PROJECT REPORT ON

A STUDY ON MOBILE BANKING

SUBMITTED BY

ROHAN DINESH PAWAR

T.Y.B.M.S – B-08

Under the guidance of

DR. NITIN AGRAWAL

Principal

SUBMITTED TO

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MAHENDRA PRATAP SHARADA PRASAD SINGH

COLLEGE OF ARTS, COMMERCE AND SCIENCE

BANDRA (EAST) MUMBAI-400051

THE ACADEMIC YEAR 2022-2023

DECLARATION

I **ROHAN DINESH PAWAR** Student of Mahendra Pratap Sharada Prasad Singh College of Arts, Commerce and Science Bandra (East) Mumbai-400051 from T.Y.BMS (2022-2023) do hereby declare that I have completed the project entitled **A STUDY ON MOBILE BANKING** as part my academic fulfillment

I future declare that the information submitted by me is true and original to the best of my knowledge and belief

DATE: 21/03/2023 Signature of Student

PLACE: MUMBAI **ROHAN DINESH PAWAR**

MAHENDRA PRATAP SHARADA PRASAD SINGH

COLLEGE OF ARTS, COMMERCE AND SCIENCE

BANDRA(EAST) MUMBAI-400051

CERTIFICATE

This is to certify that, **ROHAN DINESH PAWAR** of Mahendra Pratap Sharada Prasad Singh College Arts, Commerce and Science from TYBMS has completed the project on **A STUDY ON MOBILE BANKING** for the Fulfilment of the Degree, Bachelor of Management Studies, University of Mumbai, Mumbai

Ms. Shweta Pathak

(BMS Co-ordinator)

(External Examiner)

Dr. Nitin Agarwal

(Guide & Principal)

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ROHAN DINESH PAWAR

CONTENTS

CHAPTER-1

INTRODUCTION OF A STUDY ON MOBILE BANKING

INTRODUCTION OF MOBILE BANKING

1.1 **INTRODUCTION**

Mobile banking refers to the use of a mobile device, such as a smartphone or tablet, to access financial services and perform transactions, such as transferring funds, paying bills, checking account balances, and depositing checks. Mobile banking is a convenient and secure way for individuals to manage their finances on-the-go, without the need for physical bank visits or ATM withdrawals.

the mobile banking, users can access their accounts 24/7, anywhere they have an internet connection, making it easy to stay on top of their finances. Many banks now offer mobile apps that can be downloaded onto smartphones or tablets, providing a range of banking services that can be accessed from the user's mobile device.

To use mobile banking, customers typically need to set up an account with their bank, and then download the bank's mobile app onto their device. They can then log in to the app using

their account details, and access a range of services, including account management, bill payment, fund transfers, and more.

Overall, mobile banking offers a convenient and secure way for individuals to manage their finances on-the-go, providing access to a range of banking services from the palm of their hand

Mobile banking has become increasingly popular in recent years, with the widespread use of smartphones and the internet. With the rise of mobile banking, banks have been able to reach a wider audience and provide services to customers who may not have access to traditional banking services.

One of the major benefits of mobile banking is the convenience it offers. Users can perform transactions at any time, from anywhere, without the need for physical bank visits or ATM withdrawals. This is especially useful for those who have busy schedules or who may live in remote areas without easy access to bank branches.

Mobile banking is also highly secure, with many banks implementing advanced security measures to protect their customers' accounts and personal information. For example, many mobile banking apps require users to log in using a password or biometric authentication, such as fingerprint or facial recognition.

Mobile banking also offers a range of features and services that can help users manage their finances more effectively. For example, some apps allow users to set up alerts for account activity, such as when a transaction is made or when their account balance falls below a certain threshold. This can help users stay on top of their finances and avoid overdraft fees or other charges.

Overall, mobile banking is a convenient, secure, and efficient way for individuals to manage their finances on-the-go. As technology continues to advance, it is likely that mobile banking will become an increasingly important part of the banking industry.

In addition to the benefits mentioned earlier, mobile banking also offers some other advantages over traditional banking methods. For example:

Faster transactions: With mobile banking, transactions can be completed almost instantly, which can be especially useful for urgent payments.

Lower fees: Many mobile banking services offer lower fees than traditional banking methods, such as lower overdraft fees or no fees for certain transactions.

Better money management: Mobile banking apps often provide users with tools to help them manage their money more effectively, such as budgeting tools or spending trackers.

Accessibility for people with disabilities: Mobile banking can be especially helpful for people with disabilities, who may find it difficult to access traditional banking services.

Improved customer service: Many mobile banking apps offer chat or messaging services, allowing users to quickly and easily contact customer service representatives with any questions or concerns.

It is important to note, however, that there are also some potential disadvantages to mobile banking, such as the risk of fraud or security breaches. It is therefore essential for users to take steps to protect their personal information and ensure that they are using a secure, reputable mobile banking service.

Another advantage of mobile banking is that it can help users save time and money. By providing easy access to their accounts and transactions, users can quickly check their balances, review their transaction history, and manage their accounts without the need for physical bank visits. This can save time and reduce the need for travel or transportation costs associated with visiting a bank branch

Mobile banking also offers greater flexibility in terms of banking hours. While physical bank branches have limited operating hours, mobile banking can be accessed 24/7, making it convenient for users to perform transactions and manage their finances outside of traditional banking hours.

Mobile banking also allows users to easily transfer funds between accounts, pay bills, and make purchases, all from the convenience of their mobile device. This can help users avoid late fees or other charges, as they can quickly and easily make payments on time.

In addition, mobile banking can be particularly beneficial for individuals who may not have access to traditional banking services, such as those living in rural areas or who have mobility issues. By providing access to banking services through a mobile device, mobile banking can help these individuals manage their finances and access important financial services without the need to travel to a bank branch.

Overall, mobile banking offers many advantages over traditional banking methods, including convenience, accessibility, and flexibility. As technology continues to advance, it is likely that mobile banking will become an increasingly important part of the banking industry, providing users with greater access to financial services and greater control over their finance.

1.2 **HISTORY OF MOBILE BANKING**

Mobile banking, also known as M-banking, is a service that allows customers to perform financial transactions through their mobile devices such as smartphones or tablets. The history of mobile banking can be traced back to the early 2000s when the first mobile banking services were introduced in Europe and Asia.

In 2001, a Finnish mobile operator called Radiolinja (now known as Elisa) launched the world's first mobile banking service, allowing customers to check their account balances and make transactions via SMS. This was followed by other mobile operators and financial institutions, including HSBC, Barclays, and Citibank, who launched their own mobile banking services.

In 2007, Apple introduced the iPhone, which revolutionized the mobile industry and paved the way for a new era of mobile banking. The iPhone's touchscreen interface and mobile app ecosystem made it easier for banks to develop mobile banking applications, and customers to access their accounts and perform transactions on the go.

In the years that followed, mobile banking grew in popularity and became more sophisticated. Banks began to offer a wider range of services, including bill payments, account transfers, and even mobile check deposits. They also added more security features to protect customer data and prevent fraud.

Today, mobile banking is an integral part of the financial industry, with millions of people around the world using mobile apps to manage their finances. It has made banking more convenient, accessible, and efficient for customers, and has helped banks reduce costs and improve their customer service.

Mobile banking has also opened up financial services to previously underserved communities, such as those living in rural or remote areas without access to traditional banking facilities. Mobile banking has made it possible for customers to access financial services from anywhere with an internet connection, regardless of their location.

In addition, mobile banking has also provided a platform for innovation in the financial industry. FinTech companies and startups are leveraging mobile banking technology to develop new financial products and services that are more accessible and affordable for customers. These include peer-to-peer payments, mobile wallets, and digital currencies.

However, mobile banking also presents some challenges, particularly around security and privacy. With the rise of mobile banking, there has been a corresponding increase in the number of cyber attacks targeting mobile devices. Banks and financial institutions must take

appropriate measures to protect their customers' data and prevent unauthorized access to their accounts.

Overall, the history of mobile banking has been one of rapid growth and evolution, with new technologies and innovations driving its development. As mobile technology continues to advance, it is likely that mobile banking will continue to play an increasingly important role in the financial industry.

The earliest mobile banking services used SMS, a service known as SMS banking. With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

Mobile banking before 2010 was most often performed via SMS or the mobile web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (operating system) have led to increasing use of special mobile apps, downloaded to the mobile device. With that said, advancements in web technologies such as HTML5, CSS3 and JavaScript have seen more banks launching mobile web based services to complement native applications. These applications are consisted of a web application module in JSP such as J2EE and functions of another module J2ME.

A recent study (May 2012) by Mapa Research suggests that over a third of banks[5] have mobile device detection upon visiting the banks' main website. A number of things can happen on mobile detection such as redirecting to an app store, redirection to a mobile banking specific website or providing a menu of mobile banking options for the user to choose from.

A mobile banking conceptual
In one academic model, mobile banking is defined as:

Mobile Banking refers to provision and availment of banking- and financial services with the help of mobile telecommunication devices.The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customised information."

According to this model mobile banking can be said to consist of three inter-related concepts:

Mobile accounting
Mobile financial information services
Most services in the categories designated accounting and brokerage are transaction-based. The non-transaction-based services of an informational nature are however essential for conducting transactions – for instance, balance inquiries might be needed before committing a money remittance. The accounting and brokerage services are therefore offered invariably

in combination with information services. Information services, on the other hand, may be offered as an independent module.

Mobile banking may also be used to help in business situations as well as for financial situation

Mobile banking services
Typical mobile banking services may include:

Account information
Mini-statements and checking of account history
Alerts on account activity or passing of set thresholds
Monitoring of term deposits
Access to loan statements
Access to card statements
Mutual funds / equity statements
Insurance policy management
Transaction
Funds transfers between the customer's linked accounts
Paying third parties, including bill payments and third party fund transfers(see, e.g., FAST)
Check Remote Deposit
Investments
Portfolio management services
Real-time stock
Support
Status of requests for credit, including mortgage approval, and insurance coverage
Check (cheque) book and card requests
Exchange of data messages and email, including complaint submission and tracking
ATM Location
Loan Application
Content services
General information such as finance related news
Loyalty-related offers
A report by the US Federal Reserve (March 2012) found that 21 percent of mobile phone owners had used mobile banking in the past 12 months.Based on a survey conducted by Forrester, mobile banking will be attractive mainly to the younger, more "tech-savvy" customer segment. A third of mobile phone users say that they may consider performing some kind of financial transaction through their mobile phone. But most of the users are interested in performing basic transactions such as querying for account balance and making bill.

Challenge my mobile Number[buzzword]
Key challenges in developing a sophisticated mobile banking application are :

Handset accessibility

There are a large number of different mobile phone devices and it is a big challenge for banks to offer a mobile banking solution[buzzword] on any type of device. Some of these devices support Java ME and others support SIM Application Toolkit, a WAP browser, or only SMS.

Initial interoperability issues however have been localized, with countries like India using portals like "R-World" to enable the limitations of low end java based phones, while focus on areas such as South Africa have defaulted to the USSD as a basis of communication achievable with any phone.

The desire for interoperability is largely dependent on the banks themselves, where installed applications (Java based or native) provide better security, are easier to use and allow development of more complex capabilities similar to those of internet banking while SMS can provide the basics but becomes difficult to operate with more complex transactions.

There is a myth that there is a challenge of interoperability between mobile banking applications due to perceived lack of common technology standards for mobile banking. In practice it is too early in the service lifecycle for interoperability to be addressed within an individual country, as very few countries have more than one mobile banking service provider. In practice, banking interfaces are well defined and money movements between banks follow the IS0-8583 standard. As mobile banking matures, money movements between service providers will naturally adopt the same standards as in the banking world.

In January 2009, Mobile Marketing Association (MMA) Banking Sub-Committee, chaired by Cell Trust and VeriSign Inc., published the Mobile Banking Overview for financial institutions in which it discussed the advantages and disadvantages of Mobile Channel Platforms such as Short Message Services (SMS), Mobile Web, Mobile Client Applications, with Mobile Web and Secure SMS.

Security

As with most internet-connected devices, as well as mobile-telephony devices, cybercrime rates are escalating year-on-year. The types of cybercrimes which may affect mobile-banking might range from unauthorized use while the owner is using the mobile banking, to remote-hacking, or even jamming or interference via the internet or telephone network data streams. This is demonstrated by the malware called SMS Zombie. A, which infected Chinese Android devices. It was embedded in wallpaper apps and installed itself so it can exploit the weaknesses of China Mobile SMS Payment system, stealing banks credit card numbers and information linked to financial transactions. One of the most advanced

malwares discovered recently was the Trojan called Bankbot. It went past Google's protections in its Android app marketplace and targeted Wells Fargo, Chase, and Citibank customers on Android devices worldwide before its removal by Google in September 2017. This malicious app was activated when users opened a banking app, overlaying it so it can steal banking credentials.

See also: Mobile security
In the banking world, currency rates may change by the millisecond.

Security of financial transactions, being executed from some remote location and transmission of financial information over the air, are the most complicated challenges that need to be addressed jointly by mobile application developers, wireless network service providers and the banks' IT departments.

One-time passwords (OTPs) are one tool used by financial and banking service providers in the fight against cyber fraud. Instead of relying on traditional memorized passwords, OTPs are requested by consumers each time they want to perform transactions using the online or mobile banking interface. When the request is received the password is sent to the consumer's phone via SMS. The password is expired once it has been used or once its scheduled life-cycle has expired.

Scalability and reliability
Another challenge for the CIOs and CTOs of the banks is to scale-up the mobile banking infrastructure to handle exponential growth of the customer base. With mobile banking, the customer may be sitting in any part of the world (true anytime, anywhere banking) and hence banks need to ensure that the systems are up and running in a true 24 × 7 fashion. As customers will find mobile banking more and more useful, their expectations from the solution[buzzword] will increase. Banks unable to meet the performance and reliability expectations may lose customer confidence. There are systems such as Mobile Transaction Platform which allow quick and secure mobile enabling of various banking services. Recently in India there has been a phenomenal growth in the use of Mobile Banking applications, with leading banks adopting Mobile Transaction Platform and the Central Bank publishing guidelines for mobile banking operations.

