

**Project Dissertation Report on**

**CASHLESS ECONOMY IN THE E-BANKING ERA**

**AND**

**HOW IT HAS AFFECTED THE TOPLINE OF THE**

**BANKING SECTOR IN INDIA**

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# CERTIFICATE

This is to certify that Neelmani Pandey, Roll No.:2K19/EMBA/534 student of Executive Master of Business Administration (2019-2021) at Delhi Technological University, has accomplished the project titled

**“CASHLESS ECONOMY IN THE E-BANKING ERA AND HOW IT HAS AFFECTED THE TOPLINE OF THE BANKING SECTOR IN INDIA”**

under my guidance and to the best of my knowledge completed the project successfully, for the complete fulfillment of the course in Final semester of the course Executive MBA.

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## **DECLARATION**

I hereby declare that the project entitled “**CASHLESS ECONOMY IN THE E-BANKING ERA AND HOW IT HAS AFFECTED THE TOPLINE OF THE BANKING SECTOR IN INDIA**” under the guidance of Mr. Yashdeep Singh submitted in the fulfillment of degree of Executive Master of Business Administration from Delhi School of Management, DTU. This is my original work and this project work has not formed the basis for the award of any degree to the best of my knowledge.

**Neelmani Pandey**

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Place: DSM, New Delhi

## ACKNOWLEDGEMENT

The success and final outcome of this project required a lot of guidance and assistance from many people and I am extremely privileged to have got this all along the completion of my project. All that I have done is only due to such supervision and assistance and I would not forget to thank them.

I respect and thank Dr Rajan Yadav, for providing me an opportunity to do the project work in DSM and giving us all support and guidance, which made me complete the project duly. I am extremely thankful to him for providing such a nice support and guidance, although he had busy schedule managing the corporate affairs.

I owe my deep gratitude to our project guide Mr. Yashdeep Singh, who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary information for developing a good system.

I heartily thank our internal project guide, Dr. Archana, DSM for her guidance and suggestions during this project work.

I am thankful to and fortunate enough to get constant encouragement, support and guidance from all Teaching staffs of DSM which helped us in successfully completing our project work. Also, I would like to extend our sincere esteems to all staff in laboratory for their timely support.

**Neelmani Pandey**

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Place: DSM, New Delhi

# Executive Summary

The utilization of Information Technology (IT) in the financial segment has seen an exponential development in India in the previous 20 years. In the coming years, IT will be utilized broadly by administrators for improving operational effectiveness, decreasing expense, and upgrading administration quality.

The money related administrations segment, banking specifically, depends intensely on data innovation for its development and advancement. Most nations around the globe have transparently received IT as a development empowering agent in this area. India, nonetheless, has been generally moderate.

Expanded business readiness and operational productivity combined with the utilization of Core Banking Systems (CBS) can help banks address the difficulties that face them. The key segments of CBS incorporate financial application, programming, different equipment segments, and a system foundation that encourage disseminated banking tasks at the frontend and unified information handling at the back-end.

Post the mid-1990s, when private area banks began working in India, the situation changed extensively as the working accomplishment of these banks relied upon their IT framework. Their prosperity over the previous decade has made focused weight and has constrained many state-possessed banks to see IT as an imperative key apparatus to endure and prevail in the years to come. CBS is a financial arrangement (not a branch banking arrangement) and is actualized at a focal area to which different workplaces and administration outlets of the bank are associated. All the more so in banks where Core Banking Solution (where CBS alludes to a nonexclusive offering) is situated to meet individual worker targets. The progressions after monetary advancement and globalization process, started since 1991, have critical effect on the money related organization.

Data Technology transformation is of completely changing the manner in which monetary business is done and has extensively extended the scope of items and expanded the normal requests of the clients. Money related segment changes and banking segment changes are the integral part of monetary changes, which fortify the financial changes.

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# PART 1 - INTRODUCTION

## (Industry Introduction and Overview)

### INTRODUCTION

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#### Industry Overview

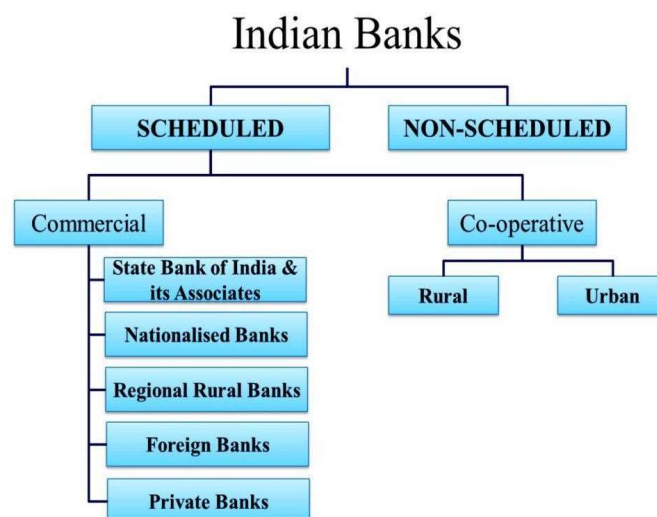
According to the Reserve Bank of India (RBI), the Banking Sector in India is very well regulated, controlled and optimally capitalised. The economic and financial stand of India is superior to many countries across the globe. The various risk ratios pertaining to the market and liquidity risk has shown India's strength in facing a global crisis. Lately, the Banking Sector in India has seen an introduction of various new and innovative banking techniques as well as new internet payments banks.

IMPS i.e Immediate Payment Service is one of the example of the digitalization that has taken place in the banking sector.

#### Market Size

Banking sector in India consists of almost 25+ public sector banks, 20+ private sector banks, 45+ foreign banks, 56 regional level banks, more than 1400+ cooperative banks. Furthermore cooperative credit based institutions also exist in this sector.

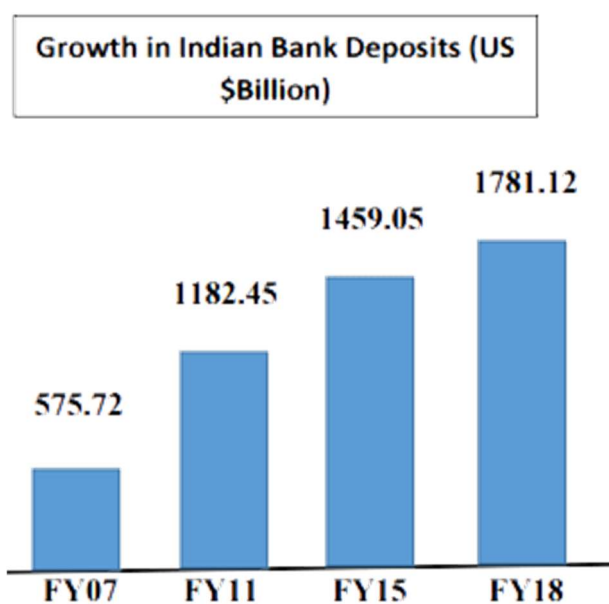
- The total lending increased at 10.93 CAGR
- The deposits also increased at 11.65 CAGR.



## Investments & Recent Developments

Key investments and developments in India's banking industry include:

- In the month of Sep'2018, the Government of India introduced an India Post Payments Bank (IPPB) and opened its branches across the country with more than 650 districts with the objective of financial inclusion in mind
- It rose to \$96.31 billion dollars in FY2017-18 from \$ 68.85 billion dollars in the FY2014-15
- The merger deal between Bharat Financial Inclusion Ltd BFIL and IndusInd Bank of \$ 2billion dollars was the largest merger of 2017.



Source: Reserve Bank of India (RBI)

The banks in India continue to change their organization's operations and working through innovative solutions and technological advancements. These measures help the firms to increase their profitability, cost reduction, improving the client interaction and experience and successfully managing the risk involved. This wave of innovation and sustainability has become very common nowadays and has reached many levels in the banking sector of the country.

The expansion of core banking has taken and used a number of resources and the time of the management of various banks. In tandem with the RBI instructions related to core banking, the banks have placed a significant amount to work and resources in developing the core banking solutions. Special emphasis has been placed on the automation and using less labour intensive techniques at the branches of banks. The user data of customers has been clubbed



and centralized for better data accessibility. In addition to that, the streamlining of teller facilities and better communication between the various branches has been improved.

Instead of following a much more holistic approach the banks used lift & shift approach in implementation of the above goal. Due to this measure, most cases have achieved a below par or say imperfect implementation with serious questionable cases. Instead of incorporating the the business process reengineering techniques and using the customers expectations the majority of the banks are using it as a mere exchange platform.

There is an option to reduce the redundancy in the process of core banking and increasing its usefulness and accelerate the customer query processing. The very foundation of the core banking approach has provided the banks a solid platform to come up and offer various other channels such as ATMs, mobile, computer web, kiosks etc.

Furthermore, it has also emphasized on data integrity and the robustness of the data which is both volatile and non-volatile and could be used to provide better solutions for the banks business and analysing it further to design customer centric processes. Customizations have also become possible because of it. Hence, the execution of the core banking has subsequently reduced the gap which was there earlier between the public sector and private sector banks

### **IT in Banking Sector**

FinTech is overall characterized by the innovation in technology pertaining to the financial services. The ones who are occupied in this sector focus on the technological advances and thereby change the operations of the financial markets. The FinTech firms adopts these present technologies like payment application, AI & machine learning..

- The banks have welcomed and embraced these tech advancements and the digital transformation. Although becoming technologically proficient would be challenge and not easy caveat for even the largest banks.
- Remarkable disturbance has been witnessed in the banking sector due to these innovative advancements. The digitalization has increased the rate of change in the industry.
- Hence, many complex decisions lie ahead for the banks as they will have to simultaneously deal with the operational and administrative changes and the changing desired of the consumers.

The FinTech firms are constantly keeping an eye on the developing technologies and efficient strategies and renewing the client process. The rivalry or say the competition between the firms and the change in the customer desire for more customization has driven the banks to adaopt such technologies. All around services are being provided that can be availed from many devices by using the customer demand pattern.

In any case the trust of customers still lies with the conventional firms rather than these FinTech firms. In the near future, the firms have to focus on identifying better tech trends and leverage the information that they have to improve the productivity of the processes.

