

An Investigation on the level of Customer Satisfaction with E-Banking Services with a special focus on the Delhi - NCR Region.

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Abstract— The expansion of electronic banking (E-banking) in India has been facilitated by the government and the Reserve Bank of India, with the IT Act of 2000 establishing the legal validity of electronic transactions. Customer satisfaction with E-banking is influenced by factors such as service quality, performance, security/privacy, and website design. The criteria with the highest correlation with customer satisfaction include performance, device accessibility, and rewards. The objective of this study was to investigate the correlation between demographic factors and customer happiness, assess the level of risk experienced by customers, and identify elements that promote increased usage of E-banking services. The findings showed that mobile banking was the preferred method for conducting electronic transactions for 38% of participants, followed by ATMs (34%), internet banking (28%), and debit/credit cards (5%). The main motivations for using E-banking services were to see transaction status (43%), save time (28%), pay utility bills (21%), and for security considerations (8%). PNB Bank, ICICI Bank, SBI Bank, HDFC Bank, and Federal Bank were the preferred banks for E-banking services. A survey revealed that 47% of respondents agreed with the security of E-banking transactions, while 53% either had a neutral stance or disagreed. The majority of respondents (82%) expressed satisfaction with online banking, while a minority (18%) reported dissatisfaction. Overall, the study highlights the growing popularity and satisfaction with E-banking services in India.

Keywords: E-Banking, Customer Satisfaction, Digitalization

I. INTRODUCTION

The impact of technology on the financial services industry, including banks, is significant. The utilization of information and communication technology (ICT) principles, methodologies, regulations, and execution approaches in the provision of banking services constitute a subject matter of paramount significance and apprehension for banking institutions. It also serves as an imperative prerequisite for achieving both local and global competitiveness within the banking industry. In recent years, there has been an increase in competition within the banking industry. To maintain competitiveness, banks are adopting innovative tools and strategies to enhance client satisfaction and retention.

Electronic banking, sometimes referred to as E-banking, represents a symbiotic relationship between the financial sector and electronic technology. The subject matter pertains to the electronic dissemination of financial products and services.

Banks, especially large ones and mutual banks, have expanded their electronic banking services in recent decades. Banks can attract a varied clientele and create large profits by offering mobile money services through electronic banking. Credit cards are more popular due to electronic banking. Customers can now shop online without currency, regardless of location.

Several measures implemented by the Indian government and the Reserve Bank of India have facilitated the expansion of electronic banking (E-banking) in India. The IT Act of 2000 was enacted by the Indian government to establish the legal recognition of electronic transactions and various forms of electronic commerce. The financial industry, which has experienced substantial technical advancements, is currently under the supervision and regulation of the Reserve Bank of India (RBI). The RBI has been actively engaged in enhancing its regulatory capabilities in this domain. The document guided the risks and controls associated with computer and communications systems, to assist banks in assessing system-related risks and implementing appropriate control measures to mitigate potential hazards. The e-banking sector is subject to the same authoritarian system that currently rules traditional banks. For an economy to achieve robust growth and ensure stability within a progressively globalized business landscape, it is imperative to possess a resilient financial system.

II. PRESENT STATUS OF E-BANKING IN INDIA

The integration of electronic banking services has become an integral component of the Indian financial system. The concept of electronic banking is quite nascent in the Indian context. Before the early 1990s, traditional branch-based banking was the prevailing model. However, during this period, non-branch banking services were introduced. The IT Act, of 2000 was adopted by the Indian government and subsequently came into effect on October

17, 2000. The legislation conferred legal legitimacy upon electronic transactions and many forms of electronic commerce. The Reserve Bank maintains a consistent and ongoing surveillance of the legal and regulatory aspects of electronic banking, ensuring its responsible growth and mitigating any potential risks to financial stability.

Tables 1, 2, and 3 present a collection of data and statistics about the current status of online and electronic banking, serving to provide an illustrative overview. As of December 2014, Table 1 presents evidence about the implementation and issuance of ATM, electronic cards (credit and debit cards), and POS (Point of Sale) systems by India's Schedule Commercial Banks (SCBs). Furthermore, there is an increasing trend in the adoption of mobile banking among Indian individuals. In India, there are currently 20.36 million credit cards, 500 million debit cards, 1,76,410 ATMs, and 10,58,642 point-of-sale systems in operation. Additionally, mobile banking is utilized by 35.5 million bank customers. The figure also presents the escalation rate of these banking channels, which exhibits a commendable performance in the context of India. The most recent transaction figures are presented in Table 2, which showcases the utilization of various banking delivery channels. The total volume of electronic transactions conducted by automated teller machines (ATMs) amounts to 6,090.98 million. Table 3 presents a comprehensive record of the NEFT and RTGS transactions conducted throughout the fiscal year 2014-15.

