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AN EMPIRICAL STUDY ON TECHNOLOGY AND BANKING SERVICES IN INDIA

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Abstract

The banking services in near future (2030) will look very different from what it look like today. Some will be evolutionary and some will be radically different from the conventional practices such as creating cashless economy etc., While predictions are always fraught with uncertainty, we are confident that the landscape will be far more competitive, efficient and innovative in delivering "independent experience" to the customers, which are not feasible today. This will be possible only because of the banking industry being supported by the technological innovations.

The overall objective of the study is to identify the technological factors influencing the growth of banking services on customer satisfaction. This research also identifies the factors affecting technology development in terms of convenience, compliance, affordability and competence in the usage of digital banking services. Descriptive study is applied with a sample size of 150. Data was collected using online questionnaire method, disseminated through Google forms. Analysis was done through SPSS software. The study recommends that banks need to invest more on robust reliable systems to reduce incidents of failed transactions and hazel free ATM transactions. The banking sectors should consider introducing Smartphone applications for Mobile banking and Point Of Sale terminals; to improvise digital banking facilities. Also the banking sector should carry out customer satisfaction surveys to lean customers behavior on adapting to technology. The paper discusses the relevant few review of literature, research methodology of this study, research analysis, research finding and conclusion of this study.

1. INTRODUCTION

The banking sector in India has witnessed a steady transformation since the 1990s with liberalization of the banking industry and introduction of new technologies MICR (Magnetic Ink Character Recognition) and ATM (Automated Teller Machines)., etc,. Thereafter in the 2010 several payment products and service

providers (Paytm, wallets, recharge vouchers, cash value cards) were in introduced with the latest technologies (Cloud computing, Grid computing, Mobile computing, Machine learning and Artificial Intelligence) supporting these services were adapted in India. Our country is experiencing a growth trajectory in digital payments that is more creative than many cash-less economies. The digital payment market in India was valued INR 1,638.49 trillion in FY 2019 and expected to reach INR 4,323.63 trillion by FY 2024, expanding at a compound annual growth rate (CAGR) of 22 percentage during the FY 2020-2024 period. Innovations in the Computer world and technology have enabled inducting these changes in the banking sector.

Bank: Bank is a financial institution that accepts deposits and creates credits from the public. Direct and indirect lending activities are begin performed through capital markets.

Customer Satisfaction: Common term frequently used in marketing to measure products and services supplied by a company. Customer satisfaction is defined as the percentage of total customers, whose reported experience with a firm, its products, or its services exceeds specified satisfaction goals.

Digital Banking: Can be defined as delivery of banking services and products to its customers through electronic medium. Digital Banking is also known as Electronic Banking, Virtual Banking which includes various banking activities that can be conducted from anyplace.

Online Banking: Virtual System that enables customers of a bank or a financial institution to conduct a range of financial transactions through the financial institution's website interface. The online banking system will connect the customers to the core banking system server operated by a bank through technology.

Technology: Collection of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation.

2. REVIEW OF LITERATURE

Digital payment is one of the empowering system in India promoting digital India started by our honorable Prime Minister Narender Modi, with the motive to explicit transparency of cash in the country and directly control the black money in India by tax payment and transparent cash flow of every individual. Digital Banking and the customer centric banking study by Manivannan [2017] states that Internet, Wireless gadgets, ATM's, Mobile payment wallets and different digital applications must be broadly provided by all the banking organizations. The study concluded that banking industry is customer centric that should focus to adapt to latest technology.

Usage of digital banking in developed countries is more than 90 percent and diffusion of digital channels in developing countries range from 11 percent to 25 percent. The study by Capgemini [2014] “World Payments Report” indicates that non-cash transactions have reached 334 billion transactions. There is greater propensity of customers to move towards digital channels. Banks which develop digital capabilities are going to benefit. Customers recognize greater convenience through digital channels. However, banks will need to cope up with issues of customer service and frauds which are associated with digital channels.

Study on Impact of Digital banking by Trivedi and Remedios [2014] demonstrates that internet banking retains customers. Chance of expanding the customer base through internet banking is possible only through concentrating more on service quality, responsiveness, protection and security, affirmation and dependability elements on technology. Overall, the bank should be more mindful to make their digital banking service fulfill their customers.