Application distribution
Due to the nature of the connectivity between bank and its customers, it would be impractical to expect customers to regularly visit banks or connect to a web site for regular upgrade of their mobile banking application. It will be expected that the mobile application itself check the upgrades and updates and download necessary patches (so called "Over The Air" updates). However, there could be many issues to implement this approach such as upgrade / synchronization of other dependent components.

Studies have shown that a huge concerning factor of having mobile banking more widely used , is a banking customer's unwillingness to adapt. Many consumers, whether they are misinformed or not, do not want to begin using mobile banking for several reasons. These can include the learning curve associated with new technology, having fears about possible security compromises, just simply not wanting to start using technology, etc.

Personalization
It would be expected from the mobile application to support personalization such as:

Preferred Language
Date / Time format
Amount format
Default transactions
Standard Beneficiary list
Alerts
Mobile banking in the world
See also: List of countries by mobile banking usage
This is a list of countries by mobile banking usage as measured by the percentage of people who had non-SMS mobile banking transactions in the previous three months. The data is sourced from Bain, Research Now and Bain along with GMI NPS surveys in 2012.

Rank	Country/Territory	Usage in 2012
1	South Korea	47%
2	China	42%
3	Hong Kong	41%
4	Singapore	38%
5	India	37%
6	Spain	34%
7	United States	32%
8	Mexico	30%
9	Australia	27%
10	France	26%
11	United Kingdom	26%
12	Thailand	24%
13	Canada	22%
14	Germany	14%
15	Pakistan	9%

African nations such as Kenya would rank highly if SMS mobile banking were included in the above list. Kenya has 38% of the population as subscribers to M-Pesa as of 2011.

Though as of 2016 mobile banking applications have seen a tremendous growth in Kenyan banking sector who have capitalised on android play store and apple store to put their applications. Kenyan banks like Equity Bank Kenya Limited Eazzy banking application and The Co-operative Bank Mco-op cash application have proved to be a success mobile banking applications.

Mobile banking is used in many parts of the world with little or no infrastructure, especially remote and rural areas. This aspect of mobile commerce is also popular in countries where most of their population is unbanked. In most of these places, banks can only be found in big cities, and customers have to travel hundreds of miles to the nearest bank.

In Iran, banks such as Parsian, Tejarat, Pasargad Bank, Mellat, Saderat, Sepah, Edbi, and Bankmelli offer the service. Banco Industrial provides the service in Guatemala. Citizens of Mexico can access mobile banking with Omnilife, Bancomer and MPower Venture. Kenya's Safaricom (part of the Vodafone Group) has the M-Pesa Service, which is mainly used to transfer limited amounts of money, but increasingly used to pay utility bills as well. In 2009, Zain launched their own mobile money transfer business, known as ZAP, in Kenya and other African countries. Several other players in Kenya such as Tangerine, MobiKash and Funtrench Limited also have network-independent mobile money transfer. In Somalia, the many telecom companies provide mobile banking, the most prominent being Hormuud Telecom and its ZAAD service.

Telenor Pakistan has also launched a mobile banking solution[buzzword], in coordination with Taameer Bank, under the label Easy Paisa, which was begun in Q4 2009. Eko India Financial Services, the business correspondent of State Bank of India (SBI) and ICICI Bank, provides bank accounts, deposit, withdrawal and remittance services, micro-insurance, and micro-finance facilities to its customers (nearly 80% of whom are migrants or the unbanked section of the population) through mobile banking.

In a year of 2010, mobile banking users soared over 100 percent in Kenya, China, Brazil and United States with 200 percent, 150 percent, 110 percent and 100 percent respectively.
Dutch Bangla Bank launched the first mobile banking service in Bangladesh on 31 March 2011. This service is launched with 'Agent' and 'Network' support from mobile operators, Banglalink and Citycell. Sybase 365, a subsidiary of Sybase, Inc. has provided software solution[buzzword] with their local partner Neurosoft Technologies Ltd. There are around 160 million people in Bangladesh, of which, only 13 per cent have bank accounts. With this solution[buzzword], Dutch-Bangla Bank can now reach out to the rural and unbanked population, of which, 45 per cent are mobile phone users. Under the service, any mobile handset with subscription to any of the six existing mobile operators of Bangladesh would be able to utilize the service. Under the mobile banking services, bank-nominated Banking

agent performs banking activities on its behalf, like opening mobile banking accounts, providing cash services (receipts and payments) and dealing with small credits. Cash withdrawal from a mobile account can also be done from an ATM validating each transaction by 'mobile phone & PIN' instead of 'card & PIN'. Other services that are being delivered through mobile banking system are person-to-person (e.g. fund transfer), person-to-business (e.g. merchant payment, utility bill payment), business-to-person (e.g. salary/commission disbursement), government-to-person (disbursement of government allowance) transactions. One of the most recent mobile technological wonders (Shaikh and Karjaluoto, 2015) and one of the most recent financial services sector innovations which has added a pure mobility element to service consumption (Mishra and Bisht, 2013; Oliveira et al., 2014) that in return enabled customers to have a convenient access to different value-added banking services is mobile banking (MB) or m-banking (Anderson, 2010). M-banking is defined as “a feed where the consumer communicates with a bank using a mobile device, such as a mobile phone or personal digital assistant. In that sense, it can be seen as a subset of electronic banking and an extension of internet banking with its own unique characteristics (Laukkanen & Pasanen, 2008). It is one of the newest approaches to the concern of financial services through information computer technology (ICT), made possible by the extensive adoption of mobile phones even in low income countries (Anderson, 2010). In May 2012, Laxmi Bank Limited launched the very first mobile banking in Nepal with its product Mobile Khata. Mobile Khata currently runs on a third-party platform called Hello Paisa that is interoperable with all the telecoms in Nepal viz. Nepal Telecom, NCell, Smart Tel and UTL, and is also interoperable with various banks in the country. The initial joining members to the platform after Laxmi Bank Limited were Siddartha Bank, Bank of Kathmandu, Commerz and Trust Bank Nepal and International Leasing and Finance Company. In country with roughly 30 million population, over 5 million have subscribed to mobile banking in Nepal as per the recent data from Nepal Rastra Bank, the central bank of Nepal.

Barclays offers a service called Barclays Pingit, and Hello Money offering services in Africa, allowing transfer of money from the United Kingdom to many parts of the world with a mobile phone. Pingit is owned by a consortium of banks. In April 2014, the UK Payments Council launched the Paym mobile payment system, allowing mobile payments between customers of several banks and building societies using the recipient's mobile phone number. In past some US research proved that in the United States, people focusing in on adaptable banking (m-banking), this work contemplates responses from three undeniable buyer parcels, including – 1) customers living in Egypt, 2) purchasers from Egypt who are living in the U.S. in addition, 3) U.S. customers. The conceptual model was developed by the technology acceptance model (TAM), task-technology fit model (TTF), theory of planned behavior model (TPB), the diffusion of innovation model (DOI).

In November 2017, the State Bank of India launched an integrated banking platform in India called YONO offering conventional banking functions but also payment services for things such as online shopping, travel planning, taxi booking or online education.

In January 2019, the German direct bank N26 overtook Revolut as the most valuable mobile bank in Europe with a valuation of $2.7 billion and 1.5 million users.

Following is a list showing the share of people using mobile banking apps during the last three months in selected countries worldwide in 2014. The list is based on a survey conducted by statista.com including 82,914 respondents.

Rank	Country/Territory	Usage in 2014
1	Indonesia	77%
2	China	73%
3	Thailand	64%
4	India	59%
5	Singapore	58%
6	Poland	58%
7	Malaysia	54%
8	Hong Kong	49%
9	Australia	47%
10	Mexico	45%
11	Spain	44%
12	United States	43%
13	Italy	42%
14	United Kingdom	41%
15	Brazil	39%
16	Canada	34%
17	Portugal	31%
18	France	30%
19	Belgium	27%
20	Germany	21%

1.3 EVOLUTION OF MOBILE BANKING IN INDIA

The factors of mobile banking evolution

The evolution of the bank industry has brought changes in the customer experience. We covered the history of this process already. Let's now reflect on the reasons for this change and the results that took place during the online banking expansion.

The advancement of technology

The accessibility of technology over the years has resulted in abrupt changes within many systems, not only the banking industry. As we mentioned before, the development of smartphones, which are much more than machines for making phone calls nowadays, allowed us to switch to digital banking.

According to Statista, the global smartphone penetration reached 46.45% in 2020. In the coming years, this percentage is estimated to go further up.

Also, it is worth mentioning that banks operate on much better software than before, and each year brings further upgrades and enhancements to the system.

Growing mobile money infrastructure

Many prominent banks have already made substantial investments to upscale their mobile banking capabilities. Smaller financial institutions and some non-bank entities have also started to seek ways to leverage this fast-growing space.

Those non-bank entities include mobile network carriers, credit card processors, and online personal finance services.

Change in customer needs and preferances

Waiting in lines with your entry number is no longer something customers should worry about. Chances are, they can resolve all their banking errands on their own over the app on their smartphone. The level of convenience online banking brings turned out to be extremely valuable to customers who can access their accounts in time-efficient and effortless ways.

Innovative features and services

With the development of online banking, banks got the chance to upgrade their systems and prioritize their activities better. As digital banking has taken over, new features have been added to the banks. All with the same goal: providing maximum convenience to their customers while expanding their possibilities and introducing new services and/or products on the market.

These innovations are the bait for new customers and for retaining the existing ones. In times when a lot is available and possible, banks are competing for the market just like all other sectors do.

Increased market and accessibility

Internet banking allows banks to reach a wider audience that doesn't necessarily live close to the bank. This is great news to customers who wanted to join a specific bank but couldn't as there wasn't a local bank in their city or town. Banks can now reach many more potential customers. Up-selling and cross-selling products is now much easier.

Monetizing customer analytics

Modern technology gives insight into the detailed spending habits of each customer. Banks can easily track each purchase or transaction and use this data to their advantage. Moreover, banks often create deals with retailers who need such information to personalize their products and observe the changes within the market.

When banks sell such information to retailers, the personal data and identity of each customer are protected. We will discuss the issue of security later. For now, it is important to mention that banks are very cautious with confidential information. Also, banks leverage this data to upgrade their capabilities to acquire new customers, offer better customer service, and improve decision-making capabilities.

A great channel for vertical marketing

Online banking can be used as an effective marketing channel. Banks communicate with their customers via push notifications, offering them new products and services. Some of

the most popular offerings include new types of saving plans, insurance packages, or loan deals.

With the customer data on their hands, banks can easily implement vertical marketing and create highly targeted marketing campaigns.

Source: University of Waterloo

Reduces cost and saves time

As the majority of workload got digitized, there is less need for physical materials like paper. Banks are no longer drowning in envelopes and papers which conserves space, but also supports the environmental movements.

Bank clerks now have much more time for individual meetings with customers, while customers are no longer tired of waiting in the queues. The overall workflow is more smooth and efficient which also aids to a better customer experience.

1.4 **SILENT FEATURES OF MOBILE BANKING**

1. **Up-to-date account activity**

The most fundamental feature your financial institution's online banking or mobile app will offer is up-to-date account activity. Easily keep track of your finances by regularly reviewing this activity. Key items to take note of include:

Transactions: These make up your account activity and include money coming into your account (i.e. direct and check deposits), and money going out of your account (i.e. debit card payments and ATM cash withdrawals).
Each transaction will include a date, description and amount. Make sure you recognize each item to ensure there aren't any unknown charges on your account.
Pending/hold: You may also see transactions listed as pending on your account, which means they aren't complete or fully posted to your account yet.
Balance: In your account activity you should also be able to view a running count of your balance after each deposit or withdrawal, so you are aware of exactly how much money is in your account.
Search: It's also important for your account activity to include the ability to search so you can easily view transactions from a certain date range, to a certain biller, find a check image, etc.

2. **Check account balance**

Want to know how to check your current bank account balance online? Online and mobile banking give you quick access to your account balances anywhere, anytime. This gives you the advantage of knowing how much you have available before you make that next purchase. An extra perk is if your financial institution has a feature that allows you to view your balance without logging in to your account—saving you that extra step.

An important distinction to note on your account balance is your current and available balances. For example, if you've deposited a check for $200 but only $100 is available while the check finishes processing, your current balance will reflect the full $200 but your available balance will only account for the $100. This is important to take note of, especially if you have a low balance on your account, to ensure you aren't spending more than the available balance in your account.

3. **Account-to-account transfer**

If you have multiple accounts at your financial institution (i.e. a checking and a savings account), it's important to be able to easily transfer money as needed to build up savings or cover spending. Rather than visiting your bank in-person and filling out a slip, users who bank online or from their mobile banking app can instantly transfer funds between internal accounts with just a few taps on their screen. This is beneficial for those who actively use their different accounts on a regular basis, or are looking for more flexibility in their budgeting or savings.

4. **Person-to-person transfer**

With a person-to-person (P2P) transfer, you are able to send money quickly and easily to friends and family straight from your phone. Popular mobile payment apps include PayPal and Venmo. Zelle® is also a popular option and has the added convenience of being available directly in some financial institution's online banking and mobile apps. Looking for online banking with Zelle®? Check to see if your bank offers it – enrolling is easy!

5. **Bank-to-bank transfer**

A bank-to-bank transfer allows you to transfer money between your different external accounts if you're with more than one bank. This comes in handy if you have accounts for different purposes or are in the process of switching financial institutions, especially if you moved and aren't near a physical location of one of the banks anymore. Make sure to take note of the amount of time for a bank-to-bank transfer, as these typically take more time than the instantaneous account-to-account transfer between your accounts at one place.

6. **Mobile deposit**

If you've ever sat on a check because you didn't have time to make it to the bank before it closed, mobile deposit is the answer. This feature allows you to scan or take a photo of your check through your mobile app, and then deposit that balance into your account as if you'd deposited it in person.

7. **Cleared check images**

When you pay by check, copies of those checks are available online once the transaction completes. You can view these images by logging in to your online account, which could come in handy if you need copies or a reminder on what the payment was for.