TABLE I. DIFFERENT E-BANKING DELIVERY CHANNELS

TYPES OF INTERACT / ELECTRONIC CHANNELS	NO. OF CHANNELS		growth(in%)
	YEAR		
	2010*	2014*	
No. of ATM deployed (In Actual Figure)	60,153	1,76,410	193.27
No. of POS deployed (In Actual Figure)	5,95,958	10,58,642	77.64
No. of CREDIT CARDS issued (in Millions)	18.33	20.36	11.07
No. of DEBIT CARDS issued (in Millions)	181.97	500.08	174.81
No. of MOBILE BANKING Users (In Millions)	5.96	35.5	495.64

TABLE II. TRANSACTION THROUGH E-BANKING DELIVERY CHANNELS

Transaction Through	No of transactions (in millions)		Growth (in%)
	Year		
	2011-12	2013-14	
ATM	5066.17	6090.98	19.76%
POS	645.76	1156.12	74.7%
CREDIT CARD	320.42	518.99	99.79%
DEBIT CARD	5909.45	4707.1	27.99%
MOBILE BANKING	25.55	94.5	270.23%

TABLE III. NEFT AND RTGS TRANSACTION

Transaction Type	No. of transactions (in millions)		Growth (in%)
	Year		
	2010-11	2014-15	
NEFT	132	927.55	602.69
RTGS	49	92.75	89.29

III. LITERATURE REVIEW

[1] conclude that people in Pakistan judge the quality of e-banking services based on three of the five SERVQUAL dimensions: responsiveness, reliability, and assurance. One of the reasons why intangible things do not matter as much is because e-banking hasn't yet reached the same level of usability as in developed countries. The majority of consumers can only access the most basic banking services, such as POS transactions, account inquiries, and ATM withdrawals. The instigator measured the relationship between service quality and customer happiness and observed at how utilizing E-banking services influenced that relationship. [2] discovered that Internet banking service quality characteristics had an impact on customer satisfaction in Iran. The findings indicate that dependability, performance, responsiveness, fulfillment, security/privacy, and website design are significantly correlated with customer satisfaction and E-banking. [3] discusses how Internet banking services affect customer satisfaction. The study examined seven hypotheses on the association between client happiness and seven different characteristics of E-banking. The findings show that customer happiness is significantly and favorably impacted by performance, device accessibility, and rewards while fulfillment, secrecy, and responsiveness have no discernible influence on the level of customer satisfaction. The result signifies that touch and reliability are the factors most apt to affect an increase in customer satisfaction with Internet banking. [4] performed a study on Nigerian E-banking products and services. Their result showed that while numerous E-Banking schemes have been adopted and embraced by customers, e-payment is the most widely utilized E-Banking solution. Almost all banks propose at least one type of electronic services, such as E-Banking. [5] contends that customer satisfaction is an essential component for successful customer service. Efficiency and enjoyment are two different concepts. The definitions of customer happiness and service efficiency are only sometimes accepted. Any firm hopes that providing efficient services will boost client happiness. [6] investigates how using e-banking affects the level of service Five-point Likert scales have been established. In all, 42 statements were made. Based on their experiences using e-banking services, respondents were asked to rank these products on a scale of 1 to 5. To inspect how E-banking influences service quality, nine qualities were used: connection, access, understanding, credibility, tangibility, stability, competence, responsiveness, and dependability. All of these factors have a big influence on service quality. The results of the study show that there are considerable variances among the several factors that influence how people utilize electronic banking. [7] looks at how client satisfaction with online banking platforms affects banks. This article's goal is to assess how consumers feel about e-banking services. After being collected by a questionnaire, the data was descriptively analyzed using ANOVA and percentages. Customers have