Digital Banking in India Sikdar and Makkad [2013] discussed on the perspectives of challenges involved in commercial banking activities over and suggested that technology can significantly streamline the customers and thus by limiting the branch based connections with the customers, empowering the banks to centre around coordinate offering and different exercises requiring higher spotlight with respect to digital banking.

Sahai and Machiraju [2001] discussed in the Ubiquitous e-Service Vision on the Internet. E-Service Journal, how new technologies will address different requirements and how these technologies fit together to provide a ubiquitous e-market place and e-service vision. While many new products are offered in the areas of electronic payments and products; banks need to track the usage of these products and services. (Payment System Vision (2012-15) Reserve Bank of India)

3. RESEARCH METHODOLOGY

Introduction

Technology and Digital modernization is paving way to traditional banks to thrive customer satisfaction and loyalty, driving long-term relationships and profitability with the new approach. Technology is one of the factors for long term success of any organization. Customer satisfaction and expectations are threat in financial services in banking and on contrary customer traffic is increased in developing relationships with multiple digital service providers. Competitors from adjacent financial technology startups are now focusing the banking sector with innovative, technology-driven deviations to replace the traditional customary banking methods.

Digital banking channels improve convenience, facilitate access to more services, attract new customer base, provide services offered by competitors and reduce customer database destruction. Introducing technology and innovative digital banking is most need for banking services in this hour, therefore developing new technology and introducing in the banking sector is very essential to attract the customers is very essential. Main objective of the research is to study ways to adapt new technologies and develop banking services. The purpose of the study is to analyze the impact of technology on banking services and grounds for opting digital banking, customer satisfaction towards digital banking and find out the problems encountered by the customers because of new technologies. This research problem also focused on analyzing the level of convenience, compliance, affordability, accuracy, consistency and competence in the usage of various technologies in banking services.

Scope of the study

The recent technologies introduced in banking sector are innovative and convenient. In the recent days, we have access to Credit and Debit Cards, Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT), electronic payment, electronic banking, mobile banking, Automated Teller

Machines, Electronic Clearing Services, National Automated Clearing House, Prepaid Payment Instruments (PPIS), Unified Payments Interface (UPI), and Social Media Banking(WatsUp Payment). In the above listed abundant user-friendly technologies in the business world, there is a necessity for crucial evaluation of digital banking services and technology in respect to customer satisfaction and to find new strategy to accept or develop the innovative technologies for more accurate and safe transactions.

It is very eminent that the tenure of Mr. Narendra Modi is termed as Digital India and the Government is taking all initiatives to reinstate digital services all sectors, especially in the banking sector. Though a number of research study already has taken this research area, researcher is focusing the developments of technology in terms of convenience, compliance, affordability and competence in the usage of technology in banking services in customer perspective – focusing on technology driven banking that involves E- banking, Digital wallets like PayPal, WhatsUp payment, Mobile banking, ATMs, RTGS and POS terminals which influences customer satisfaction which is a measure of how a customer responds to using technology and user-friendly digital banking platforms that makes them remain loyal to the bank.

Research Objectives

To analyze the factors influencing usage of technology in banking services.
To identify and analyze the impact of technology in banking services in term of convenience, compliance, affordability, competence in customer point of view.

Hypothesis: There is no significant difference between gender and selected attributes in technology and banking services in customer perspective.

Research Design

The study is type of descriptive study. The questionnaire method was used to collect data for analysis. The questionnaire has demographics variables and other variables are used to identify customer satisfaction level in convenience, compliance, affordability, competence in digital banking services. Simple random sampling was used by the researcher. The sample size for this study is 150. Questionnaire method was used to collect the primary data for this study. The questionnaire was divided in three sections. Section A gathered demographic data regarding respondents such as gender, age, and academic qualification. Section B deals with questionnaire related to swiftness of transaction, section C deals with questionnaire related to convenience, compliance, affordability, competence, convenient banking, exactness and consistency respectively. Descriptive data analysis entailed counts, percentages, cross tabulations and measures of central tendencies. T test, Anova, Chi-Square were used for analysis the relationship among variables.

4. DATA ANALYSIS AND INTERPRETATION

Table: 1

Descriptive analysis on the impact of technology in banking services in term of Swiftness, of transactions, convenience, compliance, consistency, affordability, competence and preciseness from the customers' point of view.