8. **Online bill pay**

Online bill pay helps centralize your bills in one place, so you don't have to chase down separate payment accounts every month. You should be able to:
Immediately add and schedule billers to pay
Create one-time, future-dated, and recurring bill payments to meet your needs
Set reminders for upcoming bill due dates
An added perk is the option to receive electronic versions of your billing statements (eBills) for easier, eco-friendly account management.

9. **Account alerts**

When life gets busy, you set a reminder. It is crucial that your financial institution offer account alerts for events like low account balance, daily balance alert, transactions and more. Your financial institution should also provide the option to receive convenient account alerts by e-mail or text message.

10. **Card control services**

To help avoid the stresses of a misplaced or stolen debit card, card control services give you the power to turn your card off until the card is found or replaced. Check to see if your financial institution additionally offers the ability to restrict transactions and set card-specific alerts, putting you fully in control of your card no matter where you are.

11. **Fraud alerts**

You should be able to feel confident that your money is safe at your financial institution, and a security feature that can help ease your mind is fraud alerts. These alerts notify you of potential suspicious activity on your account as it's happening, so you always know what's going on with your account.

12. **Touch and Face ID**

To help keep your mobile banking experience more secure, many banks offer Touch and Face ID authentication using fingerprint or facial recognition. These safeguards not only provide added protection, but also make it easier for you to sign into your account quickly without having to re-enter your password each time.

13. **ATM & bank locator**

Make sure your financial institution's mobile app offers the ability to locate the nearest office location or in-network ATM, so you're able to avoid fees whenever possible when out and about around town, or traveling.

14. **View account statements online**

Go green with eco-friendly, paperless account statements you can view online. Getting your statements online is faster and more secure than standard mail, and you don't have to worry about the clutter of receiving paper statements each month. Having access to your bank statements online also makes it easier to make copies for things like taking out loans, proof of residency, rental applications, etc.

15. **Self-service options**

Take note of whether your financial institution includes features in their online banking experience that takes convenience to another level. Tasks that used to require a phone call or bank visit can be done online or from your phone, such as: reordering checks, stopping payments, ordering a personalized debit card and updating contact details (phone number, e-mail, etc.).

Want to learn more about online and mobile banking? We're here to help. Check out what else the online banking experience has to offer or contact your local Dollar Bank office today for additional assistance.

1.5 **BENEFITS OF MOBILE BANKING**

1. **Accessing the bank 24/7**

Unlike a bank branch, mobile banking conveniently gives you access to your account anytime you like — with some exceptions, such as planned maintenance updates and unexpected outages.

This ease of accessibility saves you time. Mobile check deposit, for example, a feature most banking apps offer, allows you to deposit a check on the go or from the comfort of your couch.

Mobile banking can also help alleviate pandemic-related health worries and other concerns consumers may have regarding banking in person.

"People don't want to have to go into bank branches anymore, especially during these COVID times, says Billie Simmons, co-founder and chief of staff of Daylight, a digital-banking startup for LGBTQ communities. "But for people whose identity might still not be well received especially in smaller towns or for trans or [nonbinary] people, the idea of being able to do everything via your phone is super attractive because it allows you a certain layer of safety and convenience that branch banking just can't provide."

2. **Optimizing your money**

The best mobile banking apps have evolved to help you manage your money with less effort. For example, the Ally Bank app offers checking account customers a feature to help organize their money digitally and optimize how much money they can save. The U.S. Bank app alerts customers when its algorithms spot money-saving opportunities or situations when an account is at risk of being overdrawn. Varo, a challenger bank with a federal bank charter, also offers automatic savings tools as well as ApexEdge, a hird-party service that helps customers negotiate lower payments on bills.

Spending alerts are another way mobile banking apps can help you optimize your money.

"You are seeing a lot of people say, 'Hey, I want to know every time there is a transaction over $150 or over $250 or whatever that threshold the consumer happens to care about is," says Zach Bruhnke, co-founder at HMBradley, a challenger bank. "A lot of people want to go and understand things like 'What are my daily limits?' Things you'd probably ask your banker or call a branch for, now you are [the] one to do it. The push is for more and more information to be available at customers' fingertips prints."

3. **Paying IOUs**

When you are logged into your mobile banking app, it's easy to pay back someone you know.

Banks across the country partner with Zelle so that you can send someone money in minutes through the bank's mobile app rather than paying people with cash or a check.

You only need to know recipients' email addresses or phone numbers to send them money. If your bank doesn't offer Zelle, it usually lets you transfer funds to someone else's bank account if you know their routing and account numbers.

4. **Strengthening security**

Banks are in the business of guarding your assets — including transactions made using their mobile apps. Though nothing is foolproof, there are ways you can step up security precautions if you're concerned about mobile banking security.

Financial institutions often require a username and password to sign into a mobile app and offer additional safety features to further safeguard your account. Multifactor authentication, for example, requires at least two kinds of verification to prove that it's really you. The first are the account credentials (your username and password) followed by a text with numeric code sent to your phone that needs to be submitted to gain access to the account.

Further, some mobile devices — and some bank apps — let you log in by scanning your face or fingerprint as yet another way to protect your digital bank account without trading convenience. "In mobile banking, you can really leverage biometrics for authentication," ABA's Morgan says.

The security features also allow you to lock or remotely disable your smartphone, should it go missing, to keep fraudsters out.

Your bank app may also let you share your location to help you spot payment fraud.

"It can be better for security for the consumer because we are getting to the world where we can do things like, 'We know where your phone is and if your card is a long way from your phone, it might not be you,'" HMBradley's Bruhnke says. "There are a lot of interesting security controls that can come out of actually having the app installed."

5. **Providing added controls**

Think of a mobile banking app as a remote control for your money. The app lets you deposit a check and send someone money whenever you wish.

These controls are getting more advanced. Some bank apps let you activate a new credit or debit card, for example.

“If someone tries to use their card that is not activated, a bank for years would just decline the card. That’s the default,” Bruhnke says. “Now if you have the mobile app, you can get a push notification of, ‘Hey, your card hasn’t been activated. Do you want to activate that?’”

It’s not the only way banks let you control your cards. A growing number of banks, such as Wells Fargo, Ally Bank, Chase and Bank of America let you use their mobile apps to turn your debit or credit card off if it goes missing or is stolen. It’s a nice feature to help you feel instantly secure in a moment of panic. Calling a toll-free number is not required if you want to turn your card back on, either.

6. **Offering clarity about where your financial data is going**

Many consumers share bank data to use services like Venmo and Mint. Depending on how many outside apps you use, it can be quite taxing to remember which company has what bank data. So a number of banks are trying to help customers understand where it’s going by changing the way data is shared behind the scenes.

“We are seeing a lot more banks offer that functionality that gives consumers proactive control over where their data is going,” ABA’s Morgan says. “It’s not just the added security … But it’s also the importance of transparency so you see where your data is going, how it is being used and [controlled], the ability to turn off this thing when you are no longer using the service.”

At Wells Fargo, for example, customers are able to see recurring payments connected to payment cards and can turn their cards on and off under one hub, called Control Tower.

7. **Giving you tailored options**

If you are looking for a like-minded community, mobile banking provides a variety of options to serve specific pockets of the population.

Daylight, for example, is a digital bank focused on addressing financial issues facing LGBTQ communities, such as lower mortgage approval rates. Daylight has also partnered with Visa to offer a debit card that features account holders’ chosen names rather than their birth names, a feature that may appeal to those who have transitioned their gender.

Rob Curtis, co-founder and CEO of Daylight, says going into a bank as an LGBT person is largely an exercise in futility. “They won’t understand who you are,” Curtis says. “They

will ask you the wrong questions and they will give you a service that is designed for people that don't act like us."

There are also startups building mobile financial tools for Black communities, young adults, women and other groups.

1.6 **OBJECTIVIES OF MOBILE BANKING**

The objectives of mobile banking can vary depending on the specific needs and goals of the financial institution offering the service. However, some common objectives of mobile banking are:

Convenience: Mobile banking offers customers the ability to perform financial transactions from anywhere and at any time, which is a significant convenience factor for many people.

Access: Mobile banking can help increase financial inclusion by providing access to banking services for people who may not have access to traditional banking methods.

Cost savings: Mobile banking can be a cost-effective way for financial institutions to provide banking services, particularly in areas where it may not be feasible to build physical branches.

Security: Mobile banking can provide enhanced security features to protect customers' financial transactions and personal information.

Customer engagement: Mobile banking can be used as a tool to engage customers by providing personalized offers, targeted messaging, and real-time alerts.

Competitive advantage: Offering mobile banking can provide a competitive advantage for financial institutions by attracting tech-savvy customers who are looking for convenient banking options.

Increased customer loyalty: By offering mobile banking, financial institutions can increase customer loyalty by providing a convenient, secure, and personalized banking experience.

Improved operational efficiency: Mobile banking can help financial institutions improve their operational efficiency by reducing the need for manual processes, such as paper-based transactions, and allowing for more automation.

Data collection and analysis: Mobile banking can provide financial institutions with valuable data on customer behavior, which can be used to better understand their customers' needs and preferences and to develop more targeted products and services.

Innovation and differentiation: Mobile banking can be used as a tool to differentiate a financial institution from its competitors by offering innovative features and services that are not available through traditional banking methods.

1.7 **ADVANTAGES OF MOBILE BANKING**

Mobile banking has several advantages, including:

- Convenience: One of the biggest advantages of mobile banking is the convenience it offers. Customers can carry out banking transactions from anywhere, at any time, without having to physically visit a bank branch.

- Time-saving: Mobile banking eliminates the need to stand in long queues at the bank, saving customers a lot of time. With just a few clicks on their mobile devices, they can perform various banking transactions such as transferring money, paying bills, and checking their account balance.

- Security: Mobile banking apps are equipped with advanced security features that help protect customer information and prevent fraud. Most mobile banking apps require the use of a password, PIN, or biometric authentication to access the account.

- Cost-effective: Mobile banking transactions are usually cheaper compared to traditional banking transactions. Customers can save money on ATM fees, postage, and other fees associated with traditional banking.

- Accessibility: Mobile banking provides access to banking services for people who live in remote areas or have limited mobility. With a mobile phone, they can access banking services and perform transactions from the comfort of their home.

- Real-time notifications: Mobile banking apps provide real-time notifications for transactions, including deposits, withdrawals, and payments. This helps customers keep track of their account activity and detect any unauthorized transactions quickly.

- 24/7 Availability: Mobile banking is available 24 hours a day, 7 days a week. Customers can perform transactions or access their account information at any time, making it very convenient for those with busy schedules or who work irregular hours.

- Environmental benefits: Mobile banking reduces the need for paper statements, checks, and receipts, which helps to conserve natural resources and reduce waste. Customers can view their account statements and transaction history electronically, reducing the need for paper.

- Personalization: Many mobile banking apps allow customers to personalize their account settings and notifications. Customers can choose to receive alerts for certain types of transactions or customize their app interface to suit their preferences.

- Faster Transactions: Mobile banking transactions are often faster than traditional banking transactions. Funds can be transferred almost instantly, and payments can be made quickly and easily. This is particularly useful for businesses that need to make payments quickly or for individuals who need to transfer money urgently.

- Improved Financial Management: Mobile banking apps often provide tools to help customers manage their finances. These tools can include budgeting features, spending trackers, and alerts for when bills are due. This can help customers stay on top of their finances and avoid overspending.

- Access to Additional Services: Mobile banking apps often provide access to additional services such as investment and loan applications, which can be completed online. This makes it easier for customers to access these services without having to visit a bank branch.

- Better Customer Service: Mobile banking apps often include customer service features such as chatbots or messaging systems that allow customers to contact their bank directly with any questions or issues they may have. This can improve the customer experience and help resolve any problems quickly and efficiently.

- Remote Deposits: Many mobile banking apps now allow customers to deposit checks remotely by taking a picture of the check with their mobile device. This saves customers the time and hassle of having to visit a bank branch to deposit a check.

- Increased Competition: The rise of mobile banking has increased competition among banks, which has led to improved services and lower fees for customers. Banks are now offering more competitive rates and better services to attract and retain customers.

- Flexibility: Mobile banking allows customers to bank on their own terms. They can choose when and where they want to access their accounts, making it easier to fit banking into their busy schedules.

- Transparency: Mobile banking apps provide customers with real-time access to their account information, making it easier to keep track of their finances and avoid overdrafts or fees.

- Financial Inclusion: Mobile banking has the potential to increase financial inclusion by providing access to banking services for those who are unbanked or underbanked. Mobile banking allows these individuals to access basic banking services and start building a financial history.

In summary, mobile banking offers several advantages that make it an attractive option for many customers. It provides convenience, accessibility, security, cost savings, and a range of personalized features that can help customers manage their finances more effectively.

1.8 **DISADVANTAGES OF MOBILE BANKING**

- Security Risks: Mobile banking apps can be vulnerable to cyber attacks, which can lead to the theft of sensitive information such as login credentials, personal identification information, and financial data. Users must be vigilant and take measures to protect their accounts, such as using strong passwords, enabling two-factor authentication, and avoiding using public Wi-Fi.

- Technical Issues: Mobile banking apps are heavily reliant on technology, and can experience glitches, downtime, and other technical issues that can affect their functionality. This can be frustrating for users who rely on mobile banking as their primary means of accessing their accounts.

- Limited Features: While mobile banking has many convenient features such as checking account balances, transferring funds, and paying bills, there are still some limitations to what can be done through mobile banking apps. Certain banking transactions such as opening new accounts, requesting loans or credit lines, and depositing cash may require in-person visits to a physical bank.

- User Errors: Mobile banking requires users to input data such as account numbers, amounts, and dates, which can lead to user errors. Mistakes in inputting data can lead to transactions being processed incorrectly or fraudulently, causing issues for both the bank and the user.

- Access Issues: Mobile banking requires access to a smartphone or tablet, which may not be accessible or affordable to everyone, particularly those in lower-income or rural areas with limited internet connectivity. This can create a digital divide and limit access to financial services for certain populations.