## **PART 2 – LITERATURE REVIEW**

# **(Banking Sector Timeline, Need for IT in Banking, Cashless Economy, Benefits of Cashless Economy)**

## **LITERATURE REVIEW**

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### **Banking Sector in India – Timeline**

The Indian Banking System can be divided in 3 categories –

1) Pre- Independence i.e before 1947

- In this phase there was large number of banks present say upto 600.
- Banking system commenced in India and Bank of Hindustan was formed.
- Many Banks like General Bank of India failed to operate but many survived like PNB, Allahabad Bank, Central Bank of India, Bank of India etc.
- Bank of Bengal, Madras, Bombay merged into a single entity and was called Imperial Bank of India
- Reserve Bank was formed in the year 1935.
- Imperial Bank of India was later renamed to State Bank of India in 1955
- The deposits were very low in this phase due to lack of trust in Banks because many failed to survive as a result money lenders and local bankers were more reliable for the general public.

2) Second Phase – After Independence to 1991

- Nationalization of the various Banks was a major incident that took place in this phase.
- As many as 14 Banks were nationalized. BOI, United Bank, Allahabad Bank, Indian Bank to name a few.
- In the year 1980, more banks Vijaya Bank, Andhra Bank were nationalized.
- Why were Banks nationalized?
  - ✓ Banks mostly favoured and served the needs of large corporations and companies.
  - ✓ The majority of the public were still mainly dependent on money lenders. There was a widespread exploitation.
  - ✓ Many sectors like Exports, Agriculture were falling behind because of this.

### 3) Third Phase – Post 1991

- After the implementation of the economic policies introduced in the year 1991, the banks should a remarkable growth.
- The Narasimham Committee allowed private players to enter into the Banking Sector.
- With this Banks like HDFC, ICICI, Axis Bank, DCB came into existence.
- By the year 2004, more banks like Yes Bank, Kotak Mahindra Bank also got their licences.
- The third round of licensing allowed Bandhan Bank and IDFC Bank to enter the market in 2015.
- By 2015, new Payments and Small Banks were also introduced.

**List of Payments Bank**

Bank Name	Commenced	Headquarters
Airtel Payment bank Ltd	Nov 2016	New Delhi India
Paytm Payments Bank	Nov 2017	Noida, U.P.
Fino Payments Bank	July 2017	Mumbai, Maharashtra
Jio Payments Bank	April 2017	Mumbai, Maharashtra
Aditya Birla Idea Payments Bank	February 2018	Mumbai, Maharashtra
India Post Payment bank	September 2018	New Delhi India

### **Need for IT in Banking Sector**

In the 21<sup>st</sup> century the importance of technology has been of greater value in financial services. Competition from Fintech firms and big tech giants like Google & Amazon has significantly increased the demand the expectations of the FinTech consumers. The rapid transformation in the digital processes and in technology has led the banks to adopt more holistic and tech driven approach.

Following are the key reasons why IT is essential for the Banking Sector.

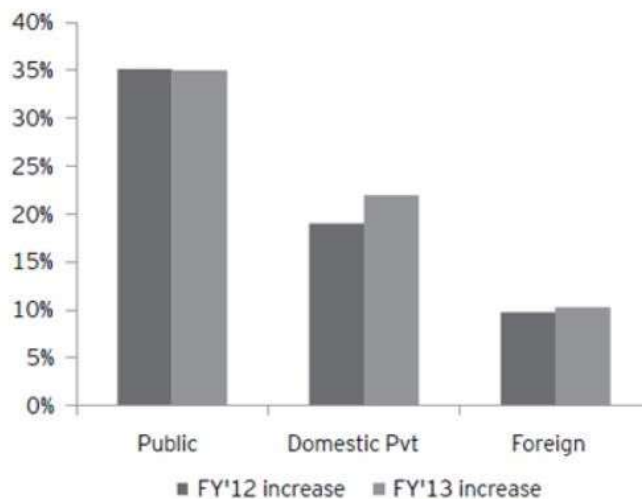
1) **E- Banking –**

E- Banking empowers and provides the banks to deliver customers with GUI programming. It is a much more evolved interface which provides more value to the customers when they access the banks services on the internet. Through this banks can get a hold and idea about the cash exchanges, account information, banking statements without making the customer visit the bank’s branch. The move or say the inclination towards the digital banking is propelled because of many changes that the industry has witnessed. The reasons are directly from the industry as well outside the industry as well.

EDI which is the Electronic Data Interchange is the technology used for this. It acts as enabler to convert the sophisticated business processes into a readable and user-friendly form for the customers.

According to a study, by the year 2020 the India’s average age would be around 28-29 years. This depicts a large amount of youth and this means that the majority of the consumer base would be more tech savvy and would need continuous data from time to time. Hence, it is vital that the banks change their approach, adapt well and provide much more value to the customers.

**Internet banking**

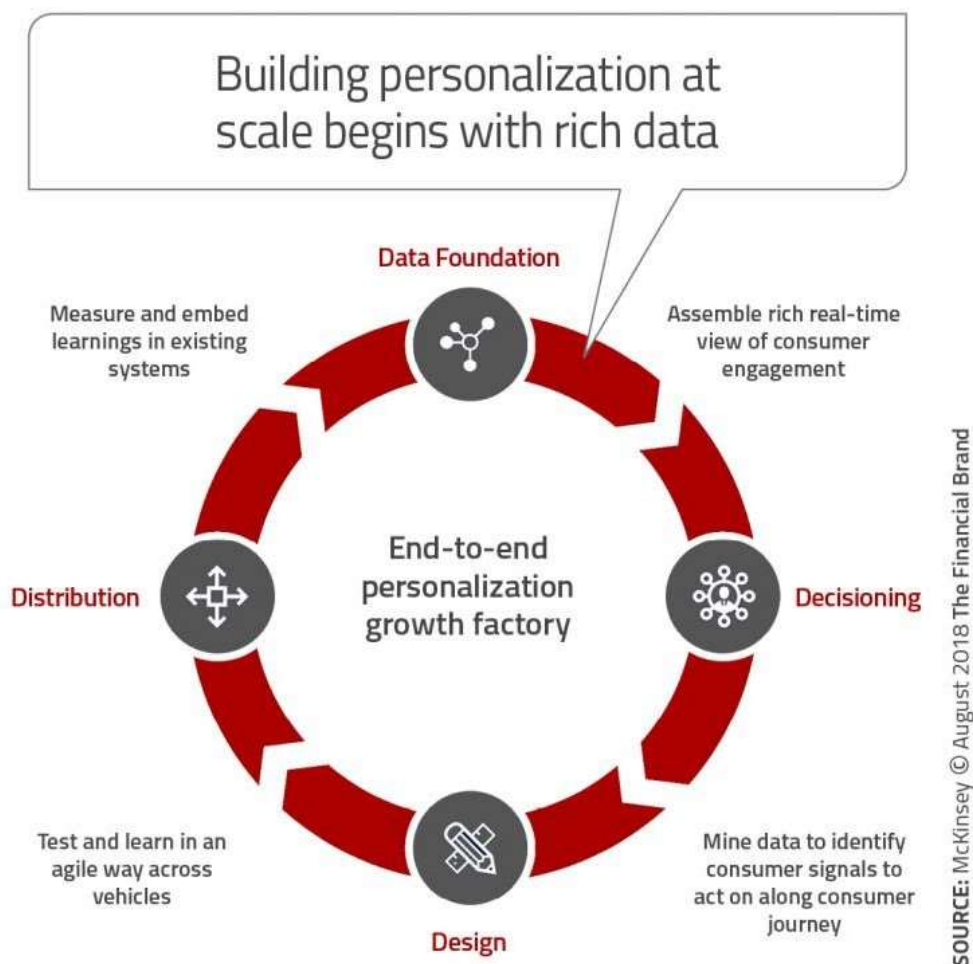


2) **AI and Personalization of Data –**

The customers nowadays have much more clarity over what they require and what not this is in with respect to customization. They require guidance and support in the matters which require further assistance. They need a reasonable course of action that they should follow while engaging in a business transaction. This changing trend has been captured very well by the financial industry, they have observed the patterns of such customers so that they can come up with such technology and provide satisfy the demands of the customers.

The customers today do not focus on the traditional functions related to withdrawal and deposit of cash in the banks. It goes beyond that, they want their banks to provide more services to them, more value, more personalization and loyalty points. All these services go beyond the 9-5 timings of the banks. Credit value, financial health of the customer is few categories which the customer is curious to know.

All this is possible with AI which is also called computerized reasoning. Through AI it is possible to meet the demands of the customers and build up new business process altogether which can transform the banking industry. In order to attain this, a collective effort is required to be made which would require both tech intensive techniques and human intensive techniques to be in tandem with each other to provide more value to the customer.

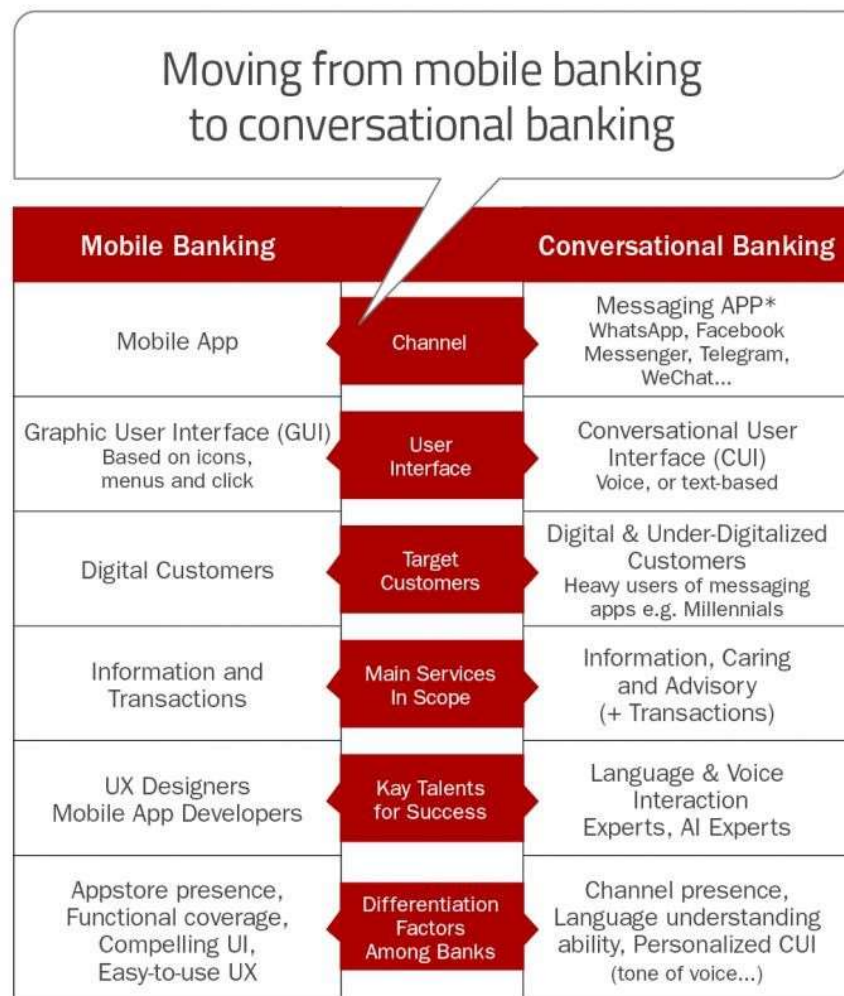


### 3) Voice-Based Banking –

Voice-Based Banking is something which is relatively new in the market, a key piece in this constitutes of a cutting edge technology which is insightful in nature. In future, as the voice based banking evolves more, the customers will have tech driven intermediaries who will act on the command of the customer and perform transactions.

