

Navigating the Digital Transformation in the Banking Sector

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Abstract

The COVID-19 outbreak has transformed the banking industry. Apart from adapting to the changing needs including social distancing, and remote working, banks are now envisioning the operational changes that will be needed to drive the banks to achieve goals and target post-COVID-19. Due to the pandemic digital transformation is shaping the entire financial industry including banks. In the years to come banks will need to become purpose-driven and create digital ecosystems in order to fulfil the requirement of the customers. The advent of artificial intelligence, robotic process automation, and cloud computing is paving a new path by Leveraging financial ecosystems and driving mass personalization. The paper focuses on the progression of digitalization within the banking industry and examines the obstacles encountered during its implementation. The researcher utilized secondary data, encompassing a literature review, published sources, materials from websites, articles sourced from journals and books, newspapers, blogs, as well as podcasts. Results reveal that banks are transforming and adapting to digitalization. Despite the challenges, the banks are successfully paving their way in adopting digitalisation, implementing Artificial Intelligence, Robotic, machine learning and new-age technology to achieve success.

Keywords - Digitalization, Artificial Intelligence and Robotic, Banking and financial Institutions

INTRODUCTION

OBJECTIVES

- Examining the implementation of digitalization that shapes the banking industry.
- Assessing the influence of digital transformation on employment within the banking sector.
- Analyzing the present state of Digital Banking in India.

RESEARCH METHODOLOGY

This descriptive research is done using secondary data .Reponses from the various sources are taken into account while studying the topic. Sources includes data from Ministry of Finance, RBI reports, books, journal, website, podcast.

LITERATURE REVIEW

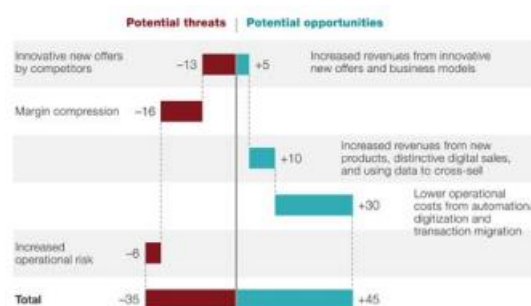
Digitalisation is an important tool to enhance banking operation, customer satisfaction and building customer loyalty. Digitalization have paved the way in which banks operate. With the implementation of new age technology comprising of algorithms has made easy with regard to handing voluminous data, managing huge amount of cash transactions, reducing human error, facilitating hassle free cashless transactions and strengthening brand loyalty. Digital banking has outspread as a tool for combining efficiency and operational cost to achieve higher productivity and profitability. ICICI introduced internet banking in 1996. Thereafter all other banks followed. Initially due to limited reach, high cost of the internet, banks were hesitant to adopt digitalisation. With the evolution of digitalization, affordable internet expenses, the revolution in the banking sector started. The achievement of digital banking has led to establishment of “Digi bank” in the year 2016 (Digital Business, 2023). Development of technology, establishment of ATM, Debit Card, Credit Card, POS have helped to augment customer behaviour. Digitalisation has led to profitability and efficiency in the banking. The implementation of

demonetization and digitalization is an important tool to promote cashless India (Malhotra and Singh, 2009). An additional study focuses on and evaluates the influence of a cashless economy on bank performance. A SWOT Analysis was undertaken to scrutinize this impact. The integration of demonetization has driven the shift in banking methodology, transitioning from a traditional to a more convenient approach, resulting in both positive and negative effects on the sector (Arora and Kaushik, 2018). This changed the banking approach from conventional to convenience approach have led to mixed effect i.e. positive and negative sector (Arora and Kaushik (2018). The changing dynamics of business, changing needs and habits of the consumer have forced the banking sector to adapt the digitalisation process to succeed and compete in the digital environment. Digital banking will pave the way to success by prioritisation the needs of customers and creating and customisation of products .With the development of internet banking, mobile banking, Artificial intelligent virtual assistant ,Chat Bots , data encryption software, ,Digital Wallets, online banking applications, virtual assistants, Credit Scoring / Direct Lending ,KYC system software, website optimization, Cybersecurity ,Virtual Cards, , RPA , Robot Advice, Predictive Analytics, are the part of digitalisation which is shaping the new world (Carmen Cuesta, David Alfredo Tuesta,2015).The Increasing demand on banking IT is compelling the banks to look for digitalisation and innovation though it is very difficult for the banks to keep a pace with the technological advancement. The Legacy IT infrastructures limits on digitalisation in banks, which slows down. Thus, banking industry needs innovation with fast pace adaptation and cooperative processes (Florian Diener and Miroslav Špacek, 2021)