- Dependence on Technology: Mobile banking requires a reliable internet connection and a compatible device to access banking services. If there is a disruption in internet service or the user's device malfunctions, it can be challenging to access account information or complete transactions.

- Fees: While many banks offer mobile banking services for free, some may charge fees for certain transactions or services. It is important for users to be aware of any fees associated with mobile banking to avoid unexpected charges.

- Privacy Concerns: Mobile banking apps may collect and share personal information with third-party service providers, which can raise privacy concerns. Users should review the app's privacy policy and take steps to protect their personal information when using mobile banking services.

- Fraudulent Activities: Mobile banking is susceptible to fraudulent activities, such as phishing scams, smishing scams, and other social engineering attacks. Users should remain vigilant and report any suspicious activities to their bank immediately.

- Customer Support: Mobile banking may lack the human touch that traditional banking provides. While most banks offer customer support through phone or chat, it may be difficult to resolve complex issues without face-to-face interaction. This can be frustrating for users who require more personalized assistance.

CHAPTER-2

REVIEW OF LITERATURE

REVIEW OF LITERATURE

What Do you Mean By Abstract?

- An abstract is a brief summary of a research article, thesis, review, conference proceeding, or any in-depth analysis of a particular subject, and is often used to help the reader quickly ascertain the paper's purpose. It typically provides a brief overview of the research question, methods, results, and conclusions of the paper. Abstracts are commonly used in academic and scientific writing, as well as in conference proceedings and technical reports. They are often the first thing a reader will see, and can be used to determine whether or not to read the full paper.

- The length and format of an abstract can vary depending on the type of paper and the publication or conference requirements. Generally, abstracts are brief, ranging from a few sentences to a few paragraphs, and should be clear, concise, and informative.

- In addition to providing a summary of the paper's content, abstracts may also include keywords or phrases that help readers find the paper in online databases or search engines. Some abstracts may also include a brief statement of the paper's significance or implications for future research.

- Abstracts are an important part of academic writing, as they help to quickly and efficiently communicate the main points of a paper. They are commonly used in scientific and technical writing, but can also be found in other fields such as humanities and social sciences.

- The content of an abstract will vary depending on the type of paper and the discipline. In scientific papers, the abstract typically includes information on the research question, the methods used to address the question, the results obtained, and the conclusions drawn from the results. In humanities papers, the abstract may include a summary of the argument or thesis presented in the paper, along with a brief overview of the evidence used to support the argument.

- While abstracts are often written after the rest of the paper is complete, they are an important part of the writing process and should be carefully crafted. A well-written abstract should be clear, concise, and informative, and should accurately reflect the content of the paper. It should also be written in a way that is accessible to a wide audience, including those who may not be familiar with the specific field or discipline.

- In addition to being included in the paper itself, abstracts are often required as part of the submission process for academic journals and conference proceedings. In these cases, the abstract may be the first thing that reviewers or editors see, and can have a significant impact on whether or not the paper is accepted for publication.

Zahra Rahmani (2012) :-

Mobile banking is one of the areas mobile commerce that has extensive communications with other areas of mobile commerce. The one hand, mobile banking is associated with customers and on the other hand, is capable of other firms that are active in the field of electronic commerce, provide effective financial services. In this paper we describe the definition of mobile banking, Evolution and finally to describe number of benefits for users of these Arabian Journal of Business and Management Review (OMAN Chapter) Vol. 2, No.5[1]

DR. Parul Deshwal (2002):-

Banking is the backbone of every industry and technology plays an important role in every industry. The role of technology is increasing very rapidly day by day, which is also promoting the banking industry. Banking is one of the largest financial institutions which regularly explore the opportunity of technology to provide better customer services. Over the years, banking has transcended from a traditional brick-and mortar model of customers queuing for services in the banks to modern day banking where banks can be reached at any point for their services. In today's business, technology has been the largest indicators of growth and competitiveness. The banking industry today is in the industry of its revolution. Information technology has basically been used under two different avenues in

banking. One is communication and connectivity and other is business process. Today, banks have welcomed wireless and mobile technology into their boardroom to offer their customers the freedom to pay bills, planning payments while stuck in traffic jams, to receive updates on the various marketing efforts while present at a party to provide more personal and intimate relationships. This paper examines consumer adoption of a new electronic payment service as mobile banking and the positive and negative factors influencing the adoption of mobile banking in India.[i2]

Courtney Elizabeth Cleveland(2000) :-

This paper explores the effect of mobile banking on to banking industry. It further seeks to investigate if banks improve financial performance as well as customer conversion and retention due to mobile banking. The research sifts through early entries in mobile banking features, data transfer technology evolution along with hand-held mobile device advances. Population demographics are also reviewed to

understand which segment is more inclined to use mobile banking applications, giving banks insights and analytics for focused advertising. Data security needs and bank personnel skills evaluation show a shift in personnel skill-set evolution from historical employees. Overall, the data suggests that bank performance does improve on the balance sheet and in customer conversion/retention when the bank has leading-edge mobile banking features along with disciplined cost reduction in front-line tellers and reduction in brickand-mortar investments. Mobile banking has been a game changer for financial organizations in terms of remote banking services. However, many customers remain uncertain due to its security. Therefore, improving the comprehension of the customer's reasons and methods of using bank sites, including their behaviour towards e-banking, is crucial. This article discusses the matter by suggesting a technology acceptance model that integrates the theory of the planned behavior model in the classic TAM model with trust and perceived risk in order to elucidate the aspects that influence users' acceptance of mobile banking applications in Palestine. This study is designed to give both theoretical and empirical support for e-commerce adoption. We are also capable in providing particular marketing ideas for practitioners in relation to the uptake of mobile banking[3]

Dr. RANJANA SHARMA(2004) :-

Technology plays an important role in banking sector. Banking is one of the largest financial institutions constantly explores the opportunity of technology enabled services to provide better customer experiences and conveniences. Mobile banking (also known as M-banking, sms banking) is a term used for performing balance checks, account transactions, payments etc. via a mobile device such as mobile phone. The increased prevalence of mobile phones provides exciting opportunities for the growth of mobile banking (m-banking). These papers are classified into five main categories: m-banking overview and conceptual issues, Features & Benefits of Mobile Banking, Current operating practices of commercial banks, Mobile banking/payment practices in Indian Commercial Banks and Challenges in India strategic, legal and ethical issues. [4]

FINDINGS :-

IT security product company announced the results of a survey, conducted with IDC Financial Insights, which found that banking customers are hesitant to use mobile features due to fraud and security concerns. The findings show that of those not using mobile banking at all (36 per cent), more than half of them (74 per cent) cited security as the major reason, which could slow the overall adoption of mobile banking services during a time where mobile device usage is exploding.

Kaspersky Lab sponsored the survey and resulting white paper with IDC Financial Insights. The survey included 1015 individuals with 515 from the United States and 500 from the United Kingdom, and it focused on discerning the opinions and attitudes toward mobile banking among active and non-active mobile users.

While security concerns are holding back non-mobile banking users from embracing the convenient, digital self-service solutions on the market, those who are active users of mobile banking also share the same concerns. Of both, users and non-users of mobile banking, 85 per cent said that they would increase their usage to “some extent” if there was more security and nearly half (44 per cent) of those surveyed said that they would “significantly” increase their mobile banking usage with more security.

For financial organisation, an increase in self-service banking usage can drive revenue and reduce transactional costs, but customers don't see a promising future for mobile banking in their lives – with 32 per cent of respondents claiming that they do not ever foresee using mobile as the primary channel that they will engage with their bank or credit union. Banks that do not properly strengthen mobile financial security measures could miss out on a significant business opportunity and risk losing valuable customers in the process. As financial institutions look for new ways to streamline adoption of self-service banking solutions, it is important that they proactively deploy and implement rigorous security the firms say. In addition, banks should also reconsider their education strategies to ensure that customers understand the level of security in their mobile offerings. Survey Respondents want to see a proactive and informative approach to security from their banks with 80 per cent indicating that they would like to see evidence of security measures being activated when they launch a mobile banking application.[5]

Marc DeCastro (2004):-

research director IDC Financial Insights, says: "Consumers are concerned about security on their mobile devices, which has limited adoption of high margin mobile banking and payment activities including account opening, payments and transfers using a mobile phone. As the next generation of online, mobile first and mobile only customers begin to explore digital banking choices, financial institutions that have and promote stronger security will attract and retain these customers more easily than those who do not."

oviding a framework for future research. The framework provides opportunities for researchers to explore the research streams in future research. Finally, the current paper is the first of its kind in its method of contribution, ad according to the research databases (Scopus, Google Scholar, etc.), no work was witnessed in the published literature covering m-banking in a detailed and comprehensive multi-period manner and in such an applied method. In addition, the current paper fills this gap by conducting a bibliometric analysis[6]

Manaf Al-Okaily, Abdul Rahman Al Natour, FaRoss Hogan(2022):-

Kaspersky Lab Global Head of Fraud Prevention, says: "As financial organisations continue to expand their self-service offerings to drive revenue and increase customer convenience, it's important to proactively approach security technology for consumers' mobile devices in the same way banks approach security for their own PC-based solutions, web offerings, and technology networks. Recently, we've seen an increase in the number of leading financial organisations in the industry that have been fined or penalised for not meeting fraud and compliance regulations. In April, the Federal Financial Institutions Examination Council (FFIEC) released an update to the Examiner's Handbook outlining risk management expectations for banks offering mobile financial services. Violations of these new mobile security standards have the potential to damage the reputation of banks and may raise the security concerns of customers to an even higher level than they are today."[7]

Aijaz A Shaikh, Heikki Karjaluot (2015):-

Electronic commerce (e-commerce) continues to have a profound impact on the global business environment, but technologies and applications also have begun to focus more on mobile computing, the wireless Web, and mobile commerce. Against this backdrop, mobile banking (m-banking) has emerged as an important distribution channel, with considerable research devoted to its adoption. However, this research stream has lacked a clear roadmap or agenda. Therefore, the present article analyzes and synthesizes existing studies of m-banking adoption and maps the major theories that researchers have used to predict consumer intentions to adopt it. The findings indicate that the m-banking adoption literature is fragmented, though it commonly relies on the technology acceptance model and its modifications, revealing that compatibility (with lifestyle and device), perceived usefulness, and attitude are the most …[8]

Nizar Souiden, Riadh Ladhari, Walid Chaouali (2021):-

This study is a systematic review of mobile banking services. Its main objective is to provide a state-of-the-art review of this particular growing type of services. It inventories and assesses the most significant determinants of and barriers to consumers' adoption of mobile banking. Moreover, it identifies the most common consequences of this adoption

By using three major academic databases (ABI/INFORM global, Web of Science and Business Source Premier), this paper selected 76 manuscripts and produced a systematic review that exposes the main theories, conceptual frameworks and models used to explain consumers' adoption of mobile banking.[9]

Carlos Tam, Tiago Oliveira (2016):-

Mobile banking (m-banking) is an expanding application of mobile commerce that has claimed the attention and interest of e-commerce researchers. One of the most welcome recent developments in m-banking has been the growing interest in end-user use, user satisfaction, and individual performance. We propose a model combining the DeLone & McLean IS success model and the Task Technology Fit (TTF) model to evaluate the impact of m-banking on individual performance. The empirical approach is based on an online survey questionnaire of 233 individuals. The results reveal that use and user satisfaction are important precedents of individual performance, and the importance of the moderating effects of TTF over usage to individual performance. The system quality, information quality, and service quality positively affect user satisfaction. Understanding the significance of m-banking context on individual …[10]

Carolina Martins, Tiago Oliveira, Aleš Popovič (2014) :-

Understanding the main determinants of Internet banking adoption is important for banks and users; our understanding of the role of users' perceived risk in Internet banking adoption is limited. In response, we develop a conceptual model that combines unified theory of acceptance and use of technology (UTAUT) with perceived risk to explain behaviour intention and usage behaviour of Internet banking. To test the conceptual model we collected data from Portugal (249 valid cases). Our results support some relationships of UTAUT, such as performance expectancy, effort expectancy, and social influence, and also the role of risk as a stronger predictor of intention. To explain usage behaviour of Internet banking the most important factor is behavioural intention to use Internet banking.[11]

Sulaiman Ainin, Farzana Parveen, Sedigheh Moghavvemi, (2015):-

The purpose of this paper is to investigate the factors that influence Facebook usage among small and medium enterprises (SMEs). In addition, it examines the impact of Facebook usage on financial and non-financial performance of the SMEs.

Design/methodology/approach

– Using integrated model, this study examined the influence of compatibility, cost effectiveness, interactivity and trust on Facebook usage and its subsequent impact on organizations performance. Statistical analyses were based on the data collected, through survey questionnaire from 259 SMEs in Malaysia. Partial Least Square (PLS) method was used to test the hypotheses[12]

Farzana Parveen, Noor Ismawati Jaafar, Sulaiman Ainin (2015):-

Social media usage among organizations is growing tremendously. Organizations are now building and maintaining social media public pages to improve their social network salience, enhance interest in their organizations, and build relationships with the online public. The majority of the studies on social media usage are based on the individual perspective while some are from the organizational perspective. However, not many studies have investigated the actual impact of social media usage on organizational performance. Therefore, using the qualitative approach, this study investigates the various purposes of social media usage and its impact on organizational performance. This study however, focuses only on the social media managers' views. The senior managers of six organizations that are using social media are interviewed from which we find that social media is used for various purposes in[13]

Joel Chigada, Benedikt Hirschfelder (2017) :-

Background:

The purpose of this study was to review existing research on mobile banking diffusion and investigate the adoption of mobile banking in sub-Saharan Africa (SSA).

Objectives:

Based on the failure of the M-Pesa in South Africa, this article also attempted to determine why mobile money service systems are difficult to apply transnationally.

Method:

This was a literature survey, analysing mobile money literature during the period 2006–2016. Because of the current explosiveness of mobile money in SSA, the focus of this literature survey was limited geographically to South Africa, Zimbabwe and Kenya.

Results:

The results of the literature survey and the real-world examples mainly show that a transnational application of mobile money service systems is difficult to implement.