Many of the FinTech firms will move from the traditional method of transactions to voice based transactions. With this making transactions through voice command would be possible such as paying bills, fund transfer etc.

The next decade would be very crucial for the banks as it is projected that majority of the banks will shift to voice based services in their business processes.













SOURCE: Accenture © February 2018 The Financial Brand

\*Subject to availability of branded channels and end2end privacy protection

## Cashless Economy in E-Banking Era












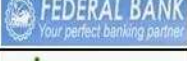









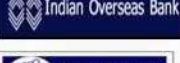
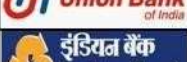





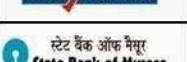



















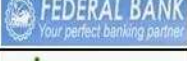









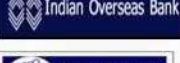
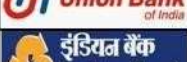





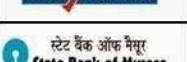



















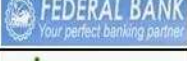









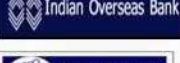
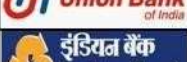





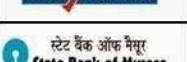












The primary mode of currency is still cash. It still has a lot of power in the business due to many reasons. The goal and vision of the banking industry is encouraging customers to use digital form of payments instead of the traditional ones. The present decade has witnessed a major growth in the smartphone technology. This has resulted in a greater demand for banking services which can be done through web. To meet this demand, the banks have come up numerous services like transaction history, cash deposit, withdrawal, fund transfer through RTGS, NEFT, address modification, email ID modification, PAN card up gradation and more. The emphasis is now being placed on making the debit as well as credit cards more secure and safer for the customers. The integrity of these cards is a priority for the banks and they need to ensure that these are not exploited with the new technological changes. Additional and alternate profiles have been created for the same. The change in the customer dd has resulted in introduction of this mode of payments:-

 Banking Cards	 USSD	 AEPS	 UPI	 Mobile Wallets
 Banks Pre-paid Cards	 Point of Sale	 Internet Banking	 Mobile Banking	 Micro ATMs

## Digital Payment Methods in India

In addition to that the banks are also focusing on the merge their payments systems and operational infrastructure. Sophisticated framework and innovation models are being used for the same.



Credit Card																																											
Debit Cards																																											
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## Players in the market

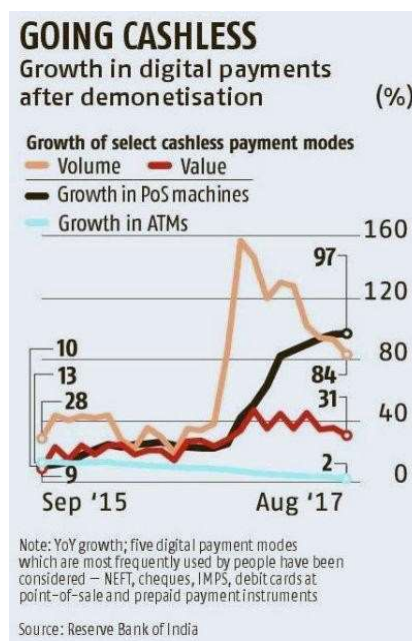
### Modes of cashless payments –

- Cheque
- Internet Banking
- Credit & Debit card.
- DD i.e Demand Draft
- NEFT and RTGS
- Gift Cards
- Mobile Wallets
- Aadhar Enabled Payments System

### 1. Drivers of Cashless Economy

Following are the drivers towards a cashless economy.

- **Demonetization** – With the sudden implementation of the Demonization, the cashless payments mode witnessed a major growth. The Rs 500 and Rs 1000 were banned and there was huge shortage of cash. As a result the cashless modes of payments became more convenient to pay for day to day transactions.



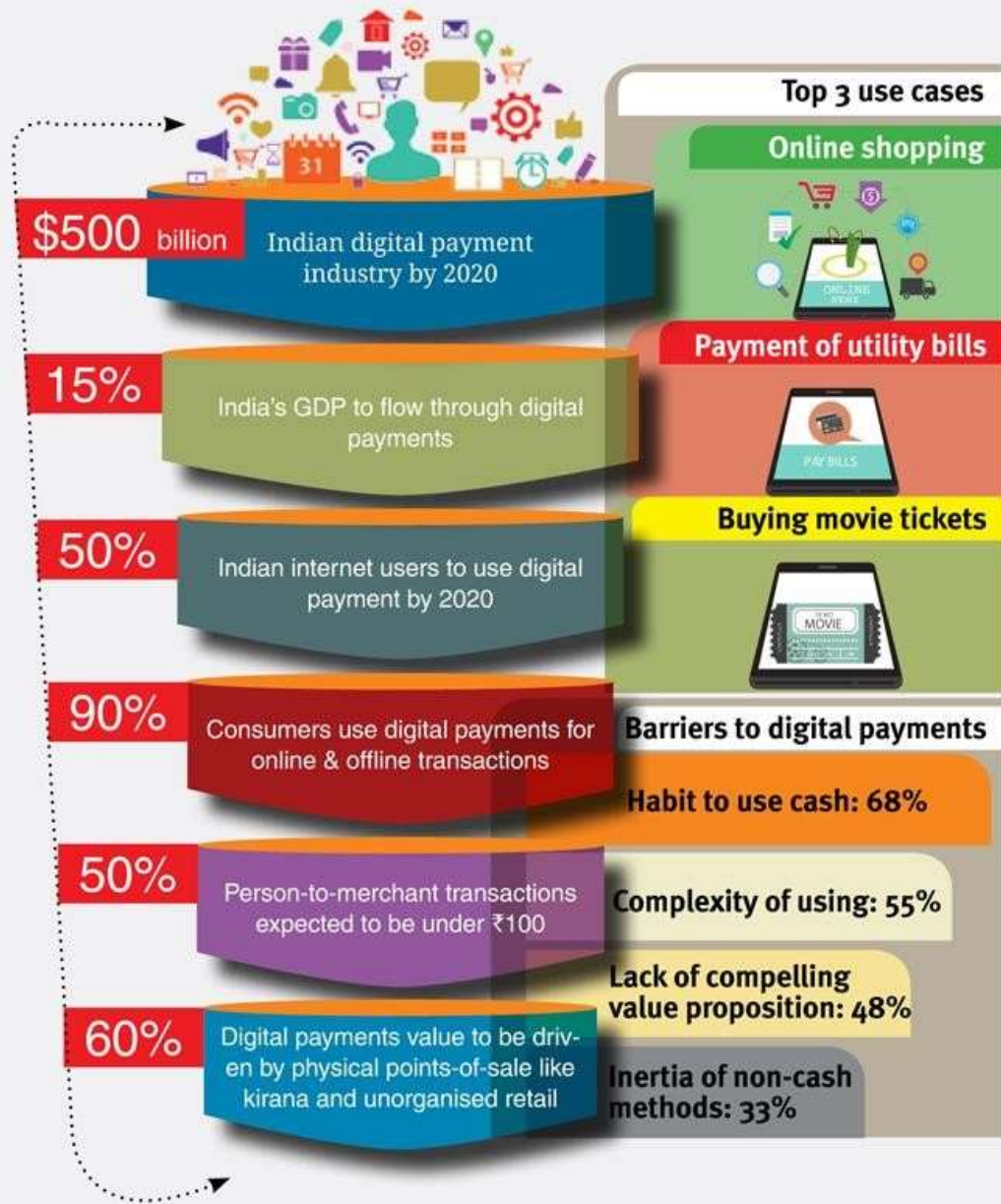
- **Pre-paid Cards –**

In the international sphere, the dd for prepaid debit cards is expected to cross the 3 trillion dollar mark by 2021. This is due to many reasons since it is expected that the market will no longer will dominated by cash but by other modes of payments. With the tech driven cashless facilities the customers will shift from cash to these digital modes of payments. These cards are much more reliable and faster in making payments then the traditional cash. Making a payment could become as simple as a 3

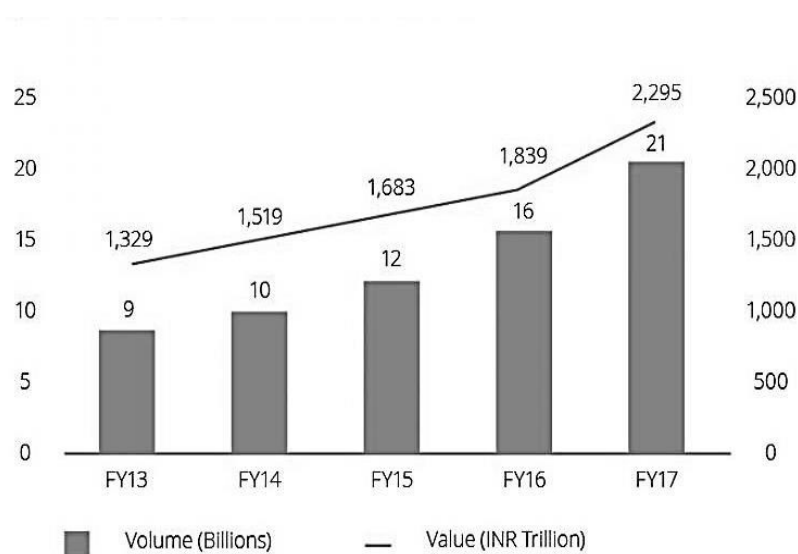
step process on the smartphone.

