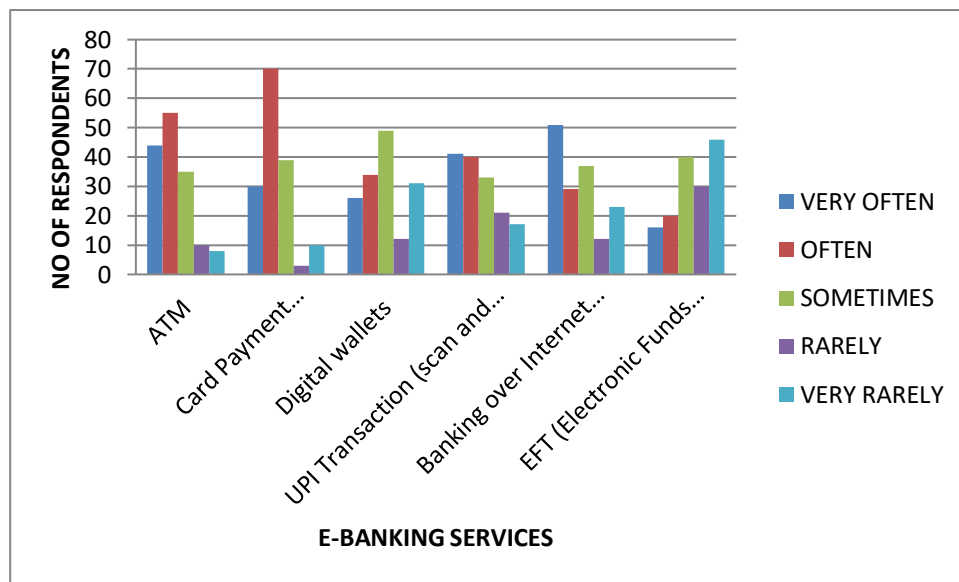


FIGURE.4.7

Table.4.8: Status on the ratings of e-banking services

STATUS	ATM		Card Payment (Debit/Credit cards)		Digital wallets		UPI Transaction (scan and pay) like Gpay, Paytm etc.		Banking over Internet websites, Net banking and Mobile apps.		EFT (Electronic Funds Transfer) System - E-cheque.	
	No	%	No	%	No	%	No	%	No	%	No	%
Excellent	49	32.2%	60	39.5%	30	19.7%	50	32.89%	39	25.66%	20	13.16%
Very Good	56	36.8%	53	34.9%	31	20.4%	36	23.68%	28	18.42%	22	14.47%
Good	39	25.7%	26	17.1%	53	34.9%	31	20.39%	43	28.29%	26	17.11%
Fair	4	2.63%	8	5.26%	23	15.1%	25	16.45%	24	15.79%	42	27.63%
Poor	4	2.63%	5	3.29%	15	9.87%	10	6.579%	18	11.84%	42	27.63%
TOTAL	152	100	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 36.8% of the respondents have rated ATM very good, 32.2% have rated excellent, 25.7% have rated good and remaining 2.63% have rated both fair and poor. 39.5% of the respondents have rated excellent, 34.9% have rated very good, 17.1% have rated good, 5.26% have rated fair and remaining 3.29% have rated poor. 34.9% of the respondents have rated digital wallets good, 20.4% have rated very good, 19.7% have rated excellent, 15.1% have rated fair and remaining 9.87% have rated poor. 32.89% of the respondents have rated UPI transactions excellent, 23.68% have rated very good, 20.39% have rated good, 16.45% have rated fair and remaining 6.579% have rated very poor. 28.29% of the respondents have rated banking over Internet websites, Net banking and Mobile apps good, 25.66% have rated excellent, 18.42% have rated very good, 15.79% have

rated fair and remaining 11.84% have rated poor. 27.63% of the respondents who use EFT have rated fair and poor, 17.11% have rated good, 14.47% have rated very good and remaining 13.16% have rated excellent.

INFERENCE:

In overall services, Card payments are rated excellent followed by UPI transactions.

STATUS ON THE RATINGS OF E-BANKING SERVICES

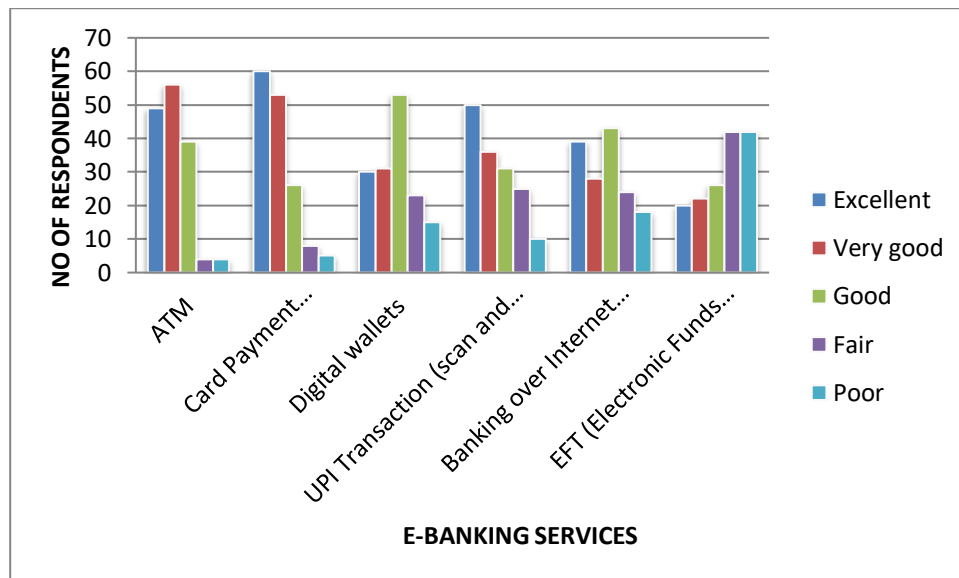


FIGURE.4.8

Table.4.9: Status on the use of UPI facility

STATUS	Gpay		Paytm		PhonePe		BHIM app		Kotak 811		Pay Zapp		Freecharg e	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Very Often	36	23.6 8%	27	17.7 6%	32	21.1 %	16	10.5 3%	15	9.87 %	13	8.55 %	12	7.89 %
Often	43	28.2 9%	41	26.9 7%	37	24.3 %	23	15.1 3%	20	13.2 %	17	11.2 %	19	12.5 %
Sometim es	56	36.8 4%	30	19.7 4%	38	25% %	42	27.6 3%	35	23% %	37	24.3 %	24	15.8 %
Rarely	6	3.94 7%	17	11.1 8%	13	8.55 %	24	15.7 9%	16	10.5 %	29	19.1 %	31	20.4 %
Very Rarely	11	7.23 7%	37	24.3 4%	32	21.1 %	47	30.9 2%	66	43.4 %	56	36.8 %	66	43.4 %
TOTAL	152	100	152	100	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 36.84% of the respondents use Gpay sometimes, 28.19% use often, 23.68% use very often, 7.237% use very rarely and remaining 3.947% use rarely. 26.97% of the respondents use Paytm often, 24.34% use very rarely, 19.74% use sometimes, 17.76% use very often and remaining 11.18% use rarely. 25% of the respondents use Phonepe sometimes, 24.3% use often, 21.1% use both very often and very rarely and remaining 8.55% use rarely. 30.92% of the respondents use BHIM app very rarely, 27.63% use sometimes, 15.79% use rarely, 15.13% use often, and remaining 10.53% use very often. 43.3% of the respondents use Kotak 811 very rarely, 23% use sometimes, 13.2% use often, 10.5% use rarely and remaining 9.87% use very often. 36.8% of the respondents use PayZapp very

rarely, 24.3% use sometimes, 19.1% use rarely, 11.2% use often and remaining 8.55% use very often. 43.4% of the respondents use Freecharge very rarely, 20.4 use rarely, 15.8% use sometimes, 12.5% use often and remaining 7.89% use very often.