Conclusion:

This research elucidates the demand and need for mobile money service systems in SSA while underlining the …[14]

V Devadevan (2013):-

Technology plays an important role in banking sector. Banking is one of the largest financial institutions constantly explores the opportunity of technology enabled services to provide better customer experience and convenience. Mobile phone is a common technology device that became part of every individual in the information era. Mobile Banking is an emerging alternate channel for providing banking services. India is the second largest telecom market in the world, which is having high potential for expanding banking services using mobile. However, mobile banking has not become the choice of millions of people. The main objective of this study is to identify the mindset and analyse the security issues in Mobile banking among the banking customers in India.[15]

Tiago Oliveira, Manoj Thomas, Goncalo Baptista, Filipe Campos (2016) :-

Mobile payment is receiving growing attention globally, from consumers to merchants, as an alternative to using cash, check, or credit cards. The potential of this technology is enormous. This study aims to identify the main determinants of mobile payment adoption and the intention to recommend this technology. We advance the body of knowledge on this subject by proposing an innovative research model that combines the strengths of two well-known theories; the extended unified theory of acceptance and use of technology (UTAUT2) with the innovation characteristics of the diffusion of innovations (DOI), with perceived security and intention to recommend the technology constructs. The research model was empirically tested using 301 responses from an online survey conducted

in a European country, Portugal. Data was analyzed using the structured equation modeling (SEM). We found compatibility, perceived[16]

Mourad Ouzzani, Hossam Hammady, Zbys Fedorowicz, Ahmed Elmagarmid (2016) :-

Synthesis of multiple randomized controlled trials (RCTs) in a systematic review can summarize the effects of individual outcomes and provide numerical answers about the effectiveness of interventions. Filtering of searches is time consuming, and no single method fulfills the principal requirements of speed with accuracy. Automation of systematic reviews is driven by a necessity to expedite the availability of current best evidence for policy and clinical decision-making.

We developed Rayyan (http://rayyan.qcri.org), a free web and mobile app, that helps expedite the initial screening of abstracts and titles using a process of semi-automation while incorporating a high level of usability. For the beta testing phase, we used two published Cochrane reviews in which included studies had been selected manually. Their searches, with 1030 …[17]

Jarunee Wonglimpiyarat (2015) :-

This study investigates the competition and challenges of mobile banking system in Thailand. The analyses of the competitive landscape of mobile banking innovations are based on the Managing Migration Paths Model. The empirical study focuses on the leading banks in Thailand: Bangkok Bank, Kasikorn Bank, Siam Commercial Bank, Krung Thai Bank and Bank of Ayudhya. The study discusses the strategies, SWOT analyses of the mobile banking industry in the move towards the m-money economy. The results have shown that banks see mobile banking as a convenient delivery channel to provide value-added services to the bank customers. The competition forces banks to seek strategic alliances (network collaboration between the banking and ICT industries) to offer innovative solutions in the payment market. The results provide insightful implications on future challenges and increasing competition under 3G and 4G mobile phone networks whereby the e-payment market will get bigger when Thailand would

enter the ASEAN Economic Community (AEC — upcoming regional competition in AEC countries) in 2015[18].

A Vinayagamoorthy, C Sankar (2012) :-

The advent of the Internet has enabled new ways to conduct banking business, resulting in the creation of new institutions, such as online banks, online brokers and wealth managers. Such institutions still account for a tiny percentage of the industry. Over the last few years, the mobile and wireless market has been one of the fastest growing markets in the world and it is still growing at a rapid pace Mobile banking today is most often performed via sms or the mobile internet but can also use special programs called clients downloaded to the mobile device. It can also be understood as availing banking and financial services with the help of mobile telecommunications devices. The services offered by mobile banking included getting account information, transferring funds, sending checkbook request, managing deposits, checking transactions etc[19]

C Kneiding, 24 Jan (2011) :-

This paper reviews the growing literature that has spawned around branchless and mobile banking in developing countries over the last five years. Around 2.6 billion people in the world do not have access to formal financial services, and yet 1 billion of them have a mobile phone. Branchless banking systems take advantage of increasingly ubiquitous real-time mobile communications networks to bring banking services into everyday retail stores, thereby alleviating the lack of banking infrastructure in the communities where poor people live and work. Most deployments are quite recent, and hence there is a shortage of hard empirical evidence relating to them. One mobile banking scheme in particular, M-PESA in Kenya, has shown phenomenal success, and has been a catalyst for much of the research. Here we review the emerging literature in terms of the definitions and model taxonomies employed; the status and drivers of global adoption of these schemes; the take-up and usage patterns of customers, and their socio-economic impacts; and the regulatory issues. Our twin objectives with this paper are to stimulate further research on these questions and to help policymakers and

practitioners focus their continued efforts in creating an enabling environment for branchless banking.[20]

Prerna Sharma Bamoriya, Preeti Singh (2011) :-

Mobile banking is a revolution that is driven by the world's one of the fastest growing sectors–mobile communication technology. Like in any emerging technology, there exist barriers to the adoption of mobile banking services. This study explores the issues in mobile banking perceived critical for adoption by both mobile banking users as well as non-users. The study identified certain issues pertaining to banks, mobile handsets and telecom operators viz. mobile handset operability, security/privacy, standardization of services, customization, Downloading & installing application software and Telecom services quality. For this a descriptive design was adopted to empirically explore the selected issues. Study suggests that from consumers' perspective mobile handset operability, security/privacy and standardization of services are the critical issues. Although the research has its limitations, the implications of the results provide practical recommendations to the all concerned parties.[21]

Rajesh Vasa, Leonard Hoon, Kon Mouzakis, Akihiro Noguchi (2012) :-

The advent of online software distribution channels like Apple Inc.'s App Store and Google Inc.'s Google Play has offered developers a single, low cost, and powerful distribution mechanism. These online stores help users discover apps as well as leave a review. Ratings and reviews add value to both the developer and potential new users by providing a crowd-sourced indicator of app quality. Hence, for developers it is important to get positive reviews and high ratings to ensure that an app has a viable future. But, what exactly do users say on these app stores? And more importantly, what is the experience that compels a user to leave either a positive or a negative rating? Our analysis of 8.7 million reviews from 17,330 apps shows that users tend to leave short, yet informative reviews, and the rating as well as the category influences the length of a review. In this preliminary study, we found that users will leave[22]

Mostafa Farshchi, Jean-Guy Schneider, Ingo Weber, John Grundy (2015) :-

Failure of application operations is one of the main causes of system-wide outages in cloud environments. This particularly applies to DevOps operations, such as backup, redeployment, upgrade, customized scaling, and migration that are exposed to frequent interference from other concurrent operations, configuration changes, and resources failure. However, current practices fail to provide a reliable assurance of correct execution of these kinds of operations. In this paper, we present an approach to address this problem that adopts a regression-based analysis technique to find the correlation between an operation's activity logs and the operation activity's effect on cloud resources. The correlation model is then used to derive assertion specifications, which can be used for runtime verification of running operations and their impact on resources. We evaluated our proposed approach on Amazon EC2 with 22[23]

Sherah Kurnia, Jyoti Choudrie, Rahim Md Mahbubur, Basil Alzougool (2015) :-

Electronic commerce (EC) has substantial potential to foster the growth of small and medium-sized enterprises (SMEs) in developed and developing countries alike. However, EC adoption by SMEs in developing countries has faced many challenges that have not been adequately addressed due to the complex nature of EC adoption in such countries. The aim of this study is to systematically examine the influence of organizational, industry, and national readiness and environmental pressure on the adoption of diverse EC technologies by SMEs in developing countries. A quantitative survey was conducted with retail SMEs within the Malaysian grocery sector to validate the proposed multi-level model. Findings indicate significant influence of environmental pressure on the adoption of various EC technologies. Organizational and national readiness have different influences across diverse EC technologies.[24]

Jyoti Choudrie, Chike-Obuekwe Junior, Brad McKenna, Shahper Richter (2018) :-

Mobile banking has become increasingly important to society; however, not all members of society adopt and/or use it as much as others: older adults, the disabled and lower-income families remain behind in their use and adoption of this service. This finding helped us recognise a research gap and led us to form our primary aim: to understand and explain the factors that influence the adoption, use and diffusion of mobile banking among one of those groups in particular, older adults, in the UK. To form a theoretical understanding, this paper presents a comprehensive review of the surrounding literature in the area and proposes a conceptual framework that can be used for future research. The implications of this research for academia and businesses are also provided in this paper[25]

Franz Achermann, Markus Lumpe, Jean-Guy Schneider, Oscar Nierstrasz (2001) :-

Although object-oriented languages are well-suited to implement software components, they fail to shine in the construction of component-based applications, largely because object-oriented design tends to obscure a component-based architecture. We propose to tackle this problem by clearly separating component implementation and composition. In particular, we claim that application development is best supported by consciously applying the paradigm "Applications= Components+ Scripts." In this chapter, we propose PICCOLA, a small "composition language" that embodies this paradigm. PICCOLA models components and compositional abstractions by means of communicating concurrent agents. Flexibility, extensibility, and robustness are obtained by modeling both interfaces of components and the contexts they live in by "forms", a special notion of extensible records. Using a concrete example, we illustrate how PICCOLA offers explicit support for viewing applications as compositions of components and show that separating components from their composition improves maintainability[26]

Samsudeen Sabraz Nawaz, Mohamed Rusith (2019) :-

The theoretical model for this study was primarily drawn from unified theory of acceptance and Use of Technology 2 (UTAUT2). Exogenous variables included performance expectancy, effort expectancy, social influence, work life quality, hedonic motivation, internet experience and facilitating condition, and their influence on behavioural intention and use behaviour were studied. Instrument was developed using validated items from past literature. Data for this quantitative study were collected from undergraduate and postgraduate students from 15 Sri Lankan state universities by self-administering and Web-form during second quarter of 2018. Structural equation modelling was used to see the insights[27]

Ayman A Alsmadi, Ahmed Shuhaiber, Loai N Alhawamdeh, Rasha Alghazzawi, Manaf Al-Okaily (2022):-

The current paper aims to analyze the keywords related to mobile banking (otherwise known as m-banking) issues by focusing on its development from 2000 to 2020, of which the first publication about this issue appeared in the Scopus database. This paper explored and analyzed 1206 research papers using the Scopus database. Bibliometric analysis and content analysis had been conducted through Excel and VOS viewer software to obtain the results. In addition, the findings of this paper reveal that the universal trends and increased production at a global level led to many changes, and the most rampant topic associated with m-banking in most periods is mobile telecommunication systems. By showcasing the creation of the key terms in m-banking, it was possible to identify significant changes in the development of the field's key terminologies. Therefore, it is important to follow up on the development in future decades, particularly how the recent universal occurrences have influenced the changes in m-banking use at a global level. Moreover, the present study makes a significant contribution to the literature by [28]

pr**rah Shishan, Ahmed Al-Dmour, Rasha Alghazzawi, Malek Alsharairi (2021):-**

Financial technology (otherwise known as FinTech) refers to a type of technology and innovation that tries to improve and automate the delivery and use of financial services. Despite the importance of this technology in people's financial transactions in improving the management of their financial operations, processes, and lives, there is a lack of empirical evidence about sustainable FinTech services in the Jordanian context. Consequently, this research examines the factors that influence the acceptance of FinTech services, which have a variety of social, environmental, and ecological benefits. This study proposes an integrated model by combining the extended technology acceptance model (TAM) with the perceived enjoyment as an independent variable and electronic word of mouth (eWOM) as a moderator variable simultaneously. A total of 304 responses from Jordanian citizens were analyzed by the quantitative method of partial least squares structural equation modelling (PLS-SEM). The result confirmed that perceived usefulness and perceived enjoyment have a significant and positive influence on users' decision to use FinTech services. Meanwhile, eWOM is found to moderate the relationship between perceived usefulness and Jordanians' decisions to use FinTech services. Finally, this study provides practical implications for managers to encourage them to provide adequate, reliable, and sustainable services to their customers at a reasonable cost that fit their demands and ultimately improve their living standards. Current study limitations and future research directions are presented in the last section.[29]

Sujeet Kumar Sharma, Ankita Joshi, Himanshu Sharma (2016):-

Socio constructivist approach has an important say in cognitive absorption of learning in a student's life. This era of social networking services has given substantial importance to collaborative nature of learning, thus supporting Vygotsky's socio constructivist approach. The aim of this paper is to predict key determinants that affect students' intention towards academic use of Facebook. The usable data were gathered from 215 Omani students, and multi-analytical methods were employed to test the proposed research model. The results obtained from structural equation modeling (SEM) showed that resource sharing is the most influencing determinant in the decision of Facebook usage in higher education, followed by perceived usefulness, perceived enjoyment, collaboration and social influence. Further, the results obtained from SEM were used as input to the neural network model[30]

Saeed Al-Muharrami, Kent Matthews, Yusuf Khabari (2006):-

This paper investigates the market structure of Arab GCC banking industry during the years of 1993–2002 using the most frequently applied measures of concentration k-bank concentration ratio (CRk) and Herfindahl–Hirschman Index (HHI) and evaluates the monopoly power of banks over the ten years period using the 'H-statistic' by Panzar and Rosse. The results show that Kuwait, Saudi Arabia and UAE have moderately concentrated markets and are moving to less concentrated positions. The measures of concentration also show that Qatar, Bahrain and Oman are highly concentrated markets. The Panzar–Rosse H-statistics suggest that banks in Kuwait, Saudi Arabia and the UAE operate under perfect competition; banks in Bahrain and Qatar operate under conditions of monopolistic competition; and we are unable to reject monopolistic competition for the banking market in Oman[31]

Robert Galan Mashenene, Joel Rumanyika (2014):-

This paper assesses business constraints that affect the potential growth of small and medium enterprises (SMEs) in Tanzania. Quantitative approach was used in this study. An intensive literature review was conducted. The findings show that inadequate business training, insufficient capital and anti-entrepreneurial culture are significant constraints. The study recommends that strategic training programmes need to be designed and implemented in order to provide SMEs with adequate entrepreneurial knowledge, skills and attitude. Additionally, re-engineering of lending schemes by the government and financial institutions is needed in order to enable SMEs access credit.[32]