Attributes	SD
Swiftness of Transaction	
E-Banking	0.498
POS Terminal	0.197
ATM	0.488
Telephone banking	0.219
Digital Alerts	0.416
Convenience	
Once a day	0.2727
Two or more times a day	0.488
Once a week	0.465
Two or more times a week	0.409
Compliance	
Mobile Banking	0.502
E-banking	0.492
Mobile Money	0.327
Consistency	
Fund Transfers	0.429
Plastic Money	0.197
Error free transaction	0.757
Electronic bill payments	0.847

Attributes	SD
Affordability	
Faster log in facility	0.845
Performance of E-Cards	0.73
NEFT & RTGS	0.784
ECS- credit/ debit	0.798
Competence	
ATM services	0.709
Internet Banking	0.82
Telephone Banking	0.813
Mobile Banking	0.837
Convenient Banking	
24 x7 availability	0.744
Bank Website updated	0.828
Content reliable	0.74
Preciseness	
Process of Transactions	0.844
Range of products and services	0.871
Instant Problem solving	0.79

Table 1 show the swiftness of transactions Swiftness, of transactions, convenience, compliance, consistency, affordability, competence and preciseness are influenced by Customer Satisfaction

Null Hypothesis: There is no significant difference between gender and selected attributes in technology and banking services in customer perspective.

Alternate Hypothesis: There is significant difference between gender and selected attributes in technology and banking services in customer perspective.

Table 2:

Attributes: Customer Satisfaction and Technology in Banking Services

S. No	Attributes / Factors	Gender	Mean	S.D	T value	P value
1	Swiftness of transaction	Male	5.1614	2.03793	1.318	0.013
		Female	5.8715	2.70711	1.432	
2	Convenience	Male	17.2077	2.36853	0.179	0.715

		Female	17.3286	2.01474	0.165	
3	Compliance	Male	12.9539	1.70650	1.102	0.861
		Female	11.3428	1.81402	1.124	
4	Affordability	Male	13.8696	1.36203	0.521	0.179
		Female	13.9282	1.23916	0.510	
5	Competence	Male	7.7846	2.78413	-0.281	0.074
		Female	7.5143	1.34174	-0.313	
6	Convenient banking	Male	8.0308	2.97157	0.498	0.287
		Female	7.8000	1.38221	0.510	
7	Preciseness	Male	9.4461	3.23845	-0.628	0.258
		Female	9.0572	3.07507	-0.614	
8	Consistency	Male	7.5764	2.55271	0.583	0.423
		Female	7.8719	2.49283	0.572	
	Overall Use of Technology in Banking services	Male	82.7303	9.79858	0.698	0.342
		Female	80.0148	7.68973	0.731	

Table 2 shows the descriptive statistics of the various factors of digital technology banking services. From the above table it is perceived that the customers are neutral on the variables indicating the swiftness of transaction based on the standard deviation of the respondents which is 2.5126. The customers are neutral on the variables indicating the convenience based on the standard deviation of the respondents which is 2.14634. The customers are neutral on the variables indicating the compliance based on the standard deviation of the respondents which is 1.77682.The customers are dissatisfied on the variables indicating affordability the based on the standard deviation of the respondents which is 1.28449. The customers are satisfied on the variables indicating the competence based on the standard deviation of the respondents which is 2.17263. The customers are satisfied on the variables indicating convenient banking based on the standard deviation of the respondents which is 2.23546. The customers are highly satisfied on the variables indicating the preciseness based on the standard deviation of the respondents which is 3.11291. The customers are satisfied on the variables indicating the consistency based on the standard deviation of the respondents which is 2.49363.

From this it is understood that the swiftness of transaction is not very much attractive and consistency is considered to be most effective factor with respect to digital technology banking services. The overall use of digital technology banking services is 81.57. The standard deviation is 9.057 where the deviation is constant. From the table 2the comparison of P value shows there is no relationship between gender and the corresponding attributes or factors in term of technology and customer satisfaction, therefore null hypothesis is accepted.