INFERENCE:

Gpay is used often with 23.63% followed by Phonepe with 21.1%.

STATUS ON THE USE OF UPI FACILITY

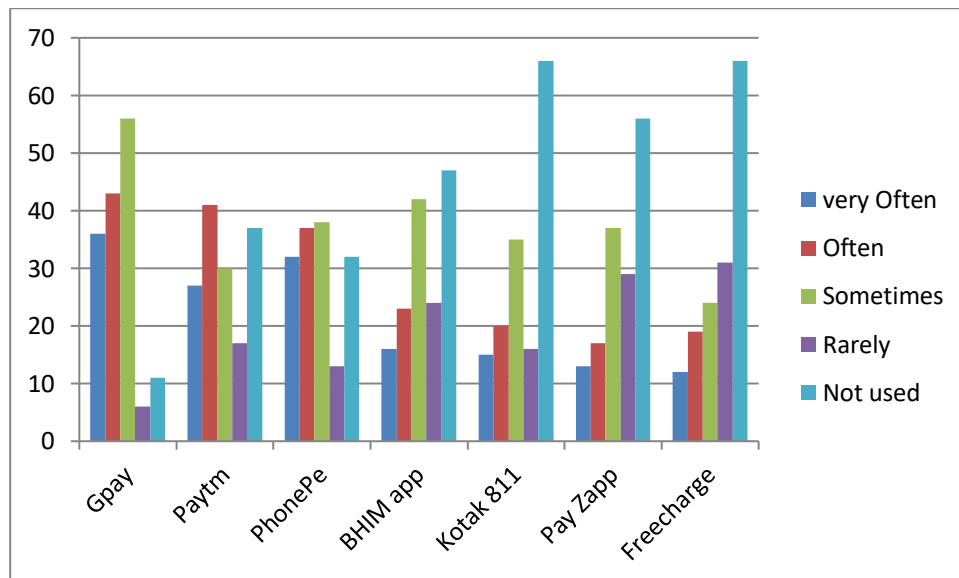


FIGURE.4.9

Table.4.10: Status on ranking based on preference

STATUS	Saves time		Quick transfer		24/7 facility		Easy Access		More Features and Convenience		Notifications and Alerts		Better Customer Service	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Very Good	52	34.21%	73	48.03%	69	45.39%	71	46.71%	49	32.24%	65	42.76%	55	36.184%
Good	57	37.5%	49	32.24%	52	34.21%	33	21.71%	52	34.21%	50	32.89%	43	28.289%
Neutral	31	20.39%	21	13.82%	17	11.18%	27	17.76%	31	20.39%	27	17.76%	26	17.105%
Bad	8	5.263%	7	4.605%	9	5.921%	37	24.35%	12	7.895%	4	2.632%	16	10.526%
Very Bad	4	2.632%	2	1.316%	5	3.289%	31	20.35%	8	5.263%	6	3.947%	12	7.8947%
TOTAL	152	100	152	100	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 37.5% of the respondents choose good for saves time, 34.2% choose very good, 20.3% choose neutral, 5.263% choose bad and

remaining 2.632% choose very bad. 48.03% of the respondents choose quick transfer, 32.24% choose good, 13.82% choose neutral, 5.263% choose bad and remaining 2.632% choose very bad. 45.39% of the respondents choose very good for 24/7 facility, 34.21% choose good, 11.1% choose neutral, 5.921% choose bad and remaining 3.28% choose very bad. 46.71% of the respondents choose easy access as very good, 21.71% choose good, 17.76% choose neutral, 12.5% choose bad and remaining 1.316% choose very bad. 34.2% of the respondents choose good for more features and convenience, 20.39% choose neutral, 7.895% choose bad, 5.263% choose very bad and remaining 4% choose very good. 42.76% of the respondents choose very good for notifications and alerts, 32.89% choose good, 17.76% choose neutral, 3.947% choose very bad and remaining 2.632 choose bad. 36.184% of the respondents choose very good for better customer services, 28.289% choose good, 17.105% choose neutral, 10.526% choose bad and remaining 7.8947% choose very bad.

INFERENCE:

The respondents feel very good on the quick transfer and 24/7 facility in E-banking.

STATUS ON RANKING BASED ON PREFERENCE

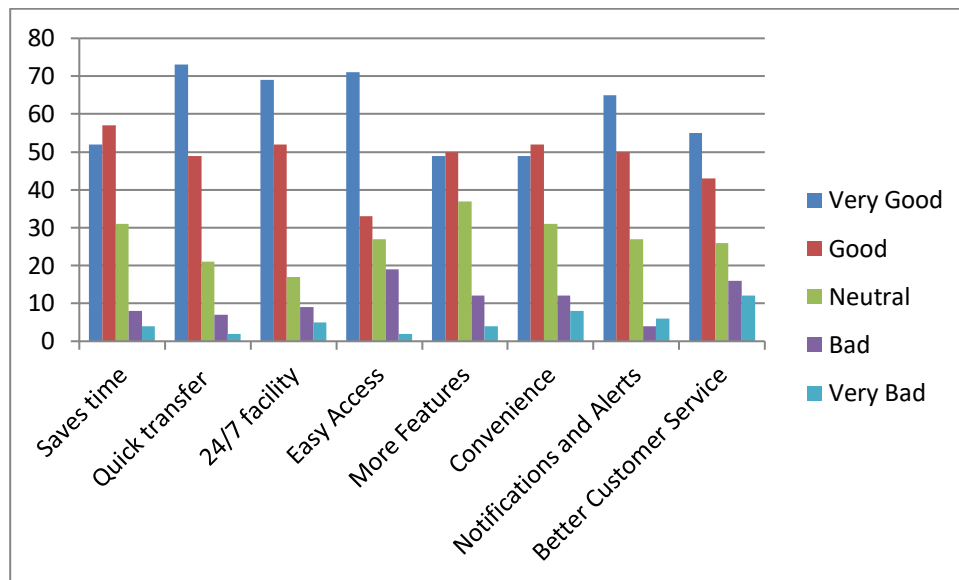


FIGURE.4.10

Table.4.11: Status on services provided by ATM

ATM	Convenient and Saves Time		Easy to Transfer/withdraw		User-Friendly		Security and privacy		Trust and Reliability	
	No	%	No	%	No	%	No	%	No	%
Strongly agree	41	26.97%	54	35.53%	34	22.37%	41	27%	24	15.79%
Agree	62	40.79%	68	44.74%	77	50.66%	59	38.8%	93	61.18%
Neither agrees nor disagrees	38	25%	18	11.84%	27	17.76%	32	21.1%	23	15.13%
Disagree	8	5.263%	4	2.632%	11	7.237%	10	6.58%	6	3.947%
Strongly disagree	3	1.974%	8	5.263%	3	1.974%	10	6.58%	6	3.947%
TOTAL	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 40.79% of the respondents choose agree for convenient and saves time, 26.97% choose strongly agree, 25% choose neither agree nor disagree, 5.263% choose disagree and remaining 1.974% choose strongly disagree. 44.74% of the respondents choose agree for easy to transfer, 35.53% choose strongly agree, 11.84% choose neither agree nor disagree, 5.263% choose strongly disagree and remaining 2.632% choose disagree. 50.66% of the respondents choose agree for user-friendly, 22.37% choose strongly agree, 17.76% choose neither agree nor disagree, 7.237% choose disagree and remaining 1.974% choose strongly disagree. 38.8% of the respondents choose agree for security and privacy, 27% choose strongly agree, 21.1% choose neither agree nor disagree and

remaining 6.58% choose both disagree and strongly disagree. 61.18% of the respondents choose agree for trust and reliability, 15.79% choose strongly agree, 15.13% choose neither agree nor disagree and remaining 3.947% choose both disagree and strongly disagree.