Shilpi Kashyap, Sanskrity Joseph, G. K. Deshmukh (2016):-

The purpose of this paper is to comprehensively study the developing concept of employee well being, their satisfaction and the balance between work and life of employee.. The paper reviews the concept of work life balance in both Indian and global context and analyses the practices of Indian Corporate related to work life balance. The researchers have tried to understand and explain the concept of employee wellbeing and its relationship with their job satisfaction and work life balance which enables the corporate to derive benefits related with higher retention and productivity ratios. Authors have done descriptive research while analyzing the data gathered through secondary sources and discussed their viewpoints. The key findings highlight that employees are an asset to an organization and the organizations which help their employees to achieve greater work life balance have more satisfied employees. This is a fairly original paper which discusses concept and practices related with work life balance[33]

Asha Sahu, GK Deshmukh (2020):-

The world has undergone a major shift with the technological development impacting life of a common man. It has also changed the way of doing business. Business has already evolved from traditional business to online business and now

shifting towards mobile operated business. Present study is an attempt to review the articles published on mobile banking adoption during 2010 to 2018 by using[34]

Mari Suoranta, Minna Mattila (2004):-

Technological advancement has challenged the providers of financial services; the very nature of selling and buying financial services has changed. Mobile devices are among the newest channels to conduct banking electronically. This paper focuses on studying diffusion and adopters of mobile banking services. Previous research has identified the typical characteristics of a potential adopter in the electronic services era; this paper explores some contradictory empirical findings drawn from a mobile banking survey. The results provide an indication of the characteristics of potential subsequent adopters of mobile banking, and of differences between user segments. Consequently, the authors are able to comment on the influence of certain demographic characteristics and the preferred communication mode of customers on the adoption and future usage of mobile banking services. The quantitative survey[35]

Heikki Karjaluoto, Minna Mattila, Tapio Pento (2002):-

The study explored the effect of different factors affecting attitude formation towards Internet banking (online banking) in Finland. The purpose of this paper is to determine those factors that influence the formation of attitude towards Internet banking on the one hand, and their relation to the use of online banking services, on the other. To attain these, a large survey (1,167 responses) was carried out during the summer of 2000 in Finland. Attitude formation was studied by the use of a structural equation model. The results are expected to provide both theoretical and practical contributions in the area of electronic retail banking and understanding of consumer behaviour in the turbulent financial services industry[36]

Minjoon Jun, Shaohan Cai (2001):-

Focuses on the issues associated with Internet banking service quality. Customer anecdotes of critical incidents in Internet banking were content-analyzed. Identified a total of 17 dimensions of Internet banking service quality, which can be classified into three broad categories–customer service quality, banking service product quality, and online systems quality. The derived dimensions include: for customer service quality, ten dimensions such as reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding the customer, collaboration, and continuous improvement; for online systems quality, six dimensions such as content, accuracy, ease of use, timeliness, aesthetics, and security; and for banking service product quality, one dimension of product variety/diverse features. Also revealed that, in terms of frequency of references to the 17 dimensions, no substantial differences[37]

Mark J Keith, Jeffry S Babb, Paul Benjamin Lowry, Christopher P Furner, Amjad Abdullat (2015):-

Smartphones are increasingly penetrating business and consumer markets, and mobile applications (apps) have engendered a large and innovative market. Whereas apps are useful, they also present new forms of privacy risk associated with users' personal and location data. However, these dangers do not appear to increase the perceived risk or reduce the trust consumers demonstrate when using apps. Many information technology (IT) trust indicators are well documented such as the quality of the IT, trust assurances, brand recognition and social influences. However, these traditional indicators appear to have a lesser impact on the adoption of mobile commerce via apps because of the nature of mobile-app adoption and subsequent information disclosure. As a result, we draw from social cognitive theory and its construct of self-efficacy in particular to explain perceived mobile-app risk and provider trust[38]

Amit Shankar, Biplab Datta (2018):-

This study aims to identify the factors affecting mobile payment (m-payment) adoption intention in India by proposing a conceptual framework based on technology acceptance model (TAM). In addition to construct of TAM, four user-centric constructs have been added to evaluate m-payment adoption intention in India. The proposed research framework was empirically tested by data collected from 381 potential m-payment service users, through online and offline survey. Data were analysed using structural equation modelling (SEM) technique. The results exhibit that perceived ease of use (PEOU), perceived usefulness (PU), trust, and self-efficacy (SE) have a significant positive impact on m-payment adoption intention. However, subjective norms (SN) and personal innovativeness (PI) have no significant impact on m-payment adoption intention. Findings of the study have important theoretical and practical[39]

Amit Shankar, Pooja Kumari (2016):-

The purpose of this paper is to explore factors affecting mobile banking (m-banking) adoption behavior of Indian consumers. Furthermore, the purpose is to identify which factors have a major influence on adoption intention in context with m-banking.

Design/methodology/approach:

Data were collected through an online survey of mobile user respondents. A total of 248 utilizable cases were collected from m-banking users. Review of previous literature has been used to establish hypothesis, exploratory factor analysis and multiple regression analysis has been used to check the significant factors affecting adoption of m-banking in India.

Findings:

A total of eight factors has been identified which affect m-banking adoption behavior in India. Usefulness has been found to be making the most impact with reference to m-banking adoption. However, social influence is identified as least influential factor among all factors.

Originality/value:

The study provides a comprehensive understanding of the factors which affect m-banking adoption behavior of consumers in India which may help banks to understand consumer intention and make strategy accordingly to ensure financial inclusion.[40]

Richard Pankomera, Darelle van Greunen (2018):-

The proliferation of mobile devices in a resource-constrained setting like Malawi has created an enabling environment for the deployment of mobile health (mHealth) applications. These applications offer various services such as maternal and child health, nutrition, and HIV management in different localised places in Malawi. Unfortunately, most of these applications are pilot projects that are not centrally managed by the government. The downside of this approach is that most projects are not scaled up once they are completed. As a result, there is no continuity of the mHealth projects. Because of a lack of coordination, lessons learned from one projects are not propagated to other projects. The lack of sustainability of mHealth projects wastes a lot of resources. The comprehensive literature study and semistructured interviews in public health and Information and Communications Technology (ICT) sector in Malawi [41]

CHAPTER-3

DATA ANALYSIS AND INTERPRETATION

DATA ANALYSIS AND INTERPRETATION

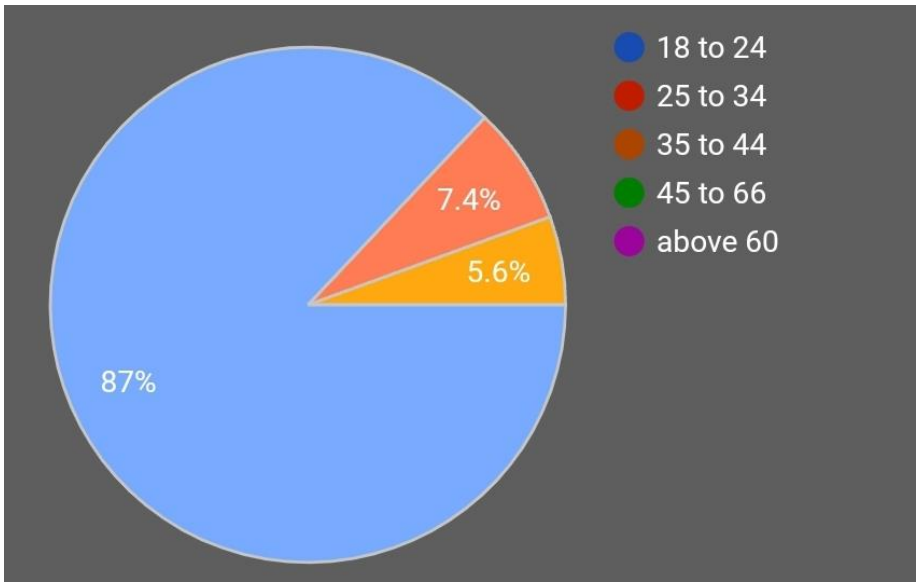
1. Age

Sr. No	Particulars	No. of Respondents	Percent
1.	18 to 30	42	77.3%
2.	31 to 45	5	9.1%
3.	46 to 60	6	11.4%
4.	60 Above	1	2.3%
	Total	54	100%

Analysis

Out of 56 Responses

- 77.3% fall under the category of 18 to 30 years of age
- 9.1% fall under the category of 31 to 45 years of age
- 11.4% fall under the category of 46 to 60 years of age
- 2.3% fall under the category of 60 above of age



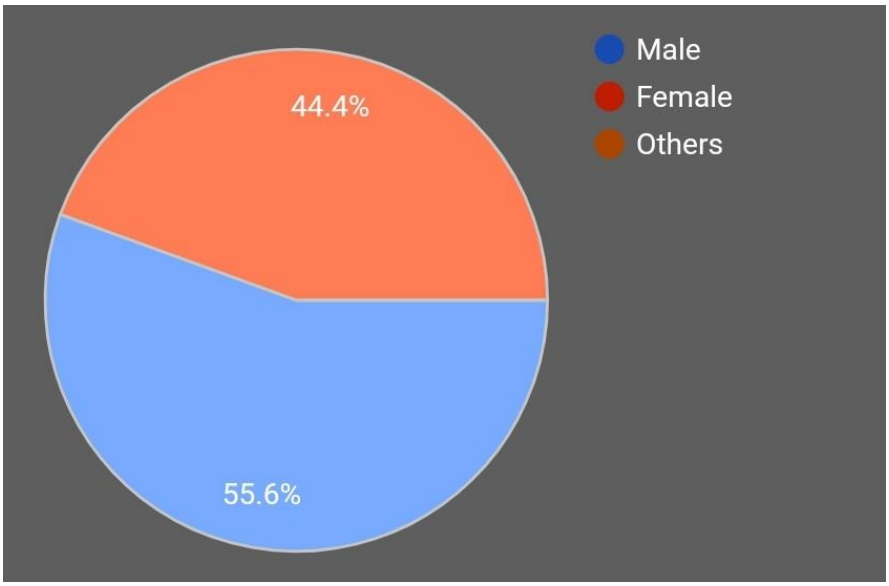
2. **Gender**

Sr. No	Particulars	No. of Respondents	Percent
1	Male	34	63.6%
2	Female	17	31.8%
3	Prefer not to say	3	4.8%
	Total	54	100%

Analysis

Out of 56 Responses

- 63.6% fall under the category of Male.
- 31.8% fall under the category of Female.
- 2% fall under the category of prefer not to say



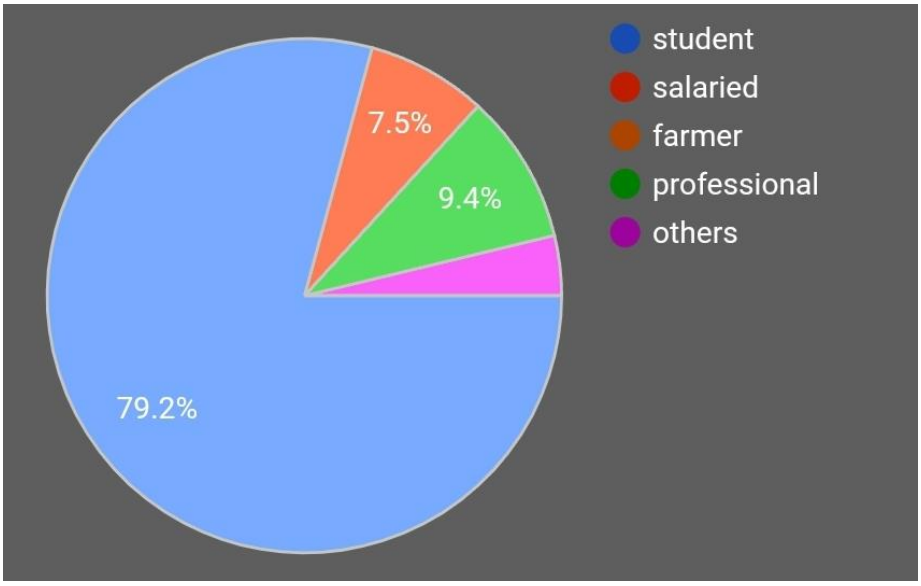
3. **Occupation**

Sr. No	Particulars	No. of response	Percent
1	Student	43	79.2%
2	Salaried	4	7.5%
3	Professional	5	9.4%
4	Other	2	3.9%
	Total	54	100%

Analysis

Out of 56 Respondents

- 79.2 %fall under the category of student
- 7.5% fall under the category of salaried
- 9.4% fall under the category of Professional
- 3.9% fall under the category of other



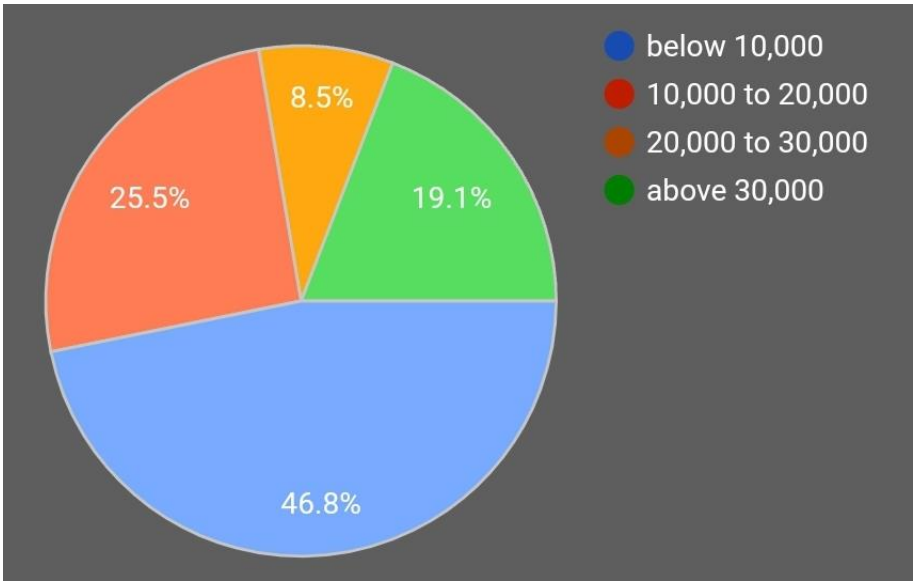
4. Income (per month)