## Digital Payments 2020

The Indian digital payments industry is set to grow 10 times by 2020. According to a survey by Google and Boston Consulting Group (BCG), around 66% users have cited convenience as the primary factor for making digital payments. Here are the key findings:



## 2. Benefits of a Cashless Economy



### Increase in Cashless Payment from fiscal year 2013-17

- Lesser Risk : The customer will no longer have to carry the currency physically so the loss of losing money can be controlled and reduced. Although there still is a possibility that the E-Payment options like Debit card can get stolen but the loss can be controlled by blocking the card on the bank's official site and various other means.
- Cost Minimization – With the cashless mode of payments the cost of printing currency, dumping the currency and various others costs could be curbed.
- Convenient: Travelling becomes easier and much more convenient. A person will no longer have to carry lots of cash while travelling. In this way, the person won't have to stand in long queue outside the ATM. Also, through cashless payment and person can transact at any time of the day since its all-digital.
- KYC makes it possible for the banks to know their customer's information and creditability without making them visit a branch. This saves time for both the person and for the bank.
- Through digital payments it gets very easy to track and get a hold of the spending. One can easily monitor their expenses and curb them accordingly.
- More tax for the economy - Cash was mostly used so that the merchants and business could avoid paying taxes. Now that the country has become more digital. All transactions that are done online would automatically allow the government to monitor these transactions and ensure that appropriate amount of tax is being paid by citizens and tracking of tax evaders becomes easier for the government.
- The economy can become more transparent through this since tracking the black money movement and illegal activities is easier on digital platform. The banks and the government can keep a check on such any unscrupulous transactions.
- The goal of Financial Inclusion: India has a huge illeratracy rate, in this section there is a mass exploitation of the poor people. Through cashless payments they can keep

up and come on pace with the economy and the exploitation could be reduced, For eg. Pradhan Mantri's Jan Dhan Yojna

- Discounts and Rewards: Cashless payments also provide the users with massive cash backs, offers, rewards, discounts with they transact online.

### **3. Obstacles and challenges ahead**

- Slow pace of Computerization - which relates to virtual banks, revolves around the lack of ATMs;
- The difficulties and interface in using.
- The initial start-up time is more - In order to register for your bank's online program, you will probably have to provide ID and sign a form at a bank branch which can be time consuming.
- It might not be easy to learn and use the site.
- The traditional habit of using cash.
- Fake KYCs Know Your Customer cases are also rising which can compromise with the data integrity.
- Consumer distrust - the existence of hidden charges, frauds, embezzlements of funds by person pretending to be bank official.
- Since the technology is still new the repeated users can easily track and identify the loophole and flaws in the system and exploit it for personal use.
- Security concerns – There are still not enough potent measures to verify the genuineness of the customers and whether the customers data is safe online or not.

### **4. Competitors**

- Threat from tech firms like Facebook, Amazon, Apple, Google is a major concern for banks be it Indian banks or global ones.
- Firms like these are investing a huge amount of funds for venturing into financial services, this could seriously impact the profits of the well established in the long run.
- Amazon, Google have better access to technology and can leverage it much more wisely and employ it in expanding its operations into finance.

## Tech firms doing better on key 'Elements of Value'

Top five Elements of Value® affecting Net Promoter Score® and the ranking of companies

	Quality	Saves Time	Simplifies	Reduces Anxiety	Heirloom
Leader	Apple	Amazon	Apple	PayPal	Apple
2	Amazon	Google	Google	Primary Bank	Primary Bank
3	Primary Bank	PayPal	PayPal	Apple	Google
4	PayPal	Primary Bank	Amazon	Amazon	Amazon
5	Google	Apple	Primary Bank	Google	PayPal

SOURCE: Bain & Company © January 2019 The Financial Brand

- In order to compete firms like these the banks also have increase their investment in technology, service providers and partnering with industry specialists would also be vital.
- Furthermore, digital payments giant like PhonePay, Paytm are competing directly with major banking players like HDFC Bank, SBI, ICICI Bank and more.



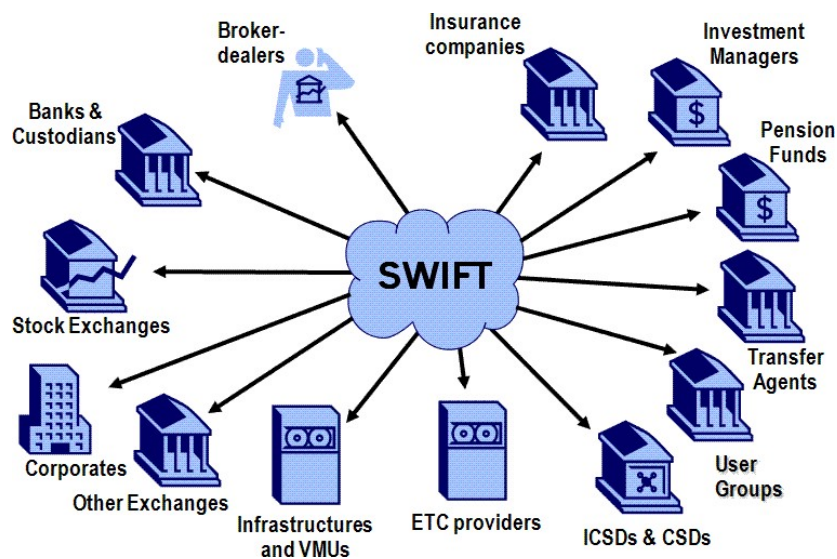
## Competitors of Banks in Cashless Payments

### OBJECTIVE

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The research report aims to find the impact of cashless payments on the traditional branch banking. The research objective also aims at finding how out position and stand of technology in the banking sectors.

The coming years will be very crucial for the banking industry as they banks will be investing more and more in technology. Ultimately the goal behind making such investments would be to derive higher ROI and increase customer base. The successful implementation of that technology and strategic decisions would help the banks to re-engineer their processes and make it an optimal one. This will help them in emerging as the industry leaders. Following are divisions within the bank in which the numerous banks will be competing.



The **primary research** questions are as follows:

1. The reliability, convenience and effectiveness of the internet based banking services.
2. Understanding, how aware are customer using online banking
3. Knowledge of customer with respect to various online banking services.
4. To understand the preference of customer towards online banking or traditional branch banking service.
5. Understanding how confident are people while using online banking services
6. What is the impact on the performance of the banks with respect to digital payments and what is the future of such initiatives.

The **secondary research** questions are as follows:

1. Do cashless payments have a meaningful and a significant effect on saving the time of the customers and simultaneously providing convenience, and the employees of such Indian banks?
2. What are the obstacles for Banks in implementing diffusion of technology?
3. How much and to what degree the banks are using these technologies to increase profitability and improve sustainability.
4. What is the significance of the cashless payments in a nation's economy
5. Be aware of the cashless modes of payments that are available in the country.
6. How much investment the banks are making to improve their technology and way of operating?



### **CASE of HDFC Bank**

HDFC Bank is one of the first banks in India to accept an 'in principle' approval from the Reserve Bank of India (RBI) and establish a bank in the private sector, as part of the Reserve Bank of India's liberalization of the Indian Banking Industry in 1994. in the name of 'Housing Development Finance Corporation Bank Limited', with its registered office in Mumbai, India. It started operation in January 1995 as a Scheduled Commercial Bank.

### **DISTRIBUTION NETWORK**

HDFC Bank is headquartered in Mumbai. The Bank Currently has a network of around 1229 branches which is spread in more than 444 cities of the country. These branches are linked to each other on a real time basis. The Bank's aim to expand requires the need for it to be present in all the places where there customers ie corporate as well as their corporate clients are located. HDFC Bank also works as a clearing bank to stock trades due to which has branches focusing only on such services. The bank has around 2,526 ATM's all over India. Also, ATM system can be used by households by HDFC debit card, Visa/Master card and AMEX credit cardholders

### **BUSINESS SEGMENTS**

**HDFC Bank provides various types of services catering to all the types of clients (Wholesale or retail). 3 key dimensions of banks are as follows -**

- **Wholesale Banking Services**

The bank's aim is to cater to different market<sub>xx</sub> segments, from large corporate firms to small



and medium corporate and agricultural organizations. Bank provides a large variety of services such as “Foreign transactions, fulfilling working capital needs, Capital requirements”.

The bank is likewise the main supplier of structured arrangements, which consolidates the money with the board administrations, merchant and wholesaler fund for encouraging predominant inventory network and the executives or its corporate clients. In light of its predominant item conveyance/administration levels and solid client direction, the Bank has made critical advances into the financial consortia of various driving Indian corporates including multinationals, organizations from the resident business houses and prime public sector organization. The bank provides various services such as cash management & transactional banking to corporate customers, mutual funds, stock exchange members and to other banks.

- **Retail Banking Services**

The aim of Retail banking is to provide retail customers with the large variety of financial products and giving them a single place to all their financial needs and wants. Various type of banking services such as loan deposits, borrowings, loan approvals, forex requirements are provided through both electronic and physical means.

Below table will provide the variety of services provided by HDFC bank.