INFERENCE:

ATM is rated good for its easy transfer/withdraw.

STATUS ON SERVICES PROVIDED BY ATM

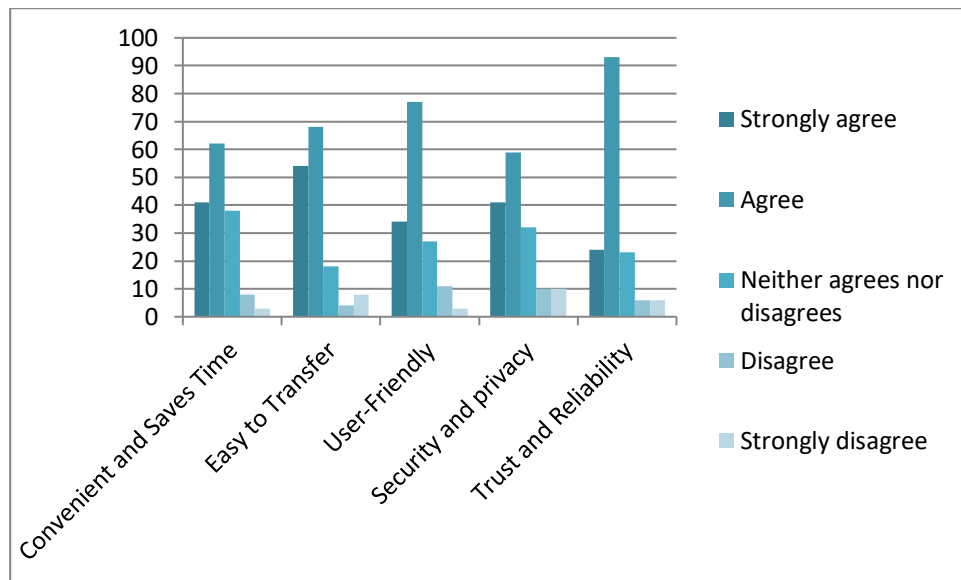


FIGURE.4.11

Table.4.12: Status on services provided by card payment (debit/credit cards)

Card Payment (Debit/Credit cards)	Convenient and Saves Time		Easy to Transfer/withdraw		User-Friendly		Security and privacy		Trust and Reliability	
	No	%	No	%	No	%	No	%	No	%
Strongly agree	30	19.74%	54	35.5%	42	27.6%	53	34.87%	32	21.05%
Agree	69	45.39%	71	46.7%	82	53.9%	61	40.135	66	43.42%
Neither agrees nor disagrees	46	30.26%	11	7.24%	14	9.21%	22	14.47%	36	23.68%
Disagree	2	1.316%	6	3.95%	5	3.29%	11	7.237%	10	6.579%
Strongly disagree	5	2.604%	10	6.58%	9	5.92%	5	3.289%	8	5.263%
TOTAL	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 45.39% of the respondents choose strongly agree for convenient and saves time, 30.26% choose neither agree nor disagree, 19.74% choose strongly agree, 2.604% choose strongly disagree and remaining 1.316% choose disagree. 46.7% of the respondents choose agree for easy to transfer, 35.5% choose strongly agree, 7.24% choose neither agree nor disagree, 6.58% choose strongly disagree and remaining 3.98% choose disagree. 53.9% of the respondents choose agree for user-friendly, 27.6% choose strongly agree, 9.21% choose neither agree nor disagree, 5.92% choose strongly disagree and remaining 3.29% choose disagree. 40.135% choose agree for security and privacy, 34.87% choose strongly agree, 14.47% choose neither agree nor

disagree, 7.237% choose disagree and remaining 3.289% choose strongly disagree. 43.42% of the respondents choose agree for trust and reliability, 23.68% choose neither agree nor disagree, 21.05% choose strongly agree, 6.579% choose disagree and remaining 5.263% choose strongly disagree.

INFERENCE:

Card payments are rated good for its easy transfer and security and privacy.

STATUS ON SERVICES PROVIDED BY CARD PAYMENT (DEBIT/CREDIT CARDS)

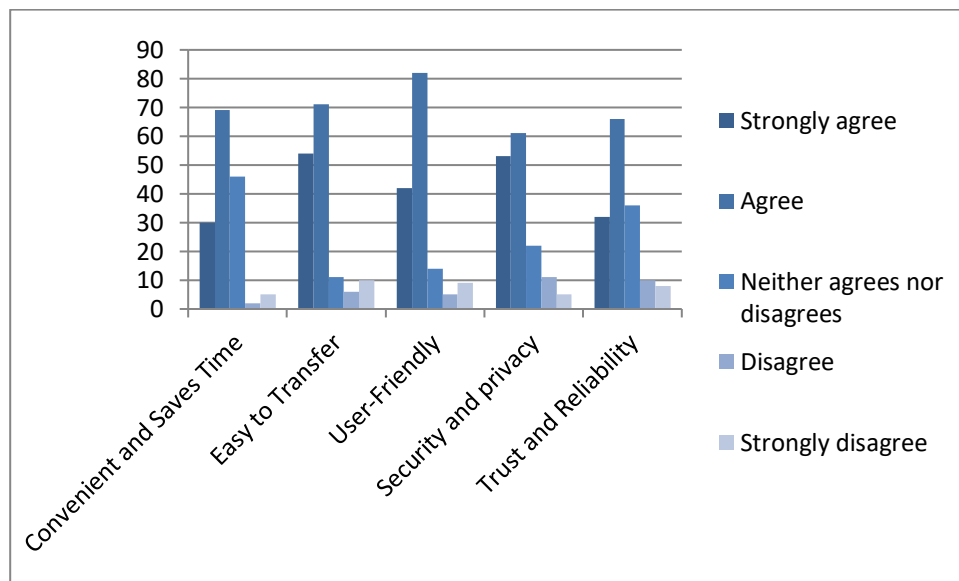


FIGURE.4.12

Table.4.13: Status on services provided by UPI transaction (scan and pay) like gpay, paytm etc.

UPI Transaction (scan and pay) like Gpay, Paytm etc.	Convenient and Saves Time		Easy to Transfer/with draw		User-Friendly		Security and privacy		Trust and Reliability	
	No	%	No	%	No	%	No	%	No	%
Strongly agree	44	28.95 %	51	33.55 %	50	32.89 %	46	30.26 %	32	21.05%
Agree	61	40.13 %	60	39.47 %	65	42.76 %	50	32.89 %	75	49.34%
Neither agrees nor disagrees	33	21.71 %	28	18.42 %	17	11.18 %	34	22.37 %	23	15.13%
Disagree	8	5.263 %	12	7.895 %	16	10.53 %	14	9.211 %	14	9.211%
Strongly disagree	6	3.947 %	1	0.658 %	4	2.632 %	8	5.263 %	8	5.263%
TOTAL	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 40.13% of the respondents choose agree for convenient and saves time, 28.95% choose strongly agree, 21.71% choose neither agree nor disagree, 5.2635 choose disagree and remaining 3.947% choose strongly disagree. 39.47% choose agree for easy to transfer, 33.55% choose strongly agree, 18.42% choose neither agree nor disagree, 7.895% choose disagree and remaining

0.658% choose strongly agree. 42.76% of the respondents choose agree for user-friendly, 32.89% choose strongly agree, 11.18% choose neither agree nor disagree, 10.53% choose disagree and remaining 2.632% choose strongly disagree. 32.89% of the respondents choose agree for security and privacy, 30.26% choose strongly agree, 22.37% choose neither agree nor disagree, 9.211% choose disagree and remaining 5.263% choose strongly disagree. 49.34% of the respondents choose agree for trust and reliability, 21.05% choose strongly agree, 15.13% choose neither agree nor disagree, 9.211% choose disagree and remaining 5.263% choose strongly disagree.