INTRODUCTION

Digitalization is the usage of technologies and adaptation of a system, process in order to change the business model. Adoption of digitalisation have evolved and this new trend is affecting most of the sectors. The digital infrastructure has led to innovative technology comprising of Cloud computing, Artificial Intelligence, Analytics and big data and social media. Digital disruption has become an integral part of the various business model (Iansiti and Levien, 2004). Digitalization is paving the way to the third industrial revolution, which will comprise of augmented usage of digital devices and digital platforms and thus changing the landscape of customer relationship and transforming the way customer's demand gets catered to their needs. Digitalisation model proves beneficial as these are characterised by Ease of customer acquisition, Simplicity and Transparency. Most of the banks have decided to grow and thus have introduced new products wherein they are collaborating end-to-end online cash management, digital banking, and electronic trading, and so on. (Omarini, Anna,2017)

Digitalisation transformation in the banks can be witnessed by the changes which have taken shape in the form of online banking operations, KYC system software's, website optimization, virtual assistance, data encryption software etc. The benefits of digitalization in banks can be seen with improved customer base, boosting efficiency, user pleasant experience, data driven decisions, cost efficiency, data protection, Artificial Intelligence (AI) Support, Quicker and easy Transactions and so on. Digitalisation is providing benefits to the banks as well as customers. In today's fast moving era, it becomes vital for the institutions and customers to be benefitted at large and to maintain a balance between both of them. Banks have evolved and have changed their traditional model/approach to latest technological model/approach which have shaped the digital revolution in banking sector in India. In other words, Digital banking is referred as "Virtual Banking" or "Cyber Banking". Digital banking can be categorised into three levels. level 1: It includes official bank websites providing information to the customers /Public. Level 2: It includes when the banks receives the queries from the public and try to resolve it with the help of chatbots, customer help desk or call centre etc. Level 3: It includes when the customers are given access to operate the banking accounts and other details through the bank's website. (Sonia Dara,2017)

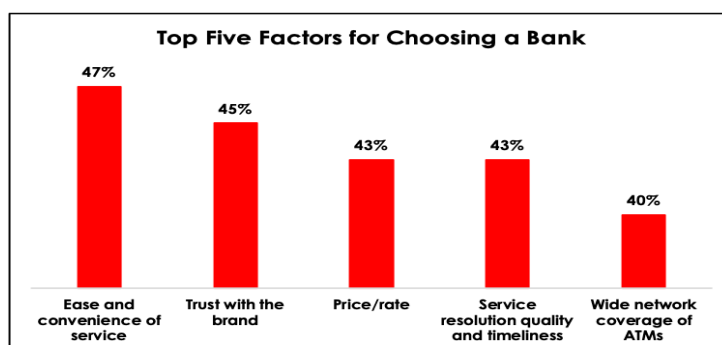


Source: McKinsey analysis
Broeders H, and Khanna S (2015), p.2.

BENEFITS OF DIGITALIZATION

Enhanced services:

The banking industry relies heavily on its customers as the foundation. Therefore, it is paramount for banks to meet and address the diverse needs of their clients effectively. Digitalization plays a crucial role in improving the quality of services provided by banks to their customers. Customers take into account various factors when choosing a bank. There are number of factors that are taken into consideration for choosing a bank by the customers. These Includes ease and convenience of the service, trust/brand, wide reach in terms of bank branches /ATMs, Service resolution quality and timeliness (Yulia Gnatyuk ,2020). With the advent of electronic signatures, smartphone-based banking applications, quicker transactions have helped the banks as well as customers to achieve the desired goals. Digitalization have therefore enhanced efficiency in the banking process.



Source: 7 Benefits of Digitalization to a Bank's Existing Client Base, Yulia Gnatyuk, May 23, 2020

Time saving and Quicker Transactions:

Gone are the days in traditional banking where the customers had to struggle with dozens of paper work for loan application and availing other services. With The digitalization, the efficiency has increased to several folds and have thus helped the banks and the customers to save their respective timing in carrying out the transactions. Within a fraction of time, payment of bills can be done; One can transfer conveniently their funds customer's funds from one account to other, Can check their account balances. These are made easy with the usage of mobile and internet banking services provided by the banks. As per the report published by American Bankers Association ,2019 –77% Customers have found that tech improvement have helped them to access their financial services with ease (Yulia Gnatyuk ,2020).