Loan Product	Deposit Product	Investment & Insurance
<ul style="list-style-type: none"> <li>• Auto Loan</li> <li>• Loan Against Security</li> <li>• Loan Against Property</li> <li>• Personal loan</li> <li>• Credit card</li> <li>• 2-wheeler loan</li> <li>• Commercial vehicles finance</li> <li>• Home loans</li> <li>• Retail business banking</li> <li>• Tractor loan</li> <li>• Working Capital Finance</li> <li>• Construction Equipment Finance</li> <li>• Health Care Finance</li> <li>• Education Loan</li> <li>• Gold Loan</li> </ul>	<ul style="list-style-type: none"> <li>• Saving a/c</li> <li>• Current a/c</li> <li>• Fixed deposit</li> <li>• Demat a/c</li> <li>• Safe Deposit Lockers</li> </ul>	<ul style="list-style-type: none"> <li>• Mutual Fund</li> <li>• Bonds</li> <li>• Knowledge Centre</li> <li>• Insurance</li> <li>• General and Health Insurance</li> <li>• Equity and Derivatives</li> <li>• Mudra Gold Bar</li> </ul>
Cards	Payment Services	Access To Bank
<ul style="list-style-type: none"> <li>• Credit Card</li> <li>• Debit Card</li> <li>• Prepaid Card</li> <li>• Product &amp; Services</li> <li>• Trade Services</li> <li>• Forex service Branch Locator</li> <li>• RBI Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• NetSafe</li> <li>• Merchant</li> <li>• Prepaid Refill</li> <li>• Billpay</li> <li>• Visa Billpay</li> <li>• InstaPay</li> <li>• DirectPay</li> <li>• VisaMoney Transfer</li> <li>• e-Monies Electronic Funds Transfer</li> <li>• Online Payment of Direct Tax</li> </ul>	<ul style="list-style-type: none"> <li>• NetBanking</li> <li>• OneView</li> <li>• InstaAlert</li> <li>• MobileBanking</li> <li>• ATM</li> <li>• Phone Banking</li> <li>• Email Statements</li> <li>• Branch Network</li> </ul>

Source: [http://www.hdfcbank.com/personal/prd\\_glance.htm](http://www.hdfcbank.com/personal/prd_glance.htm)

### **Effect of Digital Banking on HDFC Bank**

HDFC Bank is among the largest issuers of Visa cards in India, it has been issuing around 3 lakh new cards each month(as of 31 November 2018). The bank has already issued more than 88 lakh cards and will become the only bank in country to issue more than 1 crore cards. According to the stats available on the Internet, HDFC bank does approximately “9 – 10 million transactions every day”. HDFC Bank is estimated to have around 33% of the volume of transactions in the Indian market. It is the biggest bank in the nation with respect to clients, the system and the deposits

To deal with a system of this scale requires a hearty, very accessible, and secured infrastructure. Within 15 years, the Bank has contributed heavily to set up its IT infrastructure system. The bank keeps spending crores of rupees to maintain its IT infrastructure.



Source- HDFC Bank Website

HDFC is amongst the top bank in this country that has put huge resources into a centralized network for the cards business. HDFC can perform around 25 million transactions (multi day).

In past many years HDFC bank has put a lot of investment for the IT system and its security. The bank has heavily invested in POS gadgets. Of all the 1.5 million POS (Point of Sale) gadgets, the bank owns the highest part of around, a million gadgets.

HDFC bank has taken various steps to provide and enhance the customer experience through digital banking services. Many initiatives for loan, deposit, communication, data analysis and employee training has taken up by HDFC bank. All of this to modify customer interactions. HDFC is keeping in pace with the new trend in Fintech startups to provide new and innovative solutions. And the impact of these innovations can be seen now.

Around 10 years back, Internet and mobile banking share was 13%. In financial year of 2013 it increased to 44%, In 2014 to 44%, In 2015 to 55%. In 2018 it has rosed to 71% and against this the share of branch has decreased significantly to only 11%.

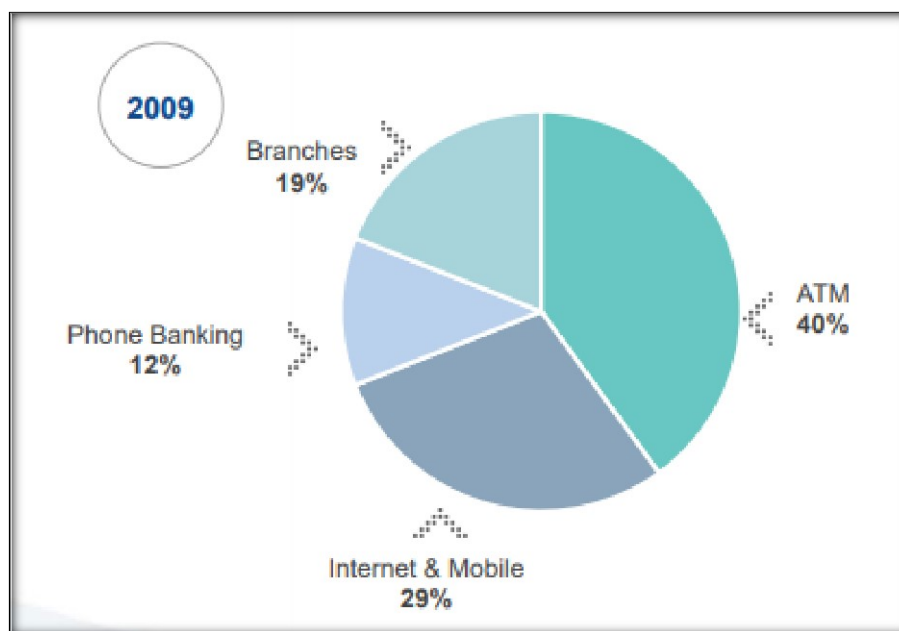
In May 2015, bank came up with a new move to provide credit in a paperless way and as

quick as in only 10 seconds called “10 seconds loan.” This was done in order to retain clients. Now, the bank provides around 1,000 crore of loan every month through its 10-second advance window. Also, in 2018 the bank came up with computerized credit offers and advances on the stocks. In any crisis situation bank will easily provide a loan against common assets within 3 minutes through net banking, holding the client account as insurance.

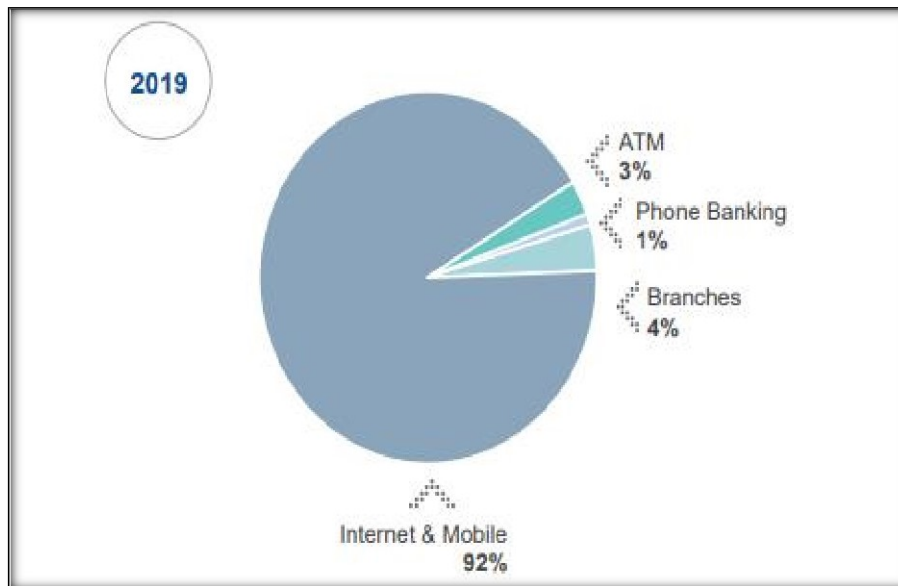
In the retail space, bank has increased its online presence by providing virtual cards or Instacards which can be easily used for exchanges.

HDFC bank’s services are compatible with Google Tez to work with its UPI handle. With Facebook it has tied up with Niki.ai, a fintech company held by Mr. Ratan Tata for paying bills.

The bank's cost tracker on portable is in association with another fintech Money View while its Digital Command Center—where the bank connects through the web and every single social medium stages—was worked as a team with an examination based promoting fintech LocoBuzz. The bank additionally works with evaluation innovation supplier Talview, which encourages it do psychological meeting stages on record, as a major aspect of its HR.



Source- HDFC Bank Website



Transformation of Bank Service Channel from 2009 to 2019

Going Digital is presently the most trendy word at HDFC Bank. Each service that it offers can now be done using Internet. According to the data collected by HDFC management 92% of transactions done by clients are online, however the physical type of banking remains only 4% through branches and 3% through ATMs, against the numbers in 2009, which were 29% for online, 40% for ATMs and 19% for physical type of banking.

By going digital, HDFC has taken an advantage to improve its top line and increase its customer base for both card services and loan/advances through online channels so that the customer has a convenience to use it anywhere and at anytime. It has really helped bank to increase the no. of customers and offered the already existing customers with added services to create a better customer experience, which helped the bank to become the India's biggest bank.

# PART 3 - RESEARCH METHODOLOGY METHODOLOGY

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Descriptive Research was used in accomplishing the objective of the study. We identified few parameters under which the study was going to move forward. Upon collecting the data, we analysed the results.

Further research was also carried out through consultation of books, journals and magazines. Secondary data showed a much clearer picture of the banks position in the cashless economy.

## **RESEARCH DESIGN**

The research design is generally preparing situations in order to collect and analyze interpret data with the objective of combining the research purpose with economy in process.

### **Descriptive research**

The research commenced was a descriptive research as it was concerned with specific estimates, with description of facts and characteristics regarding the use of Internet based banking services.

### **Sampling Design**

The following aspects have been decided within the possibility of sample design:

- **Universe of study:** Universe of the study means all the individuals who are use bank.
- **Theoretical:** It enclosed all the individuals who are aware of banking and practice banking services.
- **Accessible:** It enclosed all the individuals who are aware of banking and practice banking services in India who are within our spread.
- **Sample Size:** A sample of least respondents was chosen from different regions of Delhi. An exertion was made to choose respondents equally. The study was done on 100 respondents.

**Sample Unit:** In this survey sampling unit consisted of the numerous individuals who had their bank accounts.

**Sampling Technique:** For the determination of research, convenient sampling technique is used.

### Demographic Profile Of The Respondents

Demographics	Number of Respondents	Percentage Of Respondents
Age:		
Below 20 yrs	1	1 %
20 – 35 yrs	33	33 %
35 – 50 yrs	40	40 %
50 – 65 yrs	17	17 %
65 yrs and above	9	9 %
<b>TOTAL</b>	<b>100</b>	<b>100 %</b>
Qualification:		
Undergraduate	5	5 %
Graduate	65	65 %
Post Graduate	30	30 %
<b>TOTAL</b>	<b>100</b>	<b>100</b>
Occupation:		
Businessman	32	32 %
Housewife	7	7 %
Self Employed	17	17 %
Service	27	27 %
Student	4	4 %
Professional	13	13 %
<b>TOTAL</b>	<b>100</b>	<b>100 %</b>
Annual Income:		
Less than Rs 2 Lakhs	12	12 %
Rs. 2 – 6 Lakhs	27	27 %
Rs. 6 – 10 Lakhs	39	39 %
Rs. 10 – 15 Lakhs	17	17 %
Rs. 15 – 20 Lakhs	5	5 %
Rs. 20 Lakhs and above	0	0 %
<b>TOTAL</b>	<b>100</b>	<b>100 %</b>

### Analysis & Interpretation

According to above data, it can be observed that the majority (i.e. 40%) of respondents belongs to the age group of 35 to 50 years of age. After which comes 20-35 years of age group i.e. 33%. It can also be observed that the majority of respondents are business class followed by service class. The Income levels of majority respondent are 6 to 10 lakh rupees.