INFERENCE:

UPI is rated good for its easy transfer and User-friendliness.

STATUS ON SERVICES PROVIDED BY UPI TRANSACTION (SCAN AND PAY) **LIKE GPAY, PAYTM ETC.**

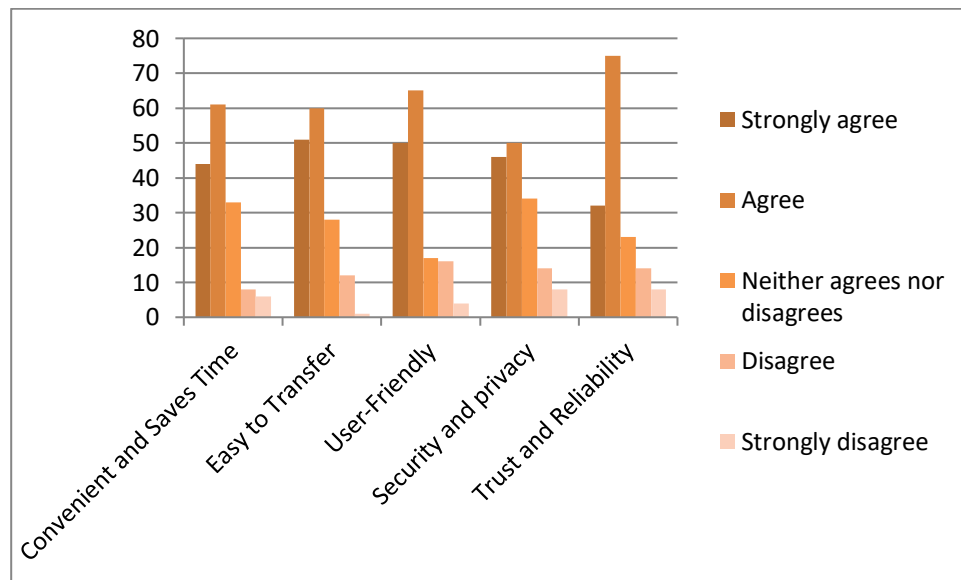


FIGURE.4.13

Table.4.14: Status on services provided by banking over internet websites, net banking and mobile apps

Banking over Internet websites, Net banking and Mobile apps	Convenient and Saves Time		Easy to Transfer/with draw		User-Friendly		Security and privacy		Trust and Reliability	
	No	%	No	%	No	%	No	%	No	%
Strongly agree	31	20.39 %	52	34.2%	33	21.71 %	47	30.92 %	20	13.16 %
Agree	53	34.87 %	59	38.8%	76	50%	57	37.5%	72	47.37 %
Neither agrees nor disagrees	34	22.37 %	29	19.1%	27	17.76 %	25	16.45 %	37	24.34 %
Disagree	5	3.289 %	5	3.29%	10	6.579 %	12	7.895 %	16	10.53 %
Strongly disagree	29	19.08 %	7	4.61%	6	3.947 %	11	7.237 %	7	4.605 %
TOTAL	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 34.87% of the respondents choose agree for convenient and saves time, 22.37% choose neither agree nor disagree, 20.39% choose strongly agree, 19.08% choose strongly disagree and remaining 3.289% choose disagree. 38.8% of the respondents choose agree for easy to transfer, 34.2%

choose strongly agree, 19.1% choose neither agree nor disagree, 4.61% choose strongly disagree and remaining 3.29% choose disagree. 50% of the respondents choose agree for user-friendly, 21.71% choose strongly agree, 17.76% choose neither agree nor disagree, 6.579% choose disagree and remaining 3.947% choose strongly disagree. 37.5% of the respondents choose agree for security and privacy, 30.92% choose strongly agree, 16.45% choose neither agree and disagree, 7.895% choose disagree and remaining 7.237% choose strongly disagree. 47.37% of the respondents choose agree for trust and reliability, 24.34% choose neither agree nor disagree, 13.16% choose strongly agree, 10.53% choose disagree and remaining 4.605% choose strongly disagree.

INFERENCE:

Net Banking is rated good for its easy transfer and security and privacy.

STATUS ON SERVICES PROVIDED BY BANKING OVER INTERNET WEBSITES.

NET BANKING AND MOBILE APPS

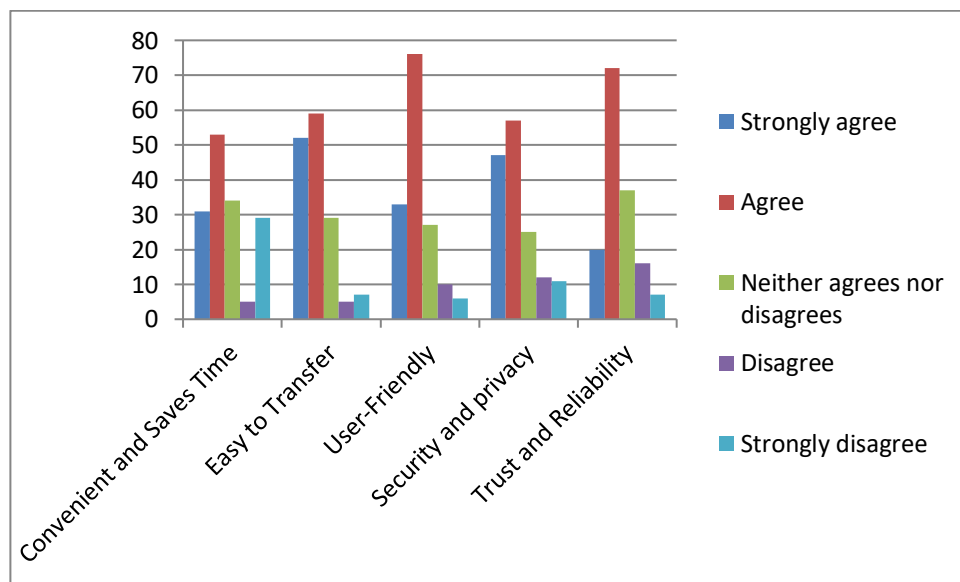


FIGURE.4.14

Table.4.15: Status on services provided by EFT (electronic funds transfer) system

EFT (Electronic Funds Transfer) System	Convenient and Saves Time		Easy to Transfer		User- Friendly		Security and privacy		Trust and Reliability	
	No	%	No	%	No	%	No	%	No	%
Strongly agree	20	13.16 %	30	19.74 %	25	16.45 %	32	21.05 %	15	9.87 %
Agree	59	38.82 %	64	42.11 %	62	40.79 %	55	36.18 %	56	36.8 %
Neither agrees nor disagrees	54	35.53 %	39	25.66 %	44	28.95 %	35	23.03 %	46	30.3 %
Disagree	13	8.553 %	14	9.211 %	16	10.53 %	15	9.868 %	25	16.4 %
Strongly disagree	6	3.947 %	5	3.289 %	5	3.289 %	15	9.868 %	10	6.58 %
TOTAL	152	100	152	100	152	100	152	100	152	100
	2				2		2		2	

Source: Primary Data

INTERPRETATION:

From the above table, 38.82% of the respondents choose agree for convenient and save time, 35.53% choose neither agree nor disagree, 13.16% choose strongly agree, 8.553% choose disagree and remaining 3.947% choose strongly disagree. 42.11% of the respondents choose agree for easy to transfer, 25.66% choose neither agree nor disagree, 16.45% choose strongly agree, 9.211% choose disagree and remaining 3.289% choose strongly disagree. 40.79% of the respondents choose agree for user-friendly, 28.95% choose neither agree nor disagree, 16.45% choose strongly agree, 10.53% choose disagree and remaining

3.289% choose strongly disagree. 36.18% of the respondents choose agree for security and privacy, 23.03% choose neither agree nor disagree, 21.05% choose strongly agree, 9.868% choose both disagree and strongly disagree. 36.8% of the respondents choose agree, 30.3% choose neither agree nor disagree, 16.4% choose disagree, 9.87% choose strongly agree and remaining 6.58% choose strongly disagree.