been observed utilizing E-Banking tools, such as credit and debit cards, ATMs, and home banking. This implies that about 45% of people are happy with and have a favorable impression of online banking. Retrieving bank statements, paying bills online, and cash withdrawals from ATMs are all common E-Banking services. [8] examine the barriers and opportunities for Internet banking in the Indian market and find that the concept is gaining traction. As it gains popularity in the Indian context, government agencies are attempting to increase its attractiveness to consumers. Issues including security risks, mistrust, privacy concerns, and a general lack of consumer knowledge about e-banking are preventing the uptake of e-banking services. In light of the difficulties and risks associated with it, the Indian government is collaborating with several other governmental agencies to make online banking even more secure, reliable, and safe. According to [9] the banking sector dominates and is viewed as the public's and the government's gateway to savings, which is a source of GDP. Secondary data are used to support the study. As research methods, trends and compound annual growth rate (AGR) were employed. The analysis concludes that e-banking has both advantages and disadvantages, but that the banking sector will be able to overcome them all in the years to come. [10] focuses on certain public sector banks and client feedback from a single location with a similar socioeconomic background, resulting in a prompt response, confidentiality, a user-friendly website, and other factors that influence client satisfaction. The amount of satisfaction of a customer is influenced by their gender, age, education, and income. The analysis's sole goal is to ascertain how happy clients are with the online banking services offered by banks and other financial organizations. Internet advancements are paving the way for more innovative and efficient banking. ATMs are widely utilized to cut down on customer wait times, simplify banking, and use information authentication.

IV. OBJECTIVES OF THE STUDY

- i. To determine how demographic factors relate to the degree of customer satisfaction.
- ii. To measure the degree of risk faced by the customers while performing E-Banking Services.
- iii. To identify the parameters that encourage Customers to use more E-Banking Services.

V. HYPOTHESIS OF THE STUDY

- i. **H₀**: There is no significant association of demographic factors related to the degree of customer satisfaction.
- ii. **H₁**: There is a significant association of Demographic Variables with the Level of Customer Satisfaction.

VI. RESEARCH METHODOLOGY

The current study aims to test a theory; thus, the researcher chooses an exploratory research design or a hypothesis-testing research design. The prime goal of utilizing a research design is to formulate a research topic (An Investigation on the level of Customer Satisfaction with E-Banking Services with a special focus on Delhi NCR Region) for a thorough or accurate inquiry or to generate a working hypothesis from an operational perspective.

A. Research Type

Exploratory Research Design has been used to conduct this research work.

B. Sampling Size & Method

Convenience Sampling; which is a non-probability sampling method is used in which 123 respondents were chosen based on their accessibility, eagerness, and approachability.

C. Data Collection

Primary data was gathered using a well-structured questionnaire to obtain information directly from the respondents from Delhi-NCR. The questionnaire carries two parts. The foremost part contained questions about Customer Satisfaction with E-Banking Services and; the second part of the questionnaire contained demographic questions. The data was collected through online mode using social media and e-mail.

D. Sampling Technique

For the analysis purpose, Chi-Square with the use of SPSS, Percentile, and Charts methods has been exercised.

VII. DATA ANALYSIS AND INTERPRETATION

TABLE IV. DEMOGRAPHIC PROFILE OF RESPONDENTS

Factors	No of Respondent (N=123)	Percentage
Gender		
Male	61	49.6
Female	62	50.4
Age (Years)		
Below 20	14	11.4
21 to 30	46	37.4
31 to 40	44	35.8
41 to 50	13	10.6
Above 50	6	4.8
Educational Qualifications		
High School	14	11.3
Intermediate	28	22.8
Graduate	67	54.6
Post Graduate	14	11.3
Occupation		
Student	26	21.1
Self Employed	34	27.6
Servicemen	43	34.9
Housewife	14	11.4
Freelancer	6	5.0
Annual Income (Monthly)		
Upto 25,000	29	23.6
25,001 to 50,000	34	27.6
50,001 to 75,000	41	33.3
75,001 to 1,00,000	18	14.6
1,00,001 and above	1	0.9

Source: Primary Data (Questionnaire)

Table 4 explains briefly about the demographic profile of 123 people among which 49.6% were male and 50.4% were female. Among these 11.4% were below 20, 37.4% were between 21 to 30, 35.8% were between 31 to 40 years, 10.6% were 41 to 50 and the rest 4.8% are above 50 years. 21.1% were students, 27.6% were self-employed, 34.9% were servicemen, 11.4% were housewives and 5.0% were freelancers. The income of 23.6% of the respondents was up to 25,000, 27.6% of their income was 25,001 to 50,000, 33.3% of their income was between 50,001 to 75,000, and

the income of 14.6% people was between 75,001 to 1,00,000 and rest 0.9% were having income above 1,00,000.

The result shows that among 123 people more than 80% ranked 4 or above in all the parameters of the E-Banking which shows the Customer are satisfied with the E-Banking Services. Ease of Use is the highest-rated factor with 56 customers agreeing with

TABLE V. RISK FACED BY CUSTOMERS RELATED TO E-BANKING SERVICES

	Frequency	Percentage	Cum. Percentage
Transactional Risk	37	30%	
Network Issues	54	44%	74%
Virus Attacks	25	20%	94%
Hacking	7	6.0%	100%
Total	123	100%	

Source: Primary Data (Questionnaire)

Table 5 shows the Risk faced by the Customers related to E-Banking Services in which 44% of customers face the risk of Network Issues, 30% face the risk of transaction failure, 20% face the risk of any virus attacks and only 6% face the Hacking risk. This means that Banks need to make secure and encrypted platforms which can reduce the amount of risk.