5. FINDINGS AND SUGGESTIONS

Findings on the swiftness of transactions with the implementation of new technologies in the banking sector reveals that mobile money or Paytm is the most frequently used digital method. ATM services were considered to be comparatively not preferred due to non availability of hundred rupee currency notes. This is one of major areas that needed to be addressed by the banks.

On convenience of digital technology in banking, the results reveal that ability to transact anytime was considered the most important factor in accessibility. Majority of the respondents stated that accessibility to them is to obtain goods or services at the time of need. With regards to accessibility in using mobile banking, customers already started accessing mobile banking.

The bank customers rated on the level of competence the digital technology they use in internet-banking. It is incurred that customers are satisfied with respect to faster log-in facility, performance of debit/credit cards, transfer of online funds and clearing services.

The customers are very satisfied with respect to the information and process of transactions are accurately processed and indexed precisely. Also customers are satisfied with respect to the products and services provided by their respective banks.

The customers were asked to rate the level of consistency in the banking sector of any digital technology they use. It deciphered that that customers are satisfied with respect to domestic bill payments, hazel free transactions, problem solving and good service.

On convenience attribute of using technology in the banking sector, it was found that customers are mostly involved in mobile banking with a feel that digital banking gives access to low or moderate options in their personal bank accounts. Furthermore, ability to bank anytime and anywhere, check account balances and access statements is also interpreted as convenience. Use of technology will breakdown the major barrier towards ease of access to banks and thus technology enables the bank customers to use digital platforms without any special skills to cope with this new phenomenon. The study thus concludes that increase in convenience leads to an increase in customer contentment or customer satisfaction.

On affordability, it was found that mobile money platform was the most flexible digital channel as this gives a personal touch to their money; the bank offers to its customers. Digital technology banking is seen as swift and efficient, therefore adapting is very easy. Further from the customer's daily transactions, it was concluded that the affordability to the given digital banking channels is very high comparing the daily number of transaction with the previous years. Bank customers used different digital banking channels which was an indicator of their adaptability.

Banks try to ensure customers to shift from customary methods to new digital methods by passing information on how to use digital banking. Finally the study concludes that there exists a significant relationship between compliance of digital technology and customer satisfaction. While compliance to new technology increases, customer satisfaction also increases eventually.

The negative minimal correlation implied that that affordability does not influence the customer satisfaction. It is therefore concluded affordability is not only key factor that is looked at while carrying a digital banking transactions. Customers will transact using any other channel that is swift, convenient and easily adaptable.

The bank customers were asked to rate the level of consistency of any digital technology they use. It is found that customers are satisfied with respect to domestic bill payments, hazel free transactions, quick problem solving and service fees.

The banking sector should invest more on robust reliable systems to reduce incidents of failed transactions and transactional errors in ATMs. Mobile banking and Point of Sale terminals need to be improvised with Smartphone application that can be used to enhance user-friendly digital banking. Customer satisfaction surveys should be conducted to learn customers behavior on adapting to new technology.

6. CONCLUSION

A variety of developments have taken place in Indian Banking sector, among the various developments, technology has influenced the way customer intermingles with banks. Electronic channels and products such as ATMs, debit/credit cards, Net banking or internet banking, mobile banking, and phone banking are offered along with traditional branch channel. Differences in the usage of channels exist between developed countries and developing countries. Evidence suggests that there is a shift from traditional channel to electronic channels in the developing countries. In order to have faster processes in digital banking, there is need by banks to invest more on robust reliable systems to reduce incidents of failed transactions and transactional hazels in ATMs, Mobile banking and POS terminals.

Banks should further automate most services like loan recovery, loan disbursement and introduce queue management systems. Banks need to come up with an mobile phone application/Smartphone application that can be used to enhance digital banking which will be considered safe and private in order to boost the operations, availability and accessibility of digital banking. The banks should teach individuals and cooperates on the changing world of banking technologies. Appraisals on customer satisfaction must be carried on regular intervals to see how customers are adapting to technology. Suitable techniques can be devised from the survey and preference shall be given to what customers needs and what is convenient for banks. Recent developments on neural networking, robotics, sensor devices, business analytics, machine learning, natural Language Process technologies can be considered as possible implementation plan for create new strategy with latest technology to fulfill the customers need.

Finally, the issue of cybercrimes and cyber security need to be addressed by the banking sector with strict cyber security rules while implementing and creating new technologies.

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