INFERENCE:

EFT is rated good for its easy transfer and security and privacy.

STATUS ON SERVICES PROVIDED BY EFT (ELECTRONIC FUNDS TRANSFER)

SYSTEM

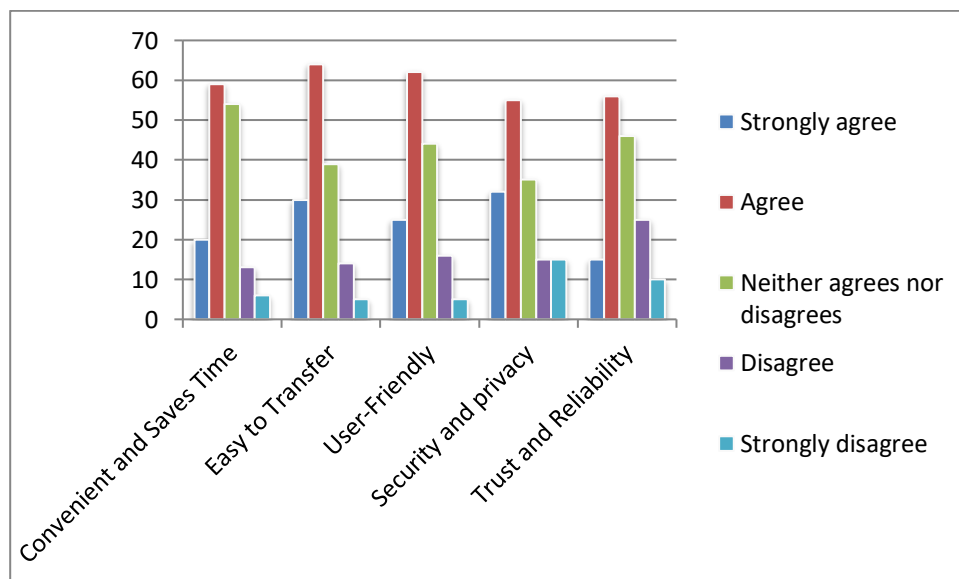


FIGURE.4.15

Table.4.16: Status on difficulty has you faced when visiting bank.

Difficulty have you faced when visiting bank	Poor service in attending customers		Distant from house		Time consuming		Personal Banker Relationship		Services in Bank	
	No	%	No	%	No	%	No	%	No	%
Strongly agree	40	26.32%	30	19.74%	41	26.97%	26	17.11%	31	20.39%
Agree	48	31.58%	71	46.71%	50	32.89%	57	37.5%	21	13.82%
Neither agrees nor disagrees	42	27.63%	27	17.76%	40	26.32%	25	16.45%	38	25%
Disagree	14	9.211%	22	14.47%	16	10.53%	24	15.79%	52	34.21%
Strongly disagree	8	5.263%	2	1.316%	5	3.289%	20	13.16%	10	6.579%
TOTAL	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 31.58% of the respondents choose agree for poor service in attending customers, 27.63% choose neither agree nor disagree, 26.32% choose strongly agree, 9.211% choose disagree and remaining 5.263% choose strongly disagree. 46.71% of the respondents choose agree for distant from house, 19.74% choose strongly agree, 17.76% choose neither agree nod disagree, 14.47% choose disagree and remaining 1.316% choose strongly disagree. 32.89% of the respondents choose agree for time consuming, 26.97% choose strongly agree, 26.32% choose neither agree nor disagree, 10.53% choose disagree and remaining 3.289% choose strongly disagree. 37.5% of the respondents choose agree for

personal banker relationship, 17.11% choose strongly agree, 16.45% choose neither agree nor disagree, 15.79% choose disagree and remaining 13.16% choose strongly disagree. 34.21% of the respondents choose disagree for services in bank, 25% choose neither agree nor disagree, 20.39% choose strongly agree, 13.82% choose agree and remaining 6.579% choose strongly disagree.

INFERENCE:

The difficulty faced by the respondents when they approach bank is poor services in attending customers and time consumption.