Sr. No	Particulars	No of response	Percent
1	Below10k	25	46.8%
2	10k to 20k	15	25.5%
3	20k to 30k	5	8.5%
4	30k above	9	19.1%
	Total	54	100%

Analysis

Out of 56 Respondents

- 46.8% fall under the category of below
- 25.5% fall under the category of 10k to 20k
- 8.5% fall under the category of 20k to 30k
- 19.1% fall under the category of 30k above



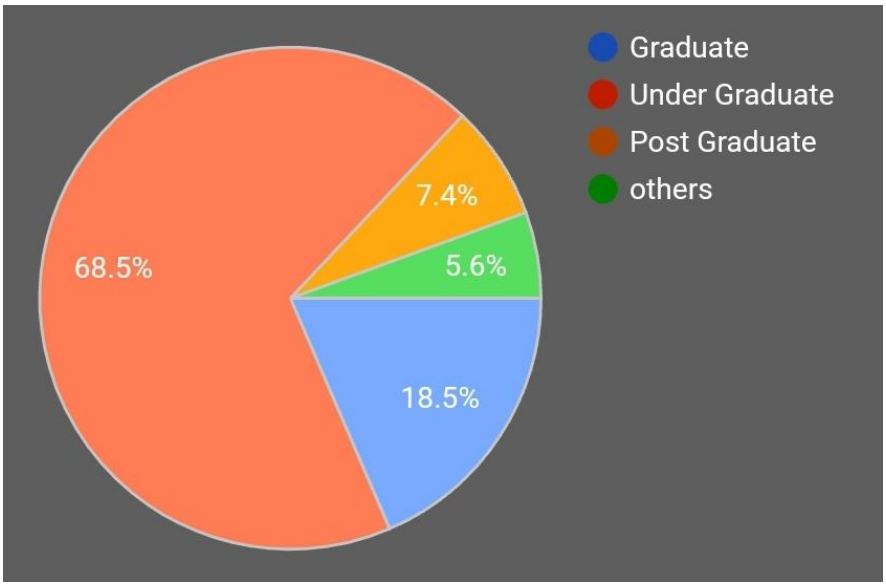
5. Qualification

Sr. No	Particulars	No of response	Percent
1	Undergraduate	37	69.50 %
2	Graduate	10	18.50%
3	Post graduate	4	7.40 %
4	others	3	5.60 %
	Total	54	100 %

Analysis

Out of 56 Respondents

- 69.5% fall under the category of undergraduate
- 18.5% fall under the category of Graduate
- 7.4% fall under the category of post graduate
- 5.6% fall under the category in others



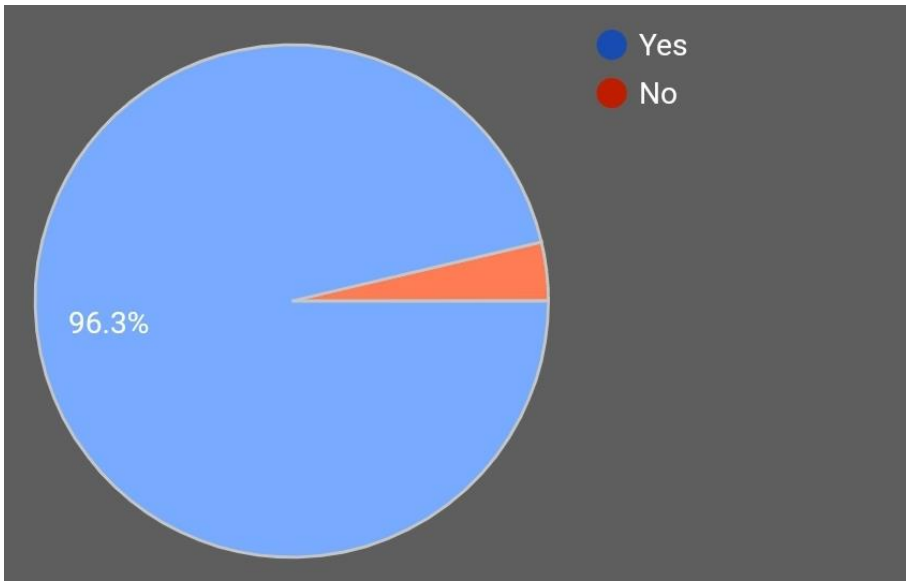
6. **Do you have a bank Account** ?

Sr no	particular	No.of responses	percentage
1.	Yes	52	96.35%
2.	No	2	3.65%
3.	maybe	0	0.0%
	total	54	100%

Analysis

Out of 54 responses

- 96.35% Fall under the category of Yes
- 3.65% Fall under the category of No



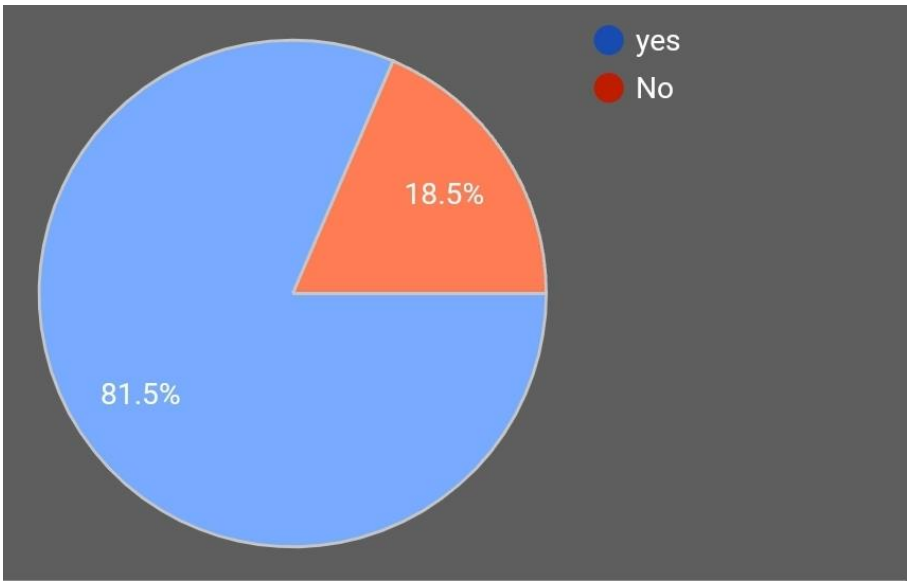
7. **Do you use mobile banking** ?

Sr no	Particular	No of response	Percentage
1.	Yes	44	81.50%
2.	No	10	18.50%
3.	maybe	0	0.0%
	total	54	100%

Analysis

Out of 54 responses

- 81.50 % Fall under the category of Yes
- 18.50% Fall under the category of No



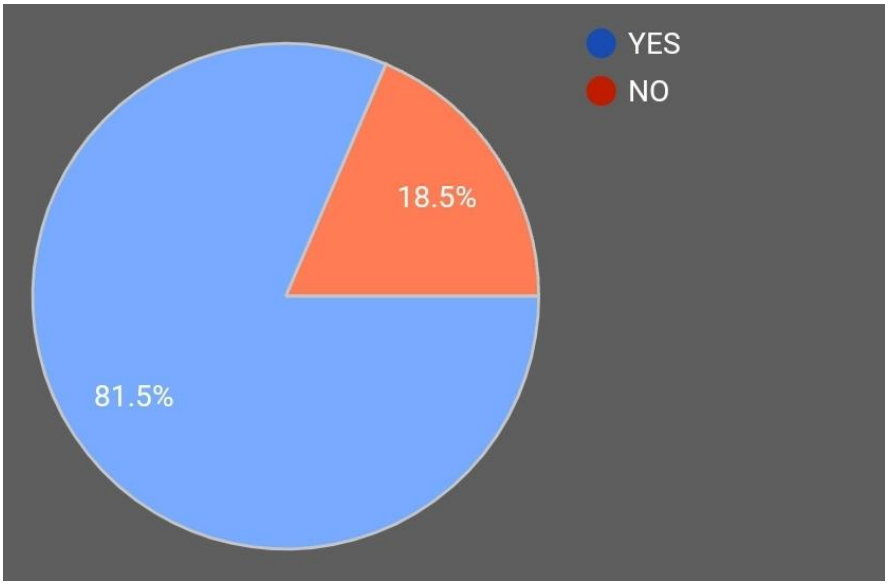
8. **Are rural people enjoying mobile banking?**

Sr no	particular	No.of response	percentage
1.	Yes	44	81.50%
2.	No	10	18.50%
3.	maybe	0	0.0%
	total	54	100%

Analysis

Out of 54 responses

- 81.50 % Fall under the category of Yes
- 18.50 % Fall under the category of No



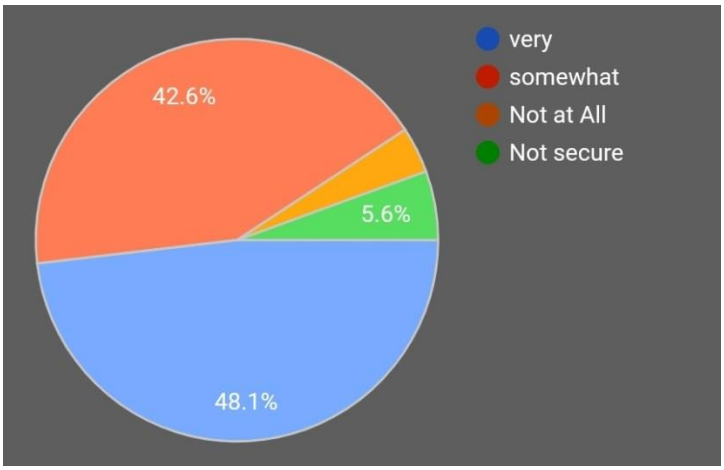
9. **Do you think mobile banking would convenient for you** ?

Sr no	Particular	No of Reponses	Percentage
1.	Very	23	42.60 %
2.	Some what	3	5.60 %
3.	Not at all	26	48.1 %
4.	Not sure	2	3.70 %
	Total	54	100 %

Analysis

Out of 54 Responses

- 42.60 % Fall under the category of very
- 5.60 % Fall under the category of some what
- 48.1 % Fall under the category of not at all
- 3.70 % Fall under the category of not sure



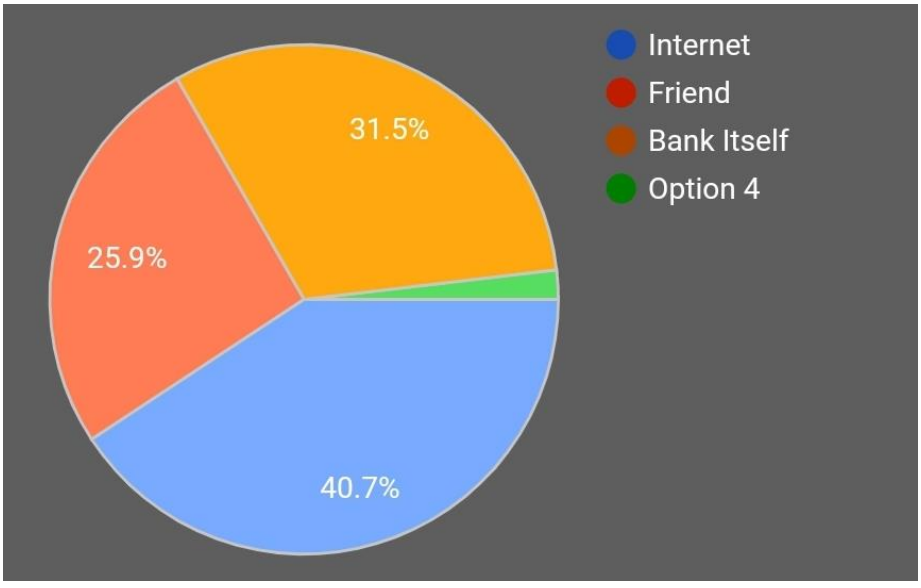
10 . **How did you get to know about mobile banking ?**

Sr.no	particular	No.of responses	Percentage
1	Internet	22	40.70 %
2	Friend	14	25.90 %
3	Bank itself	17	31.50 %
4	Maybe	1	1.90 %
	Total	54	100 %

Analysis

Out of 54 Responses

- 40.70 % Fall under the category of Internet
- 25.90 % Fall under the category of Friends
- 31.50 % Fall under the category of bank Itself
- 1.90 % Fall under the category of may be



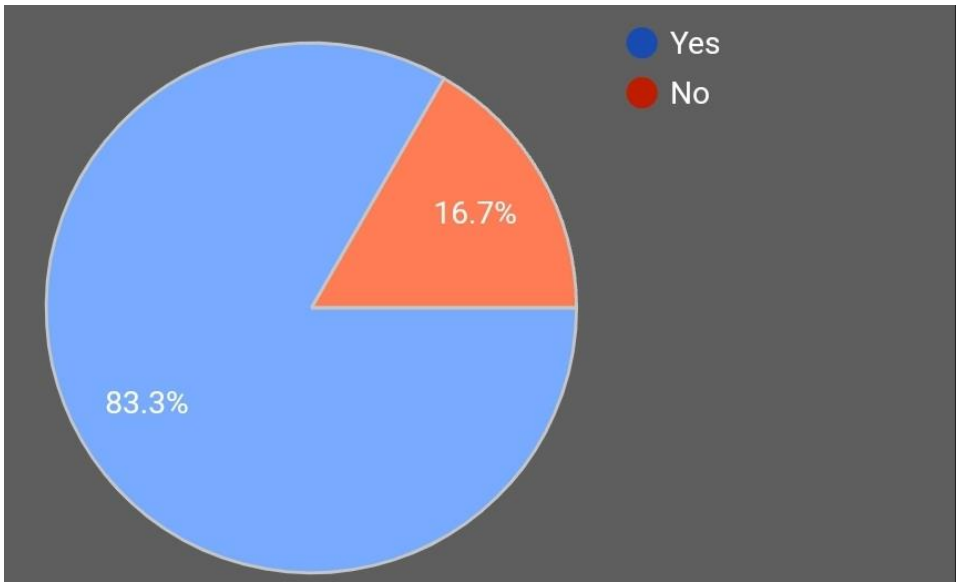
11 . **Do you think mobile banking is secure and safe?**