**- Thus, this can be concluded that majority of the respondents are literate & well informed with respect to the services provided by bank.**

**Statement 1-** How to access the bank services

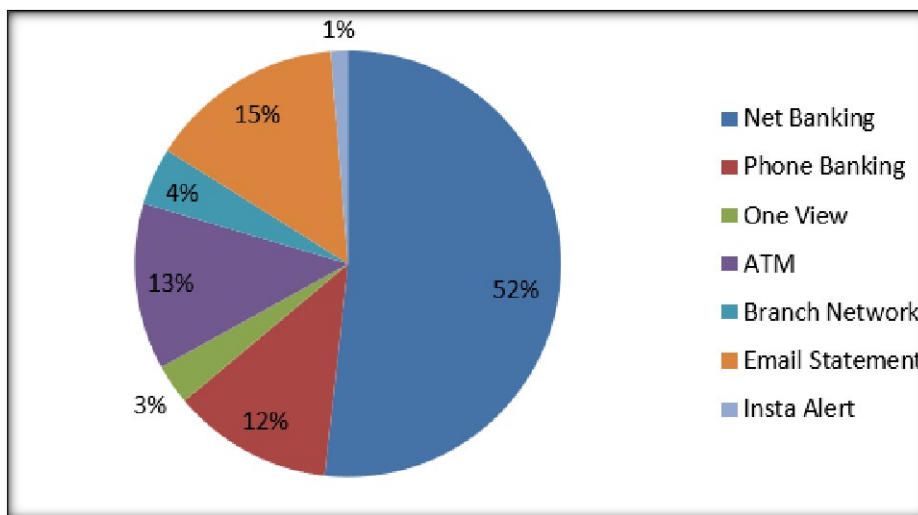
**Responses**

Access the Bank

Ways to Access Bank Service	Number of Respondents	Percentage
Net Banking	119	51.74%
Phone Banking	28	12.17%
One View	7	3.04%
ATM	29	12.61%
Branch Network	10	4.35%
Email Statement	34	14.78%
Insta Alert	3	1.30%
<b>Total</b>	<b>230</b>	<b>100.00%</b>

\*In the above total is more than the no. of Respondents because more than one option can be selected.

Access the Bank



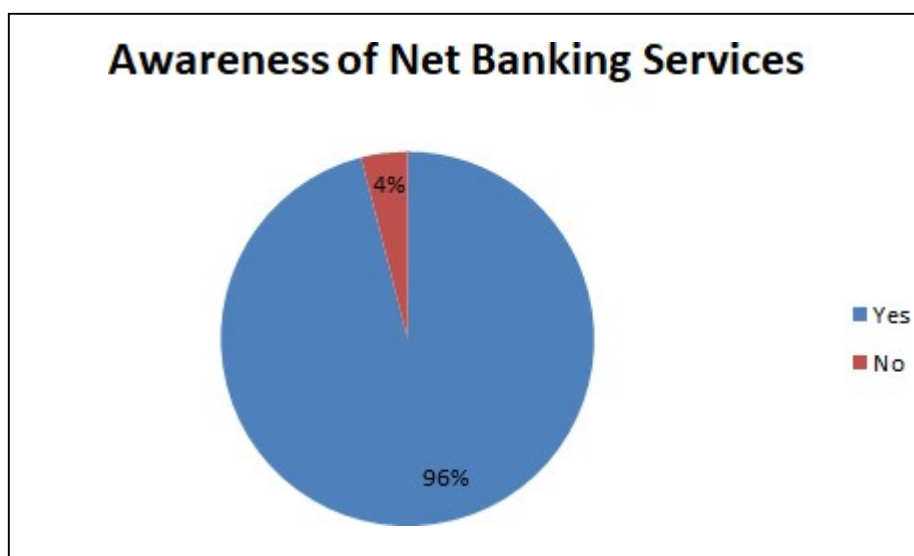
According to above data, it can be observed that the 52% prefer to access bank through net banking followed by 12% phone banking. And only 4.5% people use Branch network for daily usage of bank services.

**It can be concluded that mostly people prefer net banking.**



**Statement 2-** How much are you Aware about the net banking services?

Awareness	Number of respondents	Percentage of respondents
Yes	96	96%
No	4	4%
Total	100	100%



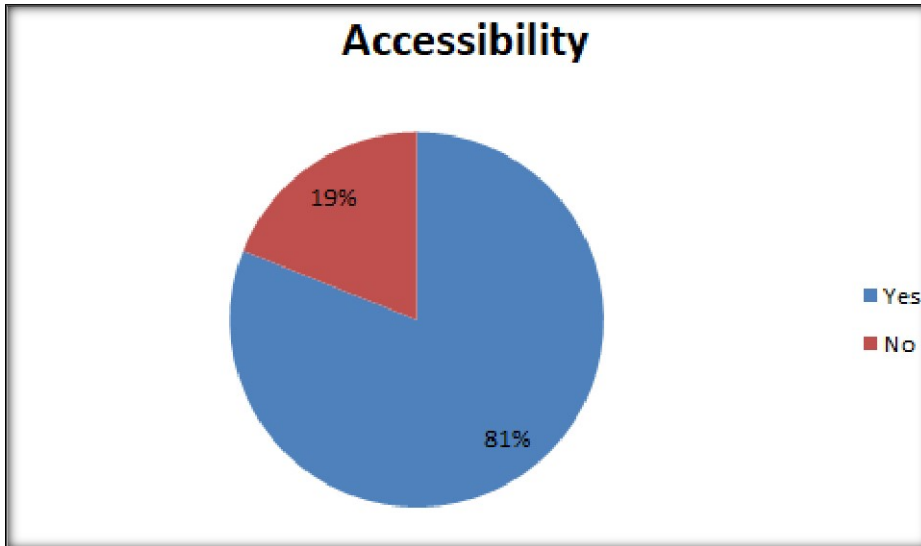
**Analysis and interpretation:**

According to above data, it can be observed that the 96% are aware of the net banking services whereas only 4% of people are there who are not very aware.

**Conclusion-** Majority of people are aware of net banking services.

**Statement 3:** Is the Net Banking Facility provided by bank accessible?

Accessibility	Number of respondents	Percentage of respondent
Yes	81	81%
No	19	19%
Total	100	100%



Analysis and interpretation:

According to above data, it can be observed that the 81% of the people in the sample had accessed net banking services.

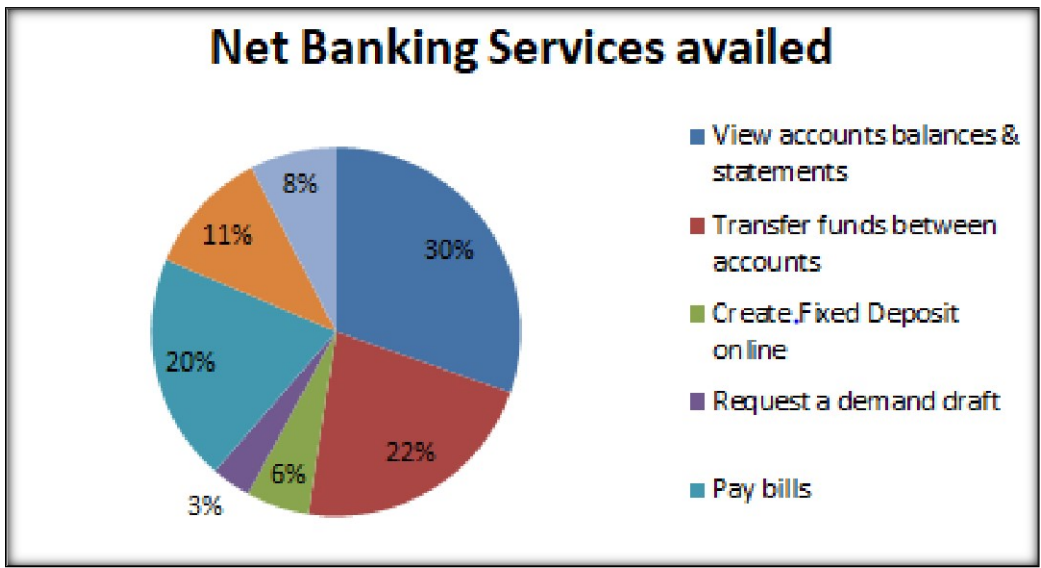
**Conclusion-** So, We can conclude from the above data that most of the respondents have accessed Net banking services

**Statement 4:** Among various net banking services, which services are availed

Services availed via net banking

Services	Number of respondents	Percentage of respondents
View accounts balances & statements	44	30.39%
Transfer funds between accounts	32	22.07%
Create Fixed Deposit online	8	5.51%
Request a demand draft	5	3.44%
Pay bills	29	20.00%
Order a cheque book	16	11.03%
Request stop payment on a cheque	11	7.56%
<b>Total</b>	<b>145*</b>	<b>100%</b>

**\*Total is more than the sample because of multiple options.**



Analysis and interpretation:

According to above data, it can be observed that the 30% of the people in the sample had accessed net banking services to view accounts and bank statements. 22% and 20% of the people used it for transferring the funds between accounts and for paying the bills.