STATUS ON DIFFICULTY HAVE YOU FACED WHEN VISITING BANK

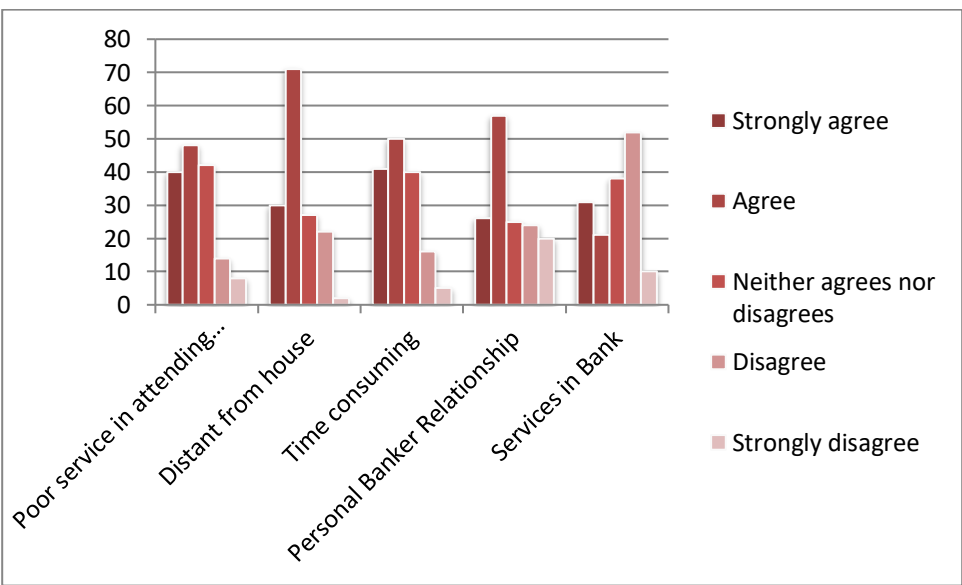


FIGURE.4.16

Table.4.17: Status on problem have you faced when using e-banking

STATUS	Default Payment		Technical Errors		Received late notifications on debit/credit information.		Security and Privacy.		Transaction Difficulty		Transfer of small amounts	
	No	%	No	%	No	%	No	%	No	%	No	%
Very Often	13	8.553%	30	19.74%	22	14.47%	19	12.5%	32	21.05%	41	26.97%
Often	57	37.5%	53	34.87%	49	32.24%	54	35.53%	33	21.71%	48	31.58%
Sometimes	58	38.16%	54	35.53%	45	29.61%	40	26.32%	47	30.92%	36	23.68%
Rarely	15	9.868%	10	6.579%	25	16.45%	30	19.74%	26	17.11%	16	10.53%
Very Rarely	9	5.921%	5	3.289%	11	7.237%	9	5.921%	14	9.211%	11	7.237%
TOTAL	152	100	152	100	152	100	152	100	152	100	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 38.16% of the respondents choose sometimes for default payments, 37.5% choose often, 9.868% choose rarely, 8.553% choose very often and remaining 5.921% choose very rarely. 35.53% of the respondents choose sometimes for technical errors, 34.87% choose often, 19.74% choose very often, 6.579% choose rarely and remaining 3.289% choose very rarely. 32.24% of the respondents choose often for received late notifications on debit/credit information, 29.61% choose sometimes, 16.45% choose rarely, 14.47% choose very often and remaining 7.237% choose very rarely. 35.53% of the respondents choose often for Security and Privacy, 26.32% choose sometimes, 19.74% choose rarely, 12.5% choose very often and remaining 5.921% choose very rarely. 30.92% of the respondents choose sometime for transaction difficulty, 21.71% choose often, 21.05% choose very often, 17.11% choose rarely and remaining 9.211% choose very rarely. 31.58% of the respondents choose often for transfer of small amounts,

26.97% choose very often, 23.68% choose sometimes, 10.53% choose rarely and remaining 7.237% choose very rarely.

INFERENCE:

Security and privacy and default payments are often felt as difficulty in using E-banking services.

STATUS ON PROBLEM HAVE YOU FACED WHEN USING E-BANKING

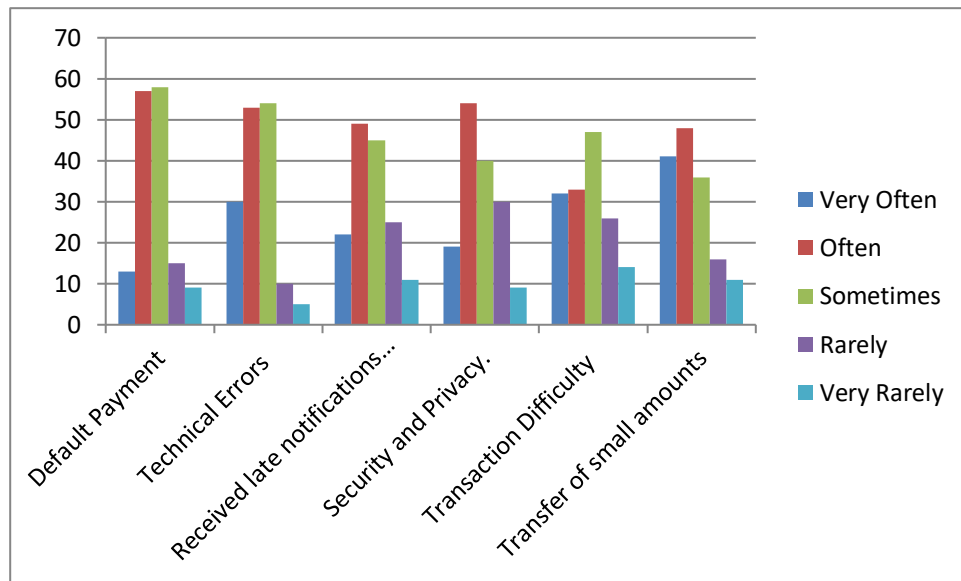


FIGURE.4.17

Table.4.18: Status on mode on which mostly opted

STATUS	NO OF RESPONDENTS	PERCENTAGE (100%)
Approaching Bank	51	34%
Using E-banking services through mobile, Laptops, Tabs etc.	101	66%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 66% of the respondents agreed using E-banking services through mobile, Laptops, Tabs etc and 34% of the respondents agreed approaching bank.

INFERENCE:

About 66% of the respondents have opted for using E-banking services through mobile phones, laptops, tabs, etc.

STATUS ON MODE ON WHICH MOSTLY OPTED

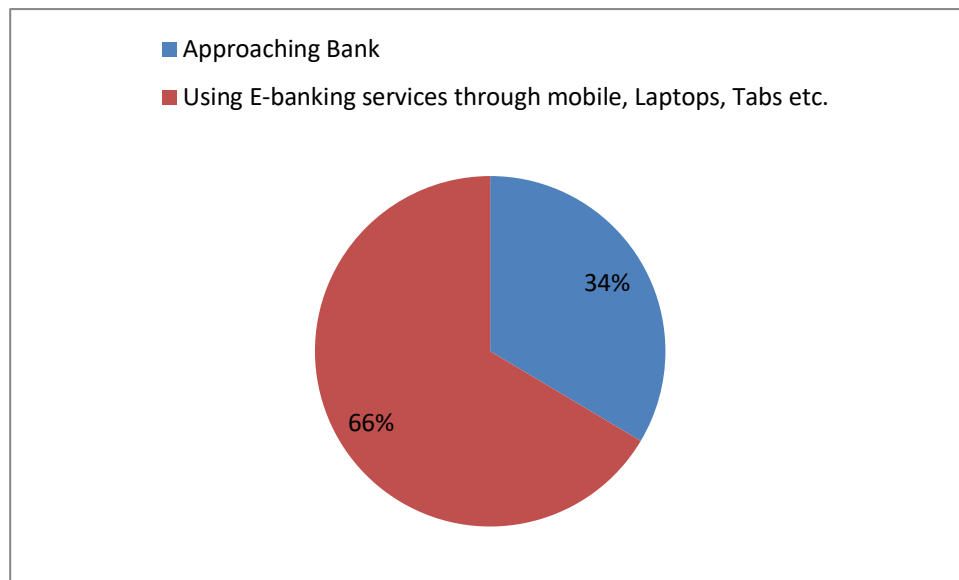


FIGURE.4.18

Table.4.19: Status on the problem solving tendency of the bank.

STATUS	NO OF RESPONDENTS	PERCENTAGE (100%)
Highly satisfied	32	21.05%
Satisfied	40	26.32%
Neutral	52	34.21%
Not Satisfied	12	7.89%
Highly not Satisfied	16	10.53%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 34.21% of the respondents choose neutral on the problem solving tendency of the bank, 26.32% choose satisfied, 21.05% choose highly satisfied, 10.53% choose highly not satisfied and remaining 7.89% choose not satisfied.

INFERENCE:

The problem solving tendency by the bank is felt neutral by the respondents.

STATUS ON THE PROBLEM SOLVING TENDENCY OF THE BANK

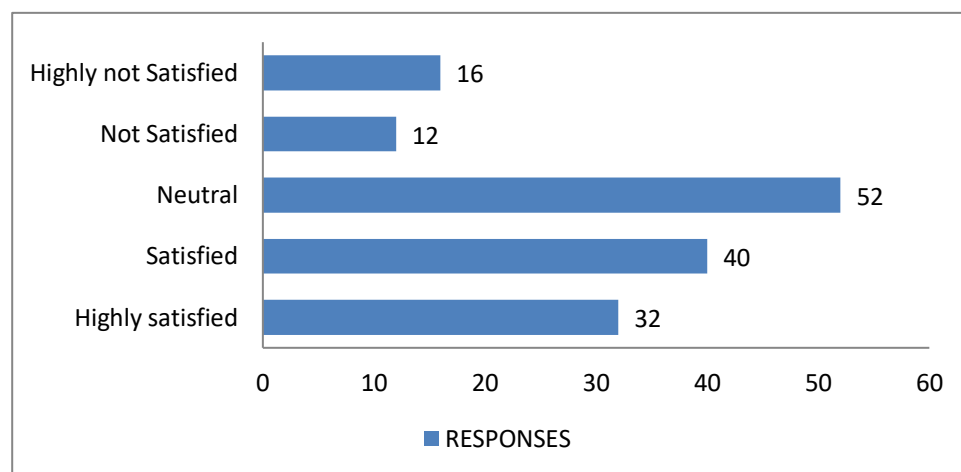


FIGURE.4.19

Table.4.20: Status on the overall rating for e-banking

STATUS	NO OF RESPONDENTS	PERCENTAGE (100%)
Excellent	27	17.8%
Very Good	40	26.3%
Good	39	25.7%
Fair	39	25.7%
Poor	7	4.6%
TOTAL	152	100

Source: Primary Data

INTERPRETATION:

From the above table, 26.3% of the respondents have rated good for using E-banking, 25.7% of the respondents have rated neutral as well as bad, 17.8% of the respondents have rated very good for using E-banking services and remaining 4.6% of the respondents have rated very bad for using E-banking.