Enhanced Bank- Customer Relationship:

In the competitive world, Bank – customer relationship building is important. It is important to retain the old customers, enhance their experience and create a new customer base. Therefore, it helps to build a strong relationship. Digitalization have helped the bank to expand the client base. Tools such as mobile banking, social media platforms, SEO, Chat Bots has helped the client/customers to enhance their experience

Cost Efficiency:

Digitalization have helped the banks to operate efficiently thereby reducing the cost component. By reducing the various intermediary fees, digitalization in banks have helped to achieve quick cashless transactions. Banks need to adopt the measures to ensure that cost efficiency is achieved in funding. This is done by analysing the market volatility, improving market perception, working on higher capital quality .Thus, Digital transformation helps in long-term cost efficiency.

Data Driven Decision:

As per the report published by Mckinsey, the small and mid-sized banks can adopt automation which can reduce earning upto 40% within five years. Most of the processes in banks are handled by workflow tools thereby customers receive self-servicing capabilities which can reduce costs by 40 to 90%. Therefore, customer experience is enhanced and working becomes smoother and quicker. Millennium Bank, 2018 focused on modernizing the bank is lending process. With the implementation of software, the manual documentation is eliminated focussing on automated the credit process.

CURRENT SCENARIO OF DIGITAL BANKING IN INDIA

Digitalization has become an integral component of the banking sector, evolving with the innovation and adoption of advancing technologies, increased internet penetration, and a growing number of smartphones/internet banking users. The digital market is projected to witness a growth of over 22% from 2019 to 2024. ICICI Bank pioneered internet banking in India, followed by HDFC and CitiBank. In 2000, the Government of India granted legal recognition to electronic transactions and other forms of e-commerce. The RBI consistently ensures the continuous monitoring and review of legal and regulatory requirements for e-banking. As per a 2016 RBI report, there were 196,079 ATMs and 1,337,310 point-of-sale devices in India. Various e-banking products are offered to customers, including services like Mobile Banking, Phone Banking, Telebanking, Doorstep Banking, Electronic Fund Transfer, Internet Banking, Electronic Clearing Cards, and Smart Cards.

- RBI, Annual Report 2021-2022 stated that there has been a robust growth in the banking sector than the previous year.
- There has been rapid increase in Automated Teller Machines (ATMs). ATMs in 2021-22 compared 2.48 lakh to the previous year with 2.39 lakh.
- The younger and middle-aged population preferred UPI and mobile wallets while respondents over the age of 60 preferred cards
- In the first quarter of 2021, AePS transactions, which include BHIM Aadhaar Pay, witnessed a significant volume, surpassing 449.45 million transactions. This marked an impressive growth of approximately 120% compared to the same period in the previous year (Q1, 2020)
- It is observed that Consumers made billions and millions of transactions by mobile based and internet based transactions. 8.32 billion mobile-based payments were registered whereas Net Banking / Internet browser-based transactions were over 937.60 million.

ANNUAL REPORT 2021-22

Table IX.1: Payment System Indicators - Annual Turnover (April-March)

Item	Volume (lakh)			Value (₹ lakh crore)		
	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
A. Settlement Systems						
CCIL Operated Systems	36	28	33	1,341.50	1,619.43	2,068.73
B. Payment Systems						
1. Large Value Credit Transfers – RTGS	1,507	1,592	2,078	1,311.56	1,056.00	1,286.58
Retail Segment						
2. Credit Transfers	2,06,297	3,17,868	5,77,632	285.57	335.04	427.23
2.1 AePS (Fund Transfers)	10	11	10	0.005	0.01	0.01
2.2 APBS	16,747	14,373	12,298	0.99	1.11	1.33
2.3 ECS Cr	18	0	0	0.05	0	0
2.4 IMPS	25,792	32,783	46,625	23.38	29.41	41.71
2.5 NACH Cr	11,100	16,465	18,730	10.37	12.17	12.77
2.6 NEFT	27,445	30,928	40,407	229.46	251.31	287.25
2.7 UPI	1,25,186	2,23,307	4,59,561	21.32	41.04	84.16
3. Debit Transfers and Direct Debits	6,027	10,457	12,222	6.06	8.66	10.38
3.1 BHIM Aadhaar Pay	91	161	228	0.01	0.03	0.06
3.2 ECS Dr	1	0	0	0	0	0
3.3 NACH Dr	5,842	9,646	10,788	6.04	8.62	10.31
3.4 NETC (Linked to Bank Account)	93	650	1,207	0.002	0.01	0.02
4. Card Payments	72,384	57,787	61,786	14.35	12.92	17.02
4.1 Credit Cards	21,773	17,641	22,399	7.31	6.30	9.72
4.2 Debit Cards	50,611	40,146	39,387	7.04	6.61	7.30
5. Prepaid Payment Instruments	53,811	49,743	65,812	2.16	1.98	2.94
6. Paper-based Instruments	10,414	6,704	6,999	78.25	56.27	66.50
Total - Retail Payments (2+3+4+5+6)	3,48,933	4,42,557	7,24,451	386.38	414.86	524.07
Total Payments (1+2+3+4+5+6)	3,50,440	4,44,149	7,26,530	1,697.94	1,470.86	1,810.65
Total Digital Payments (1+2+3+4+5)	3,40,026	4,37,445	7,19,531	1,619.69	1,414.59	1,744.14