**Conclusion-** Majority of respondents used net banking for Viewing bank statements and check balances

**Statement 5: Ranking of reasons why net banking be availed. (1-most important, 7- least important)**

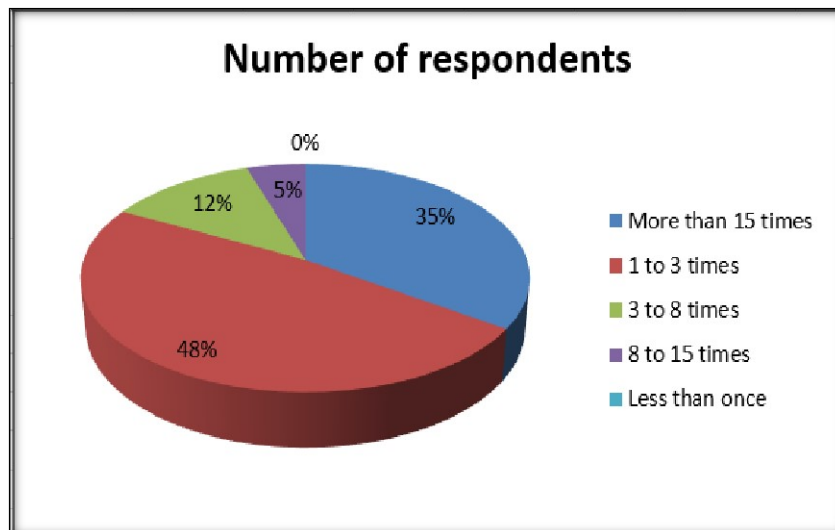
**Reasons for which Net Banking service should be availed**

Reasons	Mean Rank	Ranks
Convenience	3.12	1
Curiosity	5.07	7
Low cost	4.41	5
Quick service	3.33	2
Maintenance	3.46	3
Safety	4.48	6
User friendly	4.13	4

According to above data, it can be observed that most of the respondents ranked convenient as the most important reason to use net banking followed by Quick service.

**Statement 6:** How many times the Net Banking service is used in a month

Frequency	Number of respondents	Percentage of respondents
More than 15 times	28	34.56%
1 to 3 times	39	48.14%
3 to 8 times	10	12.34%
8 to 15 times	4	4.96%
Less than once	0	0%
Total	81	100%

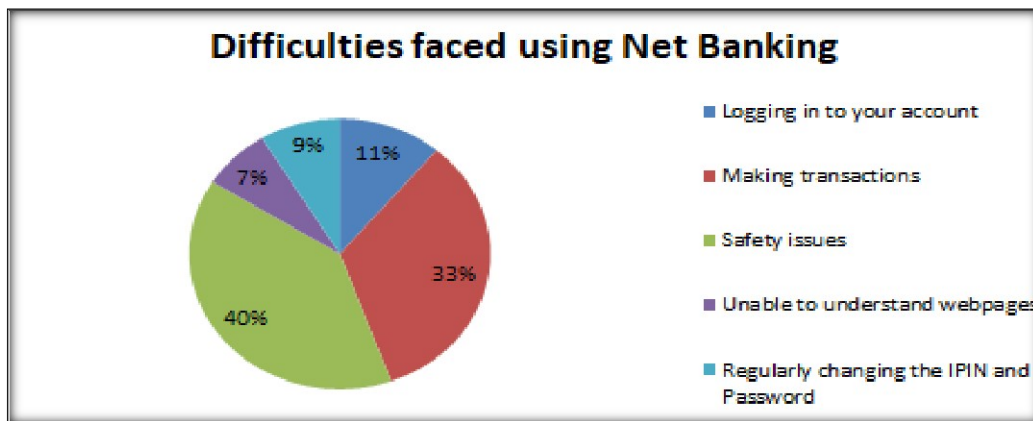


**Analysis and interpretation:**

According to above data, it can be observed that the most of the respondents i.e. 48 % used the Net Banking service more than 1-3 times a month while 35 % used the same service more than 15 times a month.

**Statement 7 :** What are the Difficulties in using the Net Banking services

Difficulties	Number of respondents	Percentage of respondents
Logging in to your account	9	11.11%
Making transactions	27	33.33%
Safety issues	32	39.50%
Unable to understand webpages	6	7.40%
Regularly changing the IPIN and Password	7	8.64%
<b>Total</b>	<b>81</b>	<b>100.00%</b>

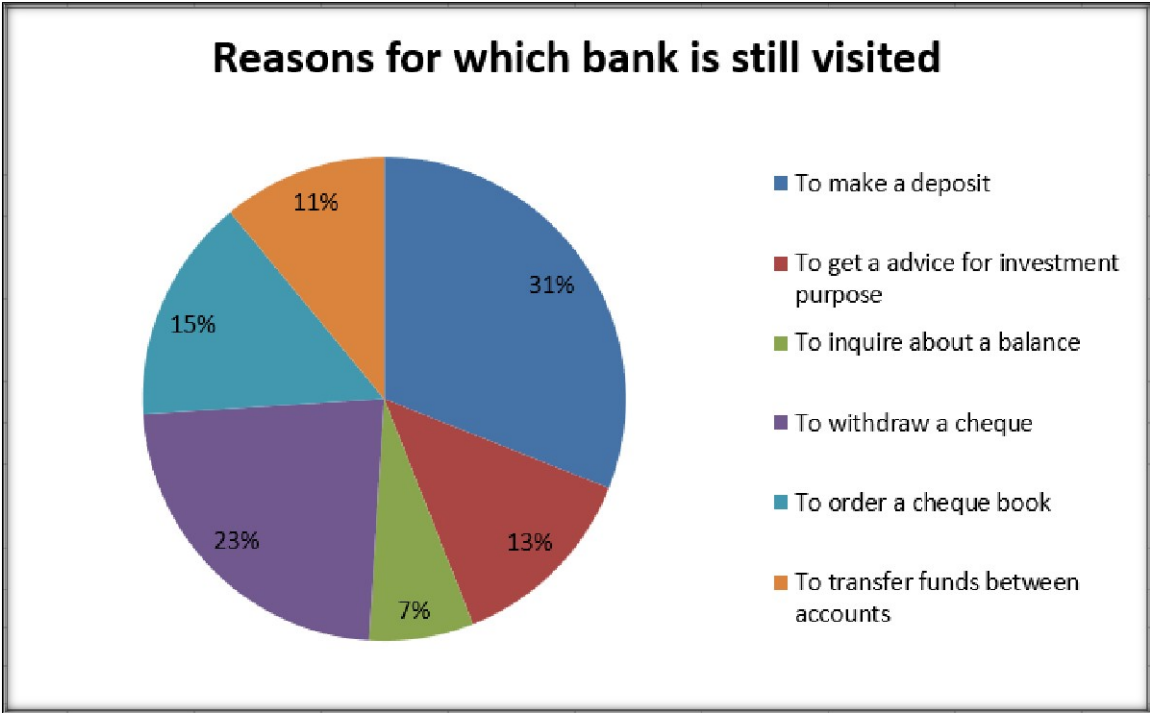


Analysis and interpretation:

According to the above data, It can be seen that the most of the respondents i.e. 40% feel safety is one of the major issue in Net Banking service.

**Statement 8** -Main reason to visit bank or use branch service instead of Online banking

Reasons	Number of respondents	Percentage of respondents
To make a deposit	31	31%
To get a advice for investment purpose	13	13%
To inquire about a balance	7	7%
To withdraw a cheque	23	23%
To order a cheque book	15	15%
To transfer funds between accounts	11	11%
<b>Total</b>	<b>100</b>	<b>100%</b>

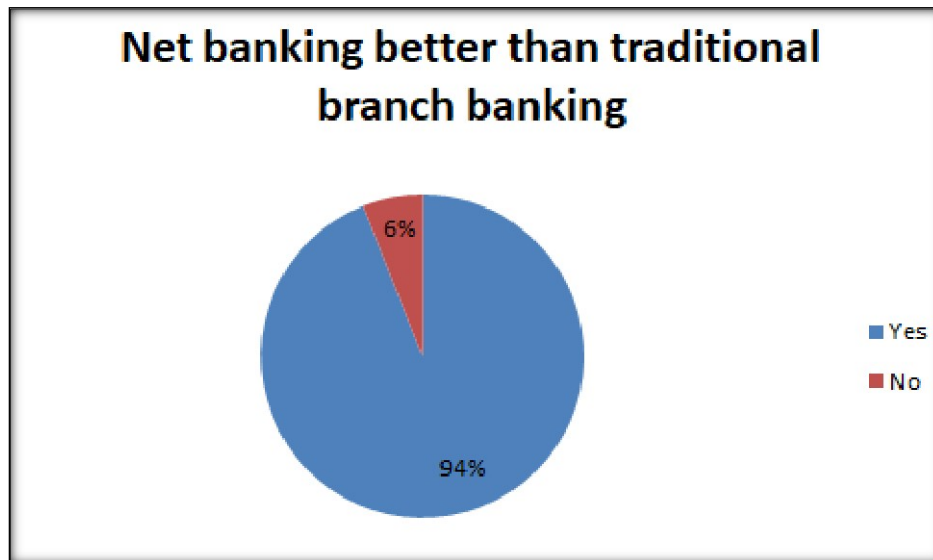


**Analysis and interpretation:**

According to the above data, It can be seen that the most of the respondents i.e. 31% feel that “making a deposit” is the main reason to visit a bank or use branch service instead of Online banking followed by “withdrawing a cheque” as second purpose.

**Statement 9:** Agreement regarding Net Banking service being better than traditional banking

Agreement	Number of respondents	Percentage of respondents
Yes	94	94%
No	6	6%
Total	100	100%



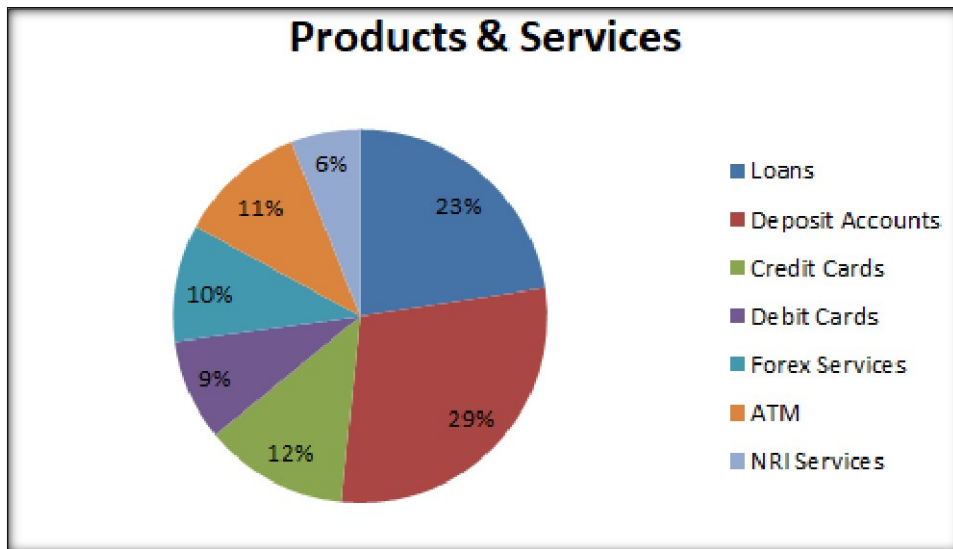
**Analysis and interpretation:**

According to the above data, It can be seen that the most of the respondents **i.e.** 94% people agree that banking is better than the traditional banking while 6% of the respondents do not agree.