INFERENCE:

The overall rating for E-banking services is very good and fair.

STATUS ON THE OVERALL RATING FOR E-BANKING

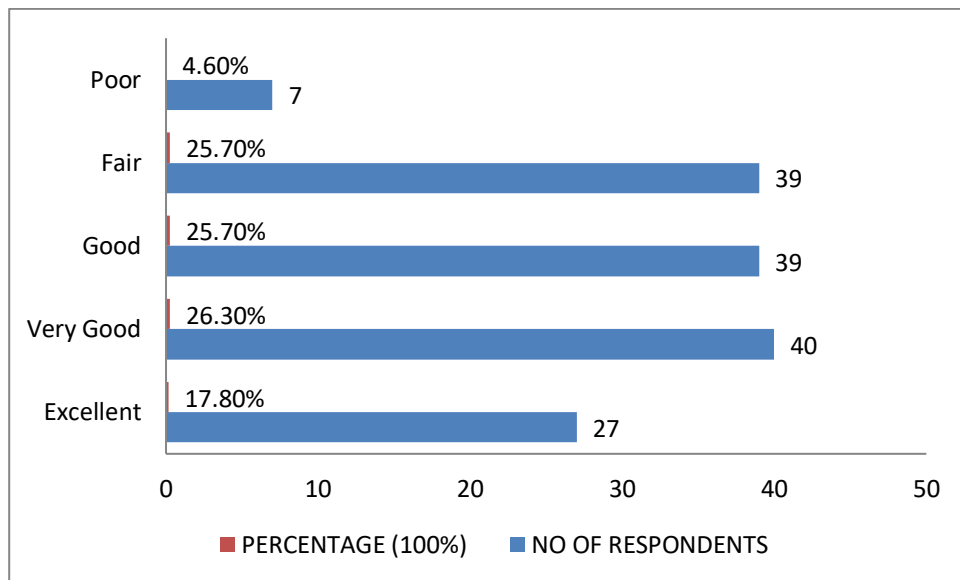


FIGURE.4.20

4.21. STATISTICAL TOOL CALCULATION FROM THE STUDY:

1) **Aim:** To test the relationship between usage of E-banking services towards gender of the respondents.

Null Hypothesis (Ho): There is no significant difference between gender of the respondents and usage of E- banking services.

Alternate Hypothesis (H1): There is significant difference between gender of the respondents and usage of E- banking services.

Table .4.21.1: Hypothesis 1

E- Banking Services	Always	Often	Sometimes	Rare	Never	TOTAL
Gender						
Male	22	19	14	3	4	62
Female	13	32	19	24	2	90
TOTAL	35	51	33	27	6	152

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.868 ^a	4	.001
Likelihood Ratio	20.537	4	.000
N of Valid Cases	152		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.45.

RESULT: Since p value is less than 0.05, we accept the alternative hypothesis and reject the null hypothesis. Hence, there is significant association between gender of the respondents and usage of E- banking services.

2) **Aim:** To test the relationship between preference on online/offline banking towards occupation of the respondents.

Null Hypothesis (Ho): There is no significant difference between preferences on online/offline banking towards occupation of the respondents.

Alternate Hypothesis (H1): There is significant difference between preferences on online/offline banking towards occupation of the respondents.

Table .4.21.2: Hypothesis 2

Occupation	Student	Government Employee	Private Employee	Business	Retired	House wife	TOTAL
Preference							
E-Banking services	59	9	24	11	5	5	113
Approaching Bank	5	5	11	10	2	6	34
TOTAL	64	14	35	21	7	11	152

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.192 ^a	5	.000
Likelihood Ratio	23.597	5	.000
N of Valid Cases	152		

a. 3 cells (25.0%) have expected count less than 5.

The minimum expected count is 1.80.

RESULT: Since p value is less than 0.05, we accept the alternative hypothesis and reject the null hypothesis. Hence, there is significant association between preferences on online/offline banking towards occupation of the respondents.

3) **Aim:** To test the relationship between E-banking services towards security and privacy.

Null Hypothesis (Ho): There is no significant difference between E-banking services towards security and privacy.

Alternate Hypothesis (H1): There is significant difference between E-banking services towards security and privacy.

Table .4.21.3: Hypothesis 3

Security and privacy attributes	Strongly Agree	Agree	Neither Agrees nor Disagrees	Disagree	Strongly Disagree	TOTAL
E-Banking services						
ATM	9	12	6	2	2	31
Card Payments	11	12	4	2	1	30
UPI Transaction (scan and pay) like Gpay, Paytm etc.	9	10	7	3	2	31
Banking over Internet websites, Net banking and Mobile apps.	9	12	5	2	2	30
EFT (Electronic Funds Transfer) System - E-cheque.	6	11	7	3	3	30
TOTAL	44	57	29	12	10	152

Correlations

		STRONG	AGREE	NEUTRAL	DISAGREE	WEAK
ATM	Pearson Correlation	1	.375	-.772	-.663	-.988**
	Sig. (2-tailed)		.534	.126	.222	.002
	N	5	5	5	5	5
Card Payments	Pearson Correlation	.375	1	-.772	-.919*	-.395
	Sig. (2-tailed)	.534		.126	.028	.510
	N	5	5	5	5	5
UPI	Pearson Correlation	-.772	-.772	1	.840	.813
	Sig. (2-tailed)	.126	.126		.075	.094
	N	5	5	5	5	5
Mobile apps	Pearson Correlation	-.663	-.919*	.840	1	.645
	Sig. (2-tailed)	.222	.028	.075		.239
	N	5	5	5	5	5
EFT	Pearson Correlation	-.988**	-.395	.813	.645	1
	Sig. (2-tailed)	.002	.510	.094	.239	
	N	5	5	5	5	5

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

RESULT: Since p value is less than 0.05 and 0.01, we accept the alternative hypothesis and reject the null hypothesis. Hence, there is significant difference between E-banking services towards security and privacy.

Chapter- V

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1. FINDINGS:

- The objectives of the study have been achieved.
- The age category between 20-30 years are using the most and are able to handle E-banking services in the best way.
- Students and private employee are the sectors from occupation who use E-banking services often.
- The female respondent for this survey is high by 65.13%.
- 23.3% of the respondents have bank accounts in State Bank of India followed by City Union Bank with 10.4%.
- 32.9% of the respondents often use E-banking services for day to day transactions.
- Respondents of 61.18% use less than 3times in a day.
- E-banking services like banking through mobile, laptop or tabs is very often used by the respondents followed by ATM and Card Payments.
- In overall services, Card payments are rated excellent followed by UPI transactions.
- Gpay is used often with 23.63% followed by Phonepe with 21.1%.
- The respondents feel very good on the quick transfer and 24/7 facility in E-banking.
- ATM is rated good for its easy transfer/withdraw.
- UPI is rated good for its easy transfer and User-friendliness.
- Nat Banking, Card payments and EFT are rated good for its easy transfer and security and privacy.
- The difficulty faced by the respondents when they approach bank is poor services in attending customers and time consumption.
- Security and privacy and default payments are often felt as difficulty in using E-banking services.