APBS: Aadhaar Payment Bridge System. ECS: Electronic Clearing Service.

Note: 1. RTGS system includes customer and inter-bank transactions only.

2. Settlements of government securities and forex transactions are through the Clearing Corporation of India Ltd. (CCIL). Government

Securities include outright trades and both legs of repo transactions and triparty repo transactions.

3. The figures for cards are for payment transactions at point of sale (POS) terminals and online.

4. Figures in the columns might not add up to the total due to rounding off of numbers.

Source: RBI.

CHALLENGES IN E-BANKING

Security Risk:

Security have always been a threat to digitalization. As per the IAMA Report (2006) – a large number of customer base do not feel safe transacting online. Hence, it is challenging for the banks to convenience the customers wrt online banking. Various threats comprising of Ransomware, cloud-based cyber-attack, ongoing risk from remote work, social engineering. Thus, clients easily fall prey to fraudulent transactions.

Lack of personal Relationship:

With the advent of internet and online bank, usages of online banking have reached almost 73%. With digitalisation, personal relationship between banker and customer is overlooked. Face to face relationship helps the customers to build a strong relationship between the banker and the employee as they can compare their options and find solutions tailored to their needs. The best scenario would be the blend both i.e. the face to face transactions and the usage of online banking. Banks can streamline the blend of digital with personal in face relationship in order to enhance bank's efficiency.

Limited Services:

With the advancement in technology, banking transactions are done in no time, yet there are couple of services that can be availed only by visiting the bank branches. For instance, if anyone need cash then they have to visit the bank branch or have to approach to the nearby ATM. You may be able to initiate application for loan, mortgage, opening of new account, still in many cases bank prefers their customers to be physically present for verification.

Cyber Security Attack:

The most common types of threats that are faced in recent times include Distributed Denial of Service (DDoS), Phishing, Ransomware, Vulnerability Exploitation, Cryptominers, Infostealers, Botnets. As per one of the reports published by IBM 2021, financial industry's data breaches stand second after the healthcare sector. Thus, this makes financial industry a target for expensive and damaging data breaches

SUGGESTIONS

- Due to continuous technological advancement in all the field it is extremely important to adopt to new enhanced technology in the banking sector too since it will help to transform the customer experience and can be beneficial to the banks as well since they can increase their customer base to multiple folds ,can save operating time and also can utilise the employees in other value added activities such as building and enhancing relationship with their clients and their loyalty .This in turn will lead to bank's profit
- Banking transformation in lieu of digitalisation is a complex process and cannot be implemented in a day. There are various reasons comprising of lack of consistency, training, and lesser internal agility, which hold back the implementation of these technologies. However, with consistent efforts, cyber awareness training, enhancing Compatibility and Accessibility, adopting the new approach/automation one can achieve the desired goals.
- Digitalization fosters progress. Nevertheless, it's crucial to acknowledge that the utilization of digital technology, along with digital devices and services, constitutes a significant energy consumption, contradicting the principles of green development. A 2021 report from Galaxy Digital highlighted that the banking sector alone consumes a substantial 263.72 terawatt-hours of power annually. Therefore, it is imperative for banks to not only prioritize technology but also consider and address the environmental impact associated with their operations.