Sr.no	particular	No. of responses	Percentage
1	Yes	45	83.3%
2	No	9	16.7 %
3	May be	0	0 %
	Total	54	100%

Analysis

Out of 54 responses

- 81.50 % Fall under the category of Yes
- 18.50 % Fall under the category of No



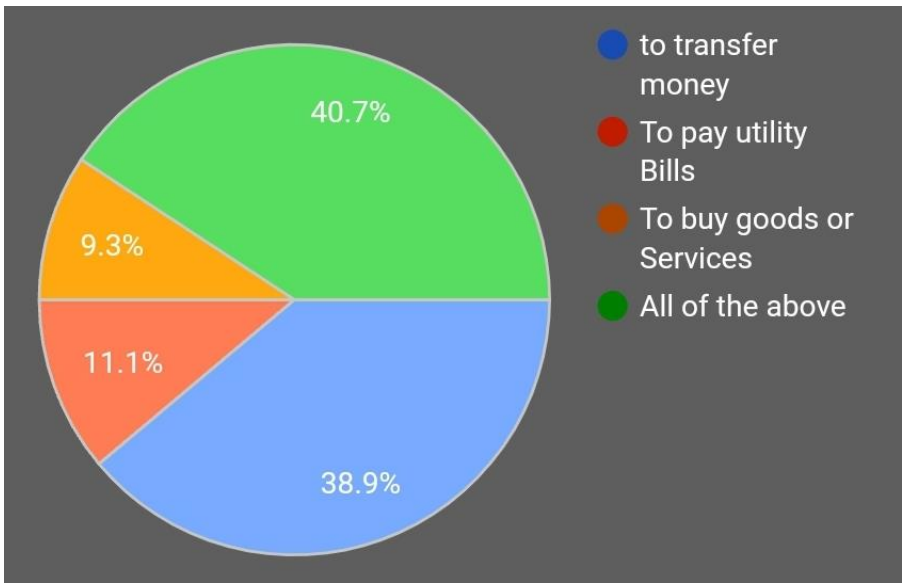
12. **What are the mobile banking services you use?**

Sr.no	particular	No.of responses	Percentage
1	To transfer money	21	38.9 %
2	To pay utility Bills	6	11.10 %
3	To buy goods and services	5	9.30 %
4	All of the above	22	40.70 %
	Total	54	100 %

Analysis

Out of 54 Responses

- 38.9 % Fall under the category of To transfer money
- 11.10 % Fall under the category of To pay utility Bills
- 9.30 % Fall under the category of To buy goods and services
- 40.70 % Fall under the category of All of the above



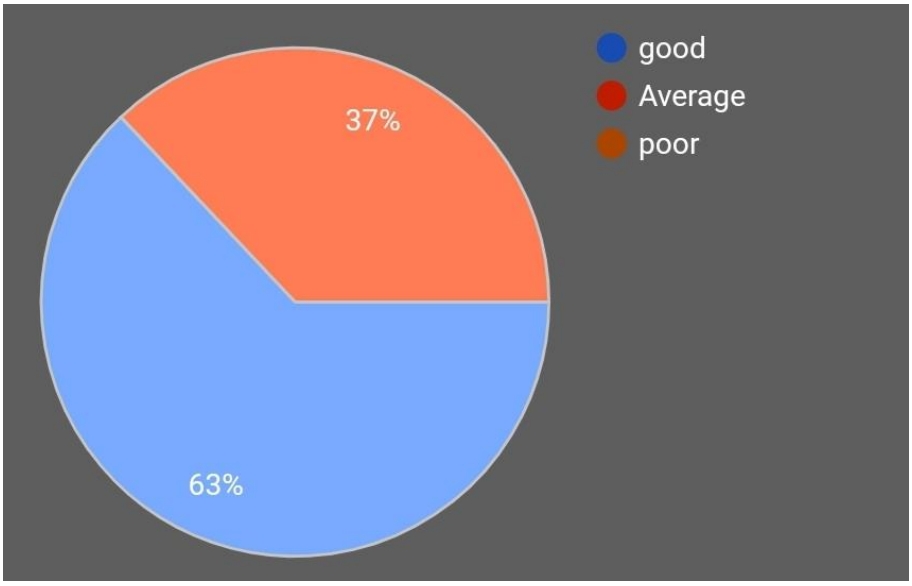
13. **What do you think about the balance inquiry facility provided by mobile banking system?**

Sr.no	particular	No.of responses	Percentage
1	Good	34	63.0 %
2	Average	20	37.0 %
3	Poor	0	0.0 %
	Total	54	100 %

Analysis

Out of 54 responses

- 63.0 % Fall under the category of Goods
- 37.0 % Fall under the category of Average



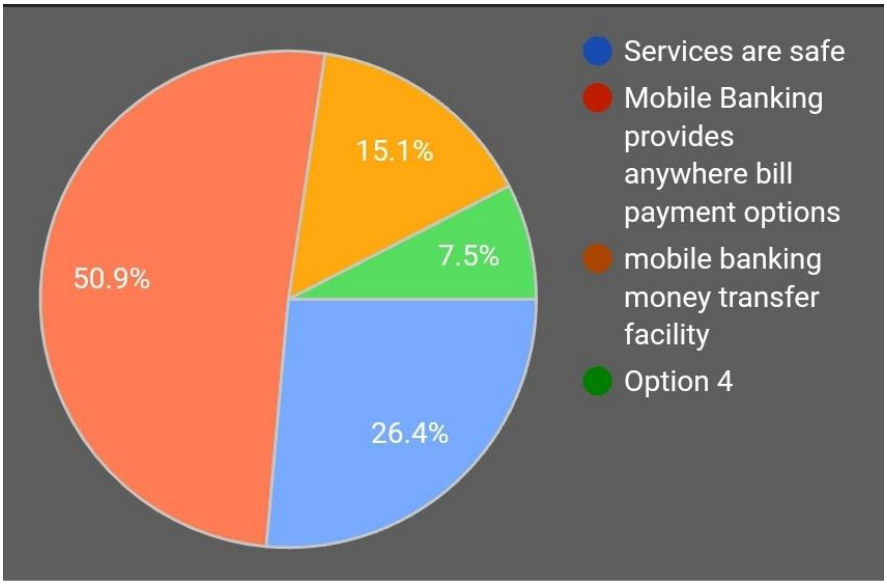
14. **Reasons for using mobile banking services offered by bank?**

Sr.no	particular	No. of responses	Percentage
1	Services are safe	14	26.4 %
2	Mobile banking provides anywhere bills payments options	27	50.90 %
3	Mobile banking money transfer facility	8	15.10%
4	All of the above	5	7.50 %
	Total	54	100 %

Analysis

Out of 53 Responses

- 38.9 % Fall under the category of To transfer money
- 11.10 % Fall under the category of To pay utility Bills
- 9.30 % Fall under the category of To buy goods and services
- 40.70 % Fall under the category of All of the above



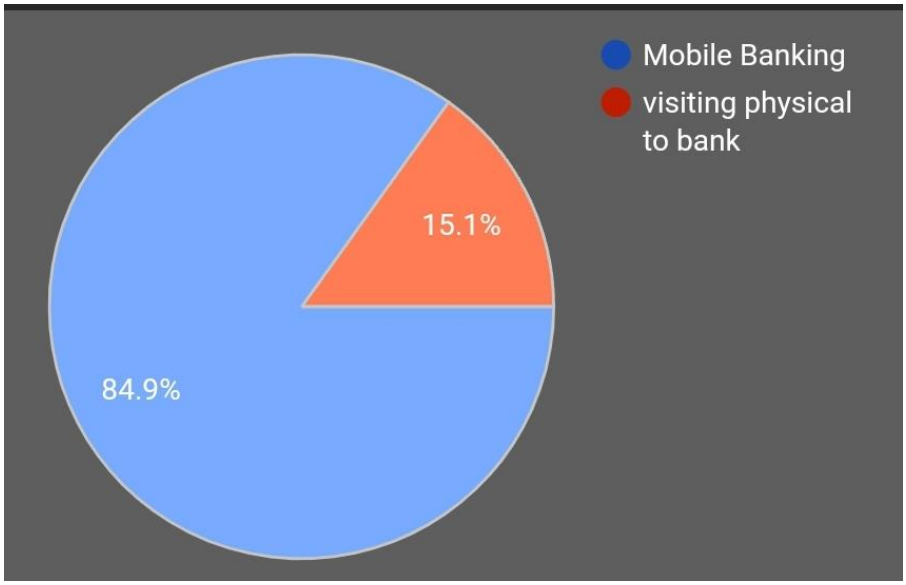
15. **What do you prefer most?**

Sr.no	particular	No.of responses	Percentage
1	Mobile banking	45	84.90 %
2	Visiting physical to bank	8	15.10 %
	Total	54	100 %

Analysis

Out of 53 responses

- 84.90 % Fall under the category of Mobile Banking
- 15.10 % Fall under the category of Visiting physical to bank



CHAPTER 4

CONCLUSION

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Mobile Is the New Normal

Realizing that my book was nearing its end, I reflected on a conversation I had with my good friend Ganesh Govin, a vice president of digital services and marketing support at Ericsson. I asked Ganesh if he thinks that mobile banking is a fad or part of the new normal. From his perspective, Ganesh believes that mobile has "yes, absolutely" become a permanent feature of the landscape.

"Mobile and digital technologies are expanding into more and more areas of society, business, and private life. This development comes with opportunities for fundamental innovation. New forms of communication will emerge and the arising business opportunities are endless," says Ganesh. "It will change how businesses are organized, as well as how we organize work, collaborate, and share."

Ganesh's colleagues at Ericsson speak of a "networked society" connected by converged technologies and powerful new devices. It's a smarter, more connected, and truly global society with broader opportunities for all.

"In this new society, digital convergence will be the starting point for new ways of innovating, collaborating, and socializing. It is about creating freedom, empowerment, and opportunity, transforming industries and society while helping find solutions to some of the greatest challenges facing our planet," he says.

Mobile Banking is one of the important and convenient service for the banking customers. Mobile banking is one of the bi-product of Green Banking, where it is known for its easy, convenient and key point is mobile banking is meant for paper less transactions. Many banks in India is developing it in the form of an app in mobile phones. Mobile banking is providing many services with different features. Services of mobile banking are available 24*7 and also help to make any bill payments. Paper discussed about mobile banking status in India and also about importance and challenges of mobile banking. It is showing that mobile banking is helpful for the customers for their easy banking transactions.

REFERENCE

- **Zahra Rahmani (2012) :-**
- **DR. Parul Deshwal (2002):-**
- **Courtney Elizabeth Cleveland(2000)**
- **Dr. RANJANA SHARMA(2004) :-**
- **Marc DeCastro (2004):-**
- **Manaf Al-Okaily, Abdul Rahman Al Natour, FaRoss Hogan(2022):-**
- **Aijaz A Shaikh, Heikki Karjaluot (2015):-**
- **Nizar Souiden, Riadh Ladhari, Walid Chaouali (2021):-**
- **Carlos Tam, Tiago Oliveira (2016):-**
- **Sulaiman Ainin, Farzana Parveen, Sedigheh Moghavvemi, (2015):-**
- **Farzana Parveen, Noor Ismawati Jaafar, Sulaiman Ainin (2015):-**
- **Joel Chigada, Benedikt Hirschfelder (2017) :-**
- **V Devadevan (2013):-**
- **Tiago Oliveira, Manoj Thomas, Goncalo Baptista, Filipe Campos (2016) :-**
- **Mourad Ouzzani, Hossam Hammady, Zbys Fedorowicz, Ahmed Elmagarmid (2016) :-**
- **Jarunee Wonglimpiyarat (2015) :-**
- **A Vinayagamoorthy, C Sankar (2012) :-**
- **C Kneiding, 24 Jan (2011) :-**
- **Prerna Sharma Bamoriya, Preeti Singh (2011) :-**
- **Rajesh Vasa, Leonard Hoon, Kon Mouzakis, Akihiro Noguchi (2012) :-**
- **Mostafa Farshchi, Jean-Guy Schneider, Ingo Weber, John Grundy (2015) :-**
- **Sherah Kurnia, Jyoti Choudrie, Rahim Md Mahbubur, Basil Alzougool (2015) :-**
- **Jyoti Choudrie, Chike-Obuekwe Junior, Brad McKenna, Shahper Richter (2018) :-**
- **Franz Achermann, Markus Lumpe, Jean-Guy Schneider, Oscar Nierstrasz (2001) :-**
- **Samsudeen Sabraz Nawaz, Mohamed Rusith (2019) :-**
- **Ayman A Alsmadi, Ahmed Shuhaiber, Loai N Alhawamdeh, Rasha Alghazzawi, Manaf Al-Okaily (2022):-**
- **Prrah Shishan, Ahmed Al-Dmour, Rasha Alghazzawi, Malek Alsharairi (2021):-**

- **Sujeet Kumar Sharma, Ankita Joshi, Himanshu Sharma (2016):-**
- **Saeed Al-Muharrami, Kent Matthews, Yusuf Khabari (2006):-**
- **Robert Galan Mashenene, Joel Rumanyika (2014):-**
- **Shilpi Kashyap, Sanskrity Joseph, G. K. Deshmukh (2016):-**
- **Asha Sahu, GK Deshmukh (2020):-**
- **Mari Suoranta, Minna Mattila (2004):-**
- **Heikki Karjaluoto, Minna Mattila, Tapio Pento (2002):-**
  Minjoon Jun, Shaohan Cai (2001):-
- **Mark J Keith, Jeffry S Babb, Paul Benjamin Lowry, Christopher P Furner, Amjad Abdullat (2015):-**
- **Amit Shankar, Biplab Datta (2018):-**
- **Richard Pankomera, Darelle van Greunen (2018):-**