VIII. HYPOTHESIS TESTING FOR THE DEMOGRAPHIC FACTORS RELATED TO THE DEGREE OF CUSTOMER USING CHI-SQUARE TEST

TABLE VI. ASSOCIATION BETWEEN AGE AND LEVEL OF CUSTOMER SATISFACTION

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.324 ^a	4	.676
Likelihood Ratio	2.417	4	.660
N of Valid Cases	123		

Source: Primary Data (Questionnaire)

Table 6 interpret that there is no significant relationship between the Age of respondents and Level of Customer Satisfaction while using E-Banking Services as the value of Pearson Chi-Square is greater than 0.05. So, Age is not a significant factor in consumer satisfaction towards E-Banking Services.

TABLE VII. ASSOCIATION BETWEEN GENDER AND LEVEL OF CUSTOMER SATISFACTION

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.114 ^a	1	.146
Likelihood Ratio	2.135	1	.144
N of Valid Cases	123		

Source: Primary Data (Questionnaire)

Table 7 shows that there is no significant relationship between the Gender of respondents and Level of Customer Satisfaction while using E-Banking Services as the value of Pearson Chi-Square is greater than .05. So, Gender is not a significant factor in consumer satisfaction towards E-Banking Services.

TABLE VIII. ASSOCIATION BETWEEN THE EDUCATION QUALIFICATION AND LEVEL OF CUSTOMER SATISFACTION

Chi-Square Tests			
	Value	df	Sig. (2-sided)
Pearson Chi-Square	1.310 ^a	3	.727
Likelihood Ratio	1.190	3	.755
N of Valid Cases	123		

Source: Primary Data (Questionnaire)

Table 8 shows that there is no significant relationship between the Educational Qualification of respondents and the Level of Customer Satisfaction while using E-Banking Services as the value of Pearson Chi-Square is greater than .05. So, Educational Qualification is not a significant factor in consumer satisfaction towards E-Banking Services.

TABLE IX. ASSOCIATION BETWEEN THE OCCUPATION AND LEVEL OF CUSTOMER SATISFACTION

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.998 ^a	4	.558
Likelihood Ratio	2.928	4	.570
N of Valid Cases	123		

Source: Primary Data (Questionnaire)

Table 9 interpret that there is no significant relationship between the Occupation of respondents and Level of Customer Satisfaction while using E-Banking Services as the value of Pearson Chi-Square is greater than .05. So, Occupation is not a significant factor in consumer satisfaction towards E-Banking Services.

TABLE X. ASSOCIATION BETWEEN MONTHLY INCOME AND LEVEL OF CUSTOMER SATISFACTION

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.293 ^a	4	.682
Likelihood Ratio	2.468	4	.650
N of Valid Cases	123		

Source: Primary Data (Questionnaire)

Table 10 shows that there is no significant relationship between the Monthly Income of respondents and their Level of Customer Satisfaction while using E-Banking Services as the value of Pearson Chi-Square is greater than .05. So, Monthly Income is not a significant factor in consumer satisfaction towards E-Banking Services.

IX. FINDINGS OF THE STUDY

- 38% of the respondents uses Mobile Banking, 34% of the respondents use ATM, 28% of respondents use Internet Banking and 5% use Debit/Credit Cards for using E-Banking Services.
- 43% of respondents prefer E-Banking Services for viewing Transactions Status, 28% prefer as it saves time, 21% prefer to pay their utility/electricity bills online and 8% prefer for security reasons.

- 29% preferred PNB Bank, 28% preferred ICICI Bank, 21% preferred SBI Bank, 18% HDFC Bank, and 5% preferred Federal Bank for E-Banking Services.
- 47% of the respondents agree with the fact that Transactions through E-Banking are Secure while the rest 53% are neutral or disagree.
- 82% of the respondents are satisfied with online banking over manual banking while only 18% are dissatisfied with online banking.
- 71% of the respondents face a high degree of risk while performing E-Banking Services.
- 91% of the respondents are in favor of recommending the use of E-Banking Services to their friends and family members while 9% are not in the favor.