- Digital Technology is ambiguous at times. In 2021 there was all time high distributed denial of services (DDoS) attacks. Hence, it is important that banks should focus on protecting and safeguarding their traditional financial risk with the growing the threats of algorithm vulnerabilities, model risks and data security. The current Indian banking system should try to learn from leading international banks who have pioneered the digitalisation operations and should strictly comply with the regulatory framework and policies.
- To speed up the digital adaptation and transformation, banking sector should promote safety measures and incentivise their clients over their personal data rights and should work for safeguarding the interest of disadvantaged groups. Banks should take initiatives educating their employee about enhancing innovative communication tools, cybersecurity awareness and resolving issues among employees.
- With the changing dynamics, it is advised that banking sectors should focus on reskilling and providing necessary training to their existing employees so that the workforce is not impacted by the adverse effect of automation thus, securing their jobs.
- RBI should formulate policy to encourage usage of digital banking thereby reducing usage of cash. Government should provide motivations in the form of incentives to stimulate cashless transactions.
- Banks with the government should work today to deliver broadband services in the rural sector so that the economy can grow holistically.
- Since banks are the vital point of contact with the customer, they should conduct awareness programs and workshop among their customers in order to promote digital transactions.

DIGITAL TRANSFORMATION ON EMPLOYMENT IN BANKING SECTOR

Digitalisation has an everlasting impact on employability and customer satisfaction. As per Capgemini report, digitalization in banks employed at all the levels such as front, middle and back office. It is observed that digitalization plays a vital role in front office than the other too.

Banks focus on enhancing customer oriented digital channels rather than focussing on enhancing the overall customer experience. In spite of implementing various advanced technologies; still most of the banks are cumbersome manual processes, which invites the changes of repeated errors.

The growth of digitalization has led to job advancement with new career opportunities. This has helped banks to increase efficiency, reducing operational cost and adhering the time. With the advent of digitalization, there is a change in the job roles. Banks now have investment fund managers, redressal specialist, and chief digital officer. All these new roles have changed from their previous ones such as loan associate has been replaced by investment fund manager, redressal specialist etc.

As per PwC report (2017), with the advancement in technology, about 32% of the jobs in banks can get outdated in the coming times. Digitalization have reduced the traditional activities such as audit, compliance, processing and transactions. The new job opportunity including credit analyst, block chain architect, cyber security specialist and process modeller expert. The digitalisation is demanding changes in the core skill. It is not wise to conclude that human workforce is outdated as in spite of technological advancement, employees are needed to work with robot or digitalization in order to achieve desired goal with efficiency thus reducing the human errors.

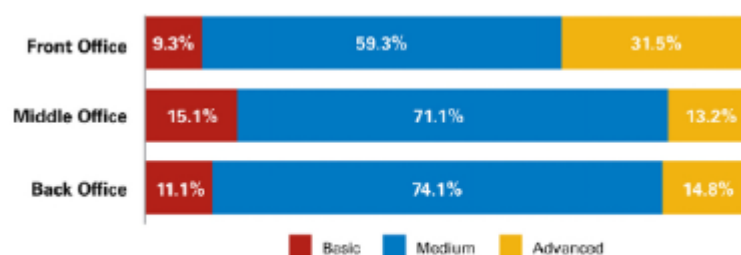
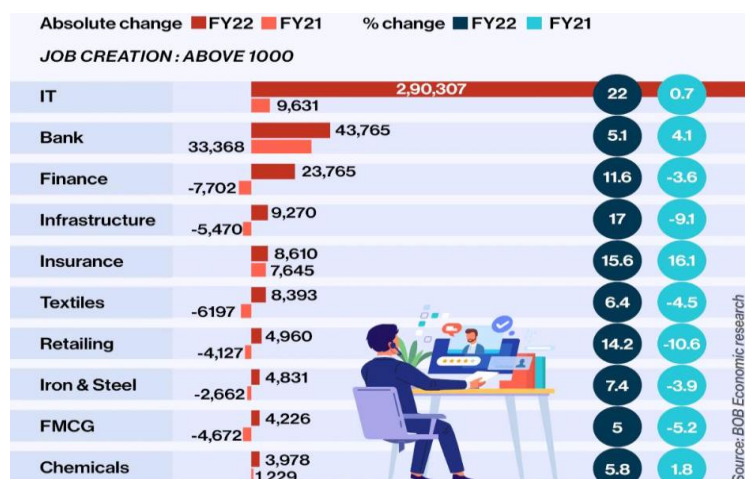


Fig. 1 Current condition of Digitization



Source: BusinessToday.In

CONCLUSION

The imperative of our time is the embrace of digitalization, spanning across all sectors of the economy, particularly in the financial domain. This shift has significantly reshaped the financial landscape, facilitating seamless and convenient banking transactions while expanding the customer base and elevating overall customer satisfaction. However, amid the numerous advantages, the cybersecurity landscape is undergoing rapid transformation. The evolving dynamics, shifting customer demands, stringent regulations, FinTech advancements, heightened competition, escalating costs, narrowing profit margins, and persistent concerns related to security and technology pose challenges that the industry must address.

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