- About 66% of the respondents have opted for using E-banking services through mobile phones, laptops, tabs, etc.
- The problem solving tendency by the bank is felt neutral by the respondents.
- The overall rating for E-banking services is very good and fair.

5.2. SUGGESTIONS:

- Customers can able to rely on the E-banking services more when they are given the security and privacy terms.
- People using E-banking face lot of problems like website errors, receiving late information on the transaction and default payments.
- It would be helpful for the customers when the website is maintained properly.
- Hack proof protocols and the portal must be user-friendly to immediately block or reverting unnecessary and accidental transactions.
- Debit and credit card information can be given through SMS which can also include location of transaction.
- Improvising the terms for keeping the customers information on safe and secured.
- Using two factor authentication and secret access codes that are re-generated every 60 seconds which secures the payments.
- The user interface of E-banking should not change much as it is hard for people aged above 45.
- Messages and awareness regarding the happenings of frauds.
- Banks can use latest chip technology on the debit and credit cards to avoid hacking.
- To provide the information on the payments as some keep on processing and end up failed, but the money would have transferred. In such cases the banks must provide the data security and the relevant information to redeem their money forgone.

5.3. CONCLUSION:

The objectives mentioned in the study have been attained. It has resulted that the customers have a positive thinking towards E-banking and its varied services. The customers prefer E-banking the most than approaching bank in physical mode, as E-banking helps people to save more time and convenience. Most of the customers have a serious notion on the security and privacy and are likely to recommend the banks in providing the proper security and secure their banking details. They can provide more security by providing two factor authentications, strong biometric features as well as encryptions. Security and privacy can affect people and retain them from using the E-banking services. The worry free situation can be done by providing password policies, firewalls and site secure services to protect the customers from being hacked. The technology is providing services and making people to do their banking transactions at one click from where ever and whenever they need.

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APPENDIX:

QUESTIONNAIRE:

1. Name of the respondent : _____
2. Age of the respondent :
 - Below 20 yrs
 - 20-30 yrs 30-40 yrs
 - 40-50 yrs
 - 50yrs and above
3. Current occupation:
 - Student
 - Government Employee
 - Private Employee
 - Business
 - Retired
 - Housewife
4. Gender:
 - Male
 - Female
5. In which of these Private/Public banks do you have your bank account? (tick all applicable)
 - Axis bank
 - IDBI bank
 - Bank of Baroda
 - Kotak Mahindra bank
 - Indian overseas bank
 - Canara bank
 - CC bank
 - Bank of India

- City Union Bank
- HDFC Bank
- Indian Bank
- RBL Bank
- ICICI Bank
- Lakshmi Vilas Bank
- Karnataka Bank
- State Bank of India
- Punjab National Bank

6. To what extent do you use the E-Banking services for your day to day transactions?

- A) Always
- B) Often
- C) Sometimes
- D) Rarely
- E) Never

7. How frequently do you use E-banking in a day?

- A) Less than 3 times
- B) 3-5 times
- C) 6-9 times
- D) More than 9 times.

8. What kind of E-banking services do you use?

E-BANKING SERVICES	ATM	Card Payment (Debit/Credit cards)	Digital wallets	UPI Transaction (scan and pay) like Gpay, Paytm etc.	Banking over Internet websites, Net banking and Mobile apps.	EFT (Electronic Funds Transfer) System - E-cheque.
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Very Often						
Often						
Sometimes						
Rarely						
Very Rarely						

9. How will you rate the following E-banking services?

E-BANKING SERVICES	ATM	Card Payment (Debit/Credit cards)	Digital wallets	UPI Transaction (scan and pay) like Gpay, Paytm etc.	Banking over Internet websites, Net banking and Mobile apps.	EFT (Electronic Funds Transfer) System - E-cheque.
Excellent						
Very Good						
Good						
Fair						
Poor						

10. What kind of UPI apps do you use often?

UPI APPS	Gpay	Paytm	PhonePe	BHIM	Kotak	Pay	Freecharge
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				app	811	Zapp	
Very Often							
Often							
Sometimes							
Rarely							
Very Rarely							

11. Rank the factors of electronic banking based on your preference?

(1- Very Good, 2- Good, 3- Neutral, 4- Bad, 5- Very Bad)

ATTRIBUTES	Saves time	Quick transfer	24/7 facility	Easy Access	More Features and Convenience	Notifications and Alerts	Better Customer Service
Very Good							
Good							
Neutral							
Bad							
Very Bad							

12. How do you rank the services provided by ATM?

ATM	Convenience	Saves Time	Easy to Transfer /withdraw	User-Friendly	Security and privacy	Trust and Reliability
Strongly Agree						
Agree						

Neither Agree nor Disagree						
Disagree						
Strongly Disagree						

13. How do you rank the services provided by Card Payment (Debit/Credit cards)?

Card Payment (Debit/Credit cards)	Convenience	Saves Time	Easy to Transfer /withdraw	User- Friendly	Security and privacy	Trust and Reliability
Strongly Agree						
Agree						
Neither Agree nor Disagree						
Disagree						
Strongly Disagree						

14. How do you rank the services provided by UPI Transaction (scan and pay) like Gpay, Paytm etc.

UPI Transaction (scan and pay)	Convenience	Saves Time	Easy to Transfer /withdraw	User- Friendly	Security and privacy	Trust and Reliability

like Gpay, Paytm etc.						
Strongly Agree						
Agree						
Neither Agree nor Disagree						
Disagree						
Strongly Disagree						

15. How do you rank the services provided by Banking over Internet websites, Net banking and Mobile apps?

Banking over Internet websites, Net banking and Mobile apps	Convenience	Saves Time	Easy to Transfer/ withdraw	User- Friendly	Security and privacy	Trust and Reliability
Strongly Agree						
Agree						
Neither						

Agree nor Disagree						
Disagree						
Strongly Disagree						

16. How do you rank the services provided by EFT (Electronic Funds Transfer) System?

EFT (Electronic Funds Transfer) System	Convenience	Saves Time	Easy to Transfer /withdra w	User- Friendly	Security and privacy	Trust and Reliability
Strongly Agree						
Agree						
Neither Agree nor Disagree						
Disagree						
Strongly Disagree						

17. What kind of difficulty have you faced when visiting bank?

ATTRIBUTES	Poor service in attending customers	Distant from house	Time consuming	Personal Banker Relationship	Services in Bank
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Strongly agree					
Agree					
Neither agrees nor disagrees					
Disagree					
Strongly disagree					

18. What kind of problem have you faced when using E-Banking?

ATTRIBUTES	Default Payment	Technical Errors	Received late notifications on debit/credit information.	Security and Privacy.	Transaction Difficulty
Very Often					
Often					
Sometimes					
Rarely					
Very Rarely					

19. What kind of mode do you mostly opt for these days?

- Using E-banking services through mobile, Laptops, Tabs etc.
- Approaching Bank

20. How far you are satisfied with the problem solving tendency by your bank?

- Highly satisfied
- Satisfied
- Neutral
- Not Satisfied
- Highly not Satisfied

21. Your overall rating on E-banking services, considering all the challenges and issues?

Excellent	Very Good	Good	Fair	Poor
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22. Your suggestions to improve E-banking:

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