**Statement 10:** Products and services mostly availed by the customers

Products and services	Number of respondents	Percentage of respondents
Loans	49	22.58%
Deposit Accounts	63	29.03%
Credit Cards	27	12.44%
Debit Cards	19	8.75%
Forex Services	22	10.13%
ATM	24	11.05%
NRI Services	13	6.00%
Total	217*	100%

**Products and services mostly availed**



#### Analysis and interpretation-

According to the above data, It can be seen that the most of the respondents i.e 29% availed deposit services followed by loans services i.e. 23%

#### Statement 11 : Raters agreement

#### Reliability Statistics

##### Cronbach's Alpha

Cronbach's Alpha	N of items
0.716	10

##### KMO and Bartlett's Test

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		.725
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	248.386
	Df	45
	Sig.	.000



### Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3.116	31.157	31.157
2	1.723	17.226	48.382
3	1.080	10.798	59.181
4	.992	9.922	69.103
5	.783	7.827	76.930
6	.686	6.859	83.788
7	.525	5.254	89.043
8	.465	4.648	93.691
9	.369	3.690	97.381
10	.262	2.619	100.000

### Component Matrix

	COMPONENT		
	1	2	3
Convenience	.822	-.294	.050
Safety	.748	-.369	-.069
Functionality	.685		-.375
Necessity	.781	-.193	-.207
Language	.461	.383	-.163
Physical	.396	.499	.467
Access	.556	-.061	.649
Trans_costs	.190	.345	.219
Service	.207	.677	-.419
Safety_feature	.210	.695	

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

**Rotated Component Matrix**

	<b>COMPONENT</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
Convenience	.836	-.079	.242
Safety	.826	-.100	.086
Functionality	.712	.317	-.065
Necessity	.820	.123	.050
Language	.302	.509	.188
Physical	.054	.280	.737
Access	.371	-.241	.734
Trans_costs		.226	.390
Service		.823	
Safety_feature	-.085	.622	.366
<b>Extraction Method: Principal Component Analysis.</b>			
<b>Rotation Method: Varimax with Kaiser Normalization.</b>			

### Factor Analysis

Variables	Statements	Factor Loadings
Convenience	Net Banking is easy and convenient to use.	.836
Safety	Transactions conducted through Net Banking are safe and secure.	.826
Functionality	The web pages function properly.	.712
Necessity	Net Banking service is a necessity.	.820
Language	The website pages are available in the languages you understand.	.509
Physical	Net Banking facility reduces the frequency of customer's visit to a physical bank.	.737
Access	Access to accounts 24x7 is important to you.	.734
Trans_costs	The transaction costs are lesser in case of Net Banking service.	.390
Service	Net Banking service provided by HDFC Bank is better than the online services provided by others banks.	.823
Safety_feature	HDFC Bank is taking adequate steps to check the security of its customers.	.622

### Service Quality

Factor Label	Statements	Factor Loadings
Service Quality	Net Banking is easy and convenient to use.	.836
	Transactions conducted through Net Banking are safe and secure.	.826
	The web pages function properly.	.712
	Net Banking service is a necessity.	.820

### Adequate Mechanism

Factor Label	Statements	Factor Loadings
Adequate Mechanism	The website pages are available in the languages you understand.	.509
	Net Banking service provided by HDFC Bank is better than the online services provided by others banks.	.823
	HDFC Bank is taking adequate steps to check the security of its customers.	.622

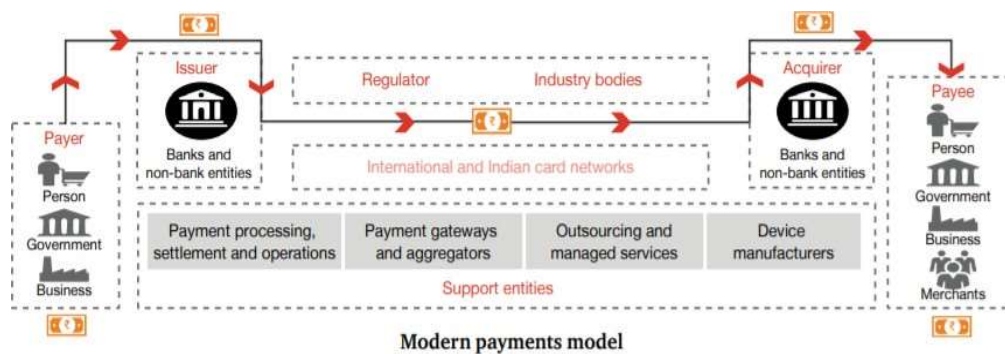
### Accessibility

<b>Factor Label</b>	<b>Statements</b>	<b>Factor Loadings</b>
Accessibility	Net Banking facility reduces the frequency of customer's visit to a physical bank.	.737
	Access to accounts 24x7 is important to you.	.734
	The transaction costs are lesser in case of Net Banking service.	.390

# CONCLUSION

## Summary

As per our study, we can conclude that the net banking/ cashless payments has picked up quite a pace in the recent years. Demonetization acted as a major catalyst in driving the country towards a cashless economy. Banks are facing some serious competition from tech giants like Google, Amazon, WhatsApp. Both the entities are interdependent on each other. Furthermore, firms like PayUMoney, PhonePe, Paytm are affecting the profitability of the business of banks.



With the introduction of new payments methods and technology behind that the internet services can become more prone to cyber-attacks and data hacking. For this data protection is needed to protect the integrity and wholesomeness of the data.

## Analysis

### **Analysis and interpretation:**

- Factor analysis method is used to analyze net banking service on the basis of the responses collected of 100 people.
- Principle Component Analysis - Principle Component Analysis (PCA) is used to understand the inter-relation between the frequencies of variables which pertain to net banking.
- Correlation matrix- The correlation matrix of the ten variables based on net banking comes from PCA. It helps in providing components to explain variances in descending order. It extracted the same no of components as the number of variables.

We will use both the Kaiser's criterion of (Eigen value>1) and Bartlett's test to determine which all components are to be retained. According to the Barlet test of significance, we accept ten significant components given above.

Varimax rotation method is used for maximization of sum of square loading of each and every factor. It explains more variance than any other factor. The factor loaded have statistically significant loading with magnitude of 0.40.

The measuring scale is tested using Cronbach  $\alpha$ , test for reliability. Based on the test Cronbach was found to be 0.5, which states that is a valid construct.

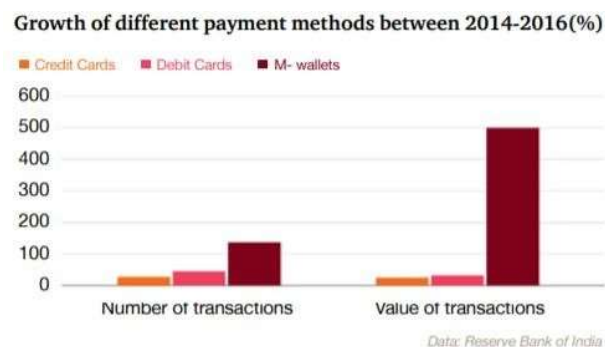
After examining correlation between the various factors used it was observed that the correlations were significant between some factors. That is why we used the factor analysis to find any **underlying factors and for reducing the redundancy of some barriers present in matrix** PCA was used for extracting the maximum variance using least no. of factors

**The above table (values of Eigen >1) led in extracting these 4 factors -**

**The factor 1-** Key variables are ('Convenience', 'Safety', 'functionality' and necessity) and the factor is labeled as "**Service Quality**"

**The factor 2-** Key variables are (language, service and safety) and the factor is labeled as "**Adequate Mechanism**"

**The factor 3-** Key variables are (physical, access and trans cost) and the factor is labeled as "**Accessibility**"



### **Key findings of the study**

The findings of the study are-

- Most of the respondents feel that the net banking service is preferred over traditional bank branch services

- Most of the respondents accessed the banking services with the help of net banking.
- Most of the respondents were quite aware of the online banking.
- Most of the respondents preferred to avail the online banking service.
- Most of the respondents used the online banking for the purpose to view their accounts and balances.
- Most of the respondents regarded convenience as the most important reason for which Net Banking service should be availed.
- Most of the respondents availed the Net Banking service more than 15 times a month.
- Most of the respondents faced the safety issues as the major limitation of online banking.
- Most of the respondents said that the primary reason of visiting the bank is for making a deposit.
- Most of the respondents agreed the fact that net banking is very convenient and safe to use.

### **Recommendations**

- The banks nowadays are exposed to many crucial challenges, the very existence of banks also depend on how the banks tackle these challenges.
- Better mapping of activities and data-warehousing should be employed.
- Point of sale systems, distribution networks, data personalization and protection has to be taken care of and optimal models must be developed to handle it.
- It is vital for the banks to ensure the pace at which there are becoming more tech driven. Hence, balance between human resources and automation must be maintained.
- Performance measurement methods should also be adopted at various check points.
- Furthermore, change management should also be taught to the employees so they can be well equipped and prepared in these changing times. This will also allow flow of knowledge sharing and new ideas.
- In order to ensure a smooth and transparent shift from conventional modes of payment and traditional way of banking, the banks have to place huge emphasis on value creation and incorporating a much more holistic approach.
- The banks also should keep an eye on the upcoming technology pertaining to cloud based services, artificial intelligence, block chain technology.
- The very foundation of the banking structure needs to be regulated in accordance to these new market changes.
- Internet connectivity is still a major issue in many parts of the country, for this the government can tie up with private institutions so internet becomes accessible to the most remote part of the country. Karang island in Manipur has emerged as the first cashless island in the country.



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