X. CONCLUSION

From the statistical analysis, it is concluded that there is no significant relationship between the demographic variables and Customer Satisfaction in E-Banking Services. The patrons are more inclined towards High Security, Rewards, Reliability, and Ease of Use while measuring Customer Satisfaction. This shows that the alternate hypothesis is rejected and the null hypothesis is accepted. Many banks are offering good e-banking services and customers can perform their activities from their homes.

The degree of risk among the consumers is high and they have a fear of network issues and transactional risk. To simplify and address the challenges relating to Internet banking, the legal system as it currently stands must be updated. To maximize value to the consumer, the functional model can be utilized to prioritize perceptual variables on user behavior. The banks might concentrate on strategic consumer segments to increase their Internet banking revenue. The research's claim that the majority of bank clients in India are conscious of all accessible banking services is supported by the study's findings. Additionally, the banks must take the proper steps to educate their customers about new technologies and other services they offer. The time that consumers spend speaking with bank workers may be extended, and a pleasant approach is also necessary. It will surely help in bringing in new customers and keeping existing ones. It will immediately boost the expansion of banks and financial services both nationally and globally. Finding out whether consumers are aware of e-banking and the many types of risk attached to it is made easier by the study report.

XI. DISCUSSION

Especially in the banking industry, the rise of technology has had a huge effect on financial services. One important change in this area is the rise of electronic banking, also known as E-banking. This is an example of how the banking business and electronic technology can work together to help each other. The Indian government and the Reserve Bank of India have helped spread E-banking in the country. The IT Act of 2000 has played a crucial role in establishing the legal validity of electronic transactions and various forms of electronic business activities [11]. The Indian financial system plays a pivotal role in fostering engagement, robust growth, and ensuring stability within an ever more

interconnected global business landscape [12]. The level of customer satisfaction with E-banking is greatly influenced by various factors, including service quality, performance, responsiveness, fulfillment, security/privacy, and website design. The criteria that exhibit the highest correlation with customer satisfaction in the context of E-banking include performance, device accessibility, and rewards. The proliferation of electronic banking (E-banking) in India has been propelled by the imperative for streamlined services and the pursuit of enhanced client satisfaction. The Indian government and the Reserve Bank of India are collaborating to ensure the sustained prosperity of this pioneering technology within the financial services sector. The objective of the study was to investigate the correlation between demographic factors and customer happiness, assess the level of risk experienced by customers when utilizing e-banking services, and identify the elements that promote increased usage of e-banking services. The findings indicated that a majority of the participants, specifically 38%, utilized mobile banking as their preferred method for conducting electronic banking transactions. Additionally, 34% of the respondents reported using automated teller machines (ATMs), while 28% opted for Internet banking. A smaller proportion, specifically 5%, indicated their preference for utilizing debit or credit cards for e-banking services. According to the survey results, 43% of respondents expressed a preference for utilizing e-banking services primarily to see their transaction status. Additionally, 28% of participants indicated that their motivation for using e-banking services was to save time. Furthermore, 21% of respondents reported that they preferred e-banking for paying utility or energy bills online. Lastly, 8% of participants cited security considerations as their primary motivation for utilizing e-banking services. The participants expressed a preference for PNB Bank, ICICI Bank, SBI Bank, HDFC Bank, and Federal Bank in terms of electronic banking services. A survey conducted revealed that 47% of respondents expressed agreement with the security of transactions conducted through e-banking, whereas 53% of participants either maintained a neutral stance or expressed disagreement. The results of the survey indicate that a majority of respondents, specifically 82%, expressed satisfaction with online banking as opposed to manual banking. Conversely, a minority of respondents, specifically 18%, reported dissatisfaction with online banking.

XII. LIMITATIONS OF STUDY

The findings of this study provided significant feedback to researchers. However, these findings were not without limits. The most significant drawback of the study was obtaining replies and information from respondents that use electronic banking respondents were hesitant to participate, and persuading them to disclose the information was difficult owing to their demanding work schedule. The investigation of the research is of restricted scale and breadth due to the partial availability of time and financial resources; thus, the investigation results may not be fully illustrative of the views of the bank clients (123 samples) analyzed.

It is also important to note that customers' perspectives, satisfaction, and inclination to use electronic banking services may change over time due to many reasons like pandemics and health issues physical and mental [13, 14]. This study gathered information in the year 2023. As a result, the same research conducted at a different time and in the

same geographical location may provide different results as the knowledge of social media also plays an important role [15]. Further, future research on the aged may be conducted to see how mobile banking may help in the effective optimization of retirement [16]. Finally, the above constraints may limit the potential of this research's findings to be generalized to other industries' contexts. As a result, when designing future research, the theoretical and methodology limitations of this investigation must be considered.

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