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A Study on Consumer Perception towards Digital Banking and Cyber Security in Tiruchirappalli District

R. Sundaralakshmi
Ph.D Full Time Research Scholar
PG and Research Department of Commerce
Urumu Dhanalakshmi College, Affiliated to Bharathidasan University
Tiruchirapalli- 19, Tamil Nadu, India

Dr.N. Rajamannar
Associate Professor and Research Supervisor
PG and Research Department of Commerce
Urumu Dhanalakshmi College, Affiliated to Bharathidasan University
Tiruchirapalli- 19, Tamil Nadu, India

Abstract

In the epoch of globalization digital banking or online banking has revolutionized an essential activityof our current twenty first century. The man developed various ways for communication to the exchange ofinformation, ideas and knowledge which is of huge significance to him as a social being. The evolution of e-bankingtechnology make the task very easy; banking transactions becomes very fast within a click. Digitalbanking makes daily banking quick and easy to use. The misuse of information technology in the cyber space isclutching up which gave birth to cyber-crimes at the national and international level. The percentage of risks andthe challenges associated with it is increased. In this case, the two fundamental rules that regulate real-timeelectronic monitoring in other criminal investigations also apply. One of those laws is search warrants, whichallow authorities to enter a location where they suspect the cracker may contain evidence of a crime. The computerutilised in the crime, the software used to obtain un authorized access, and other evidence related to the crimewould all be examples of this

type of evidence. The study's primary goal is to examine consumer perceptions aboutcyber-crime and the cyber-space. A sample of 248 respondents was chosen for this purpose, and the data wasanalysed using chi-square and percentage analysis.

Keywords: Customer perception, Internet Banking, Digital banking, Cyber Security.

I.INTRODUCTION

The Evolution of banking through technology has been transformative. Internet banking, along withmobile banking, has significantly changed the landscape of financial services, making them moreaccessible, efficient, and convenient for customers. Here are some key points highlighting the importance of technology driven banking:

1. Accessibility: Internet banking allows customers to access their accounts and perform transactions from anywhere with an internet connection. This accessibility is especially crucial for individuals who may not have easy physical access to bank branches.

2. Convenience: With internet banking, customers can perform various banking activities such as

transferring funds, paying bills, and checking account balances without the need to visit a physical

branch. This convenience saves time and effort for both customers and banks.

3. 24/7 Availability: Unlike traditional banking, which operates within specific hours, internet banking services are available 24/7, allowing customers to conduct transactions at their convenience, even outside of regular banking hours.

4. Financial Inclusion: Internet banking can promote financial inclusion by reaching individuals inremote or underserved areas where traditional banking infrastructure may be lacking. Through internet banking, people can access a wide range of financial services without needing to visit a physical branch.

5. Innovation and Customization: Technology-driven banking allows for the development of innovative financial products and services tailored to meet the evolving needs of customers. Banks can gather data on customer behaviour and preferences to personalize their offerings and provide a more seamless banking experience. Internet banking has become an integral part of the modern banking landscape, offering numerous benefits to both customers and financial institutions. As technology continues to advance, we can expect further innovation in banking services, driving greater efficiency, accessibility, and inclusion in the financial sector.

Concepts of Digital Banking

It's fascinating to see how digital transformation is reshaping the banking landscape in India. The government's encouragement of technology adoption and infrastructure development is instrumental in facilitating this transition. The emphasis on providing high bandwidth connectivity across the country ensures that even remote areas can participate in the digital banking revolution. Indeed, digital banking is not just about modernizing infrastructure; it's about enhancing the overall customer experience. By offering unified customer experiences, faster transactions, and operational efficiency, digital banking is catering to the evolving needs of customers who seek convenience and accessibility in their banking services. Moreover, the flexibility and convenience offered by digital banking are unparalleled. Customers can now access banking services anytime and anywhere, breaking free from the constraintsof traditional banking hours and locations. This accessibility is crucial, especially in a fast-paced andinterconnected world where individuals expect instant gratification and seamless experiences. However, it's essential to underscore the importance of robust security measures in digital banking. With the increased reliance on technology, ensuring the security and integrity of banking systems becomes paramount. A well-designed operational system, continuous technology development, user-friendly interfaces, and informative designs are all crucial elements in building trust and confidence among users.

Technology Intervention and Banking Industry

The Technology of adopting new technology begins with the user becoming aware of it and concludes with the user accepting and fully utilising it. Innovation-related activities have increased as a result of the financial services industry's quickly evolving business environment. A company's capacity to improve business performance through innovations in its channels, products, and consumer segments is largely dependent on information technology. Indeed, the integration of innovative practices has become crucial for maintaining and strengthening a firm's competitive advantage, especially in sectors like banking within the service industry. The recognition of technology as a key driver of competitiveness in the financial sector is not a recent phenomenon. The Rangarajan Committee's report on Mechanisation of Banks in 1984 marked a pivotal moment in emphasizing the importance of technology-enabled services in banking. Subsequently, the establishment of institutions like the Institute for Development and Research in Banking Technology (IDRBT) in Hyderabad during the mid-nineties further underscored the significance of technological advancements in banking.

These initiatives aimed to serve as hubs for research and development, fostering innovation tailored to the specific needs of the banking sector. Over the last two decades, the service industry as a whole hasundergone significant transformations, largely propelled by technological advancements. In banking, this evolution has been particularly pronounced, with technologies such as online banking, mobile payments, artificial intelligence, and block chain reshaping the way financial services are delivered and consumed. By embracing these technological developments, banks can not only enhance operational efficiency but also offer more personalized and convenient services to their customers. Moreover, leveraging the latest technologies can enable banks to streamline processes, mitigate risks, and stay ahead of the competition in an increasingly dynamic and competitive landscape. Therefore, the adoption of innovative practices remains imperative for banks seeking to maintain their competitiveness and meet the evolving demands of customers in the digital age. The technology enabled service delivery mediumsare referred as self-service technologies (SSTs) have become integral in the modern banking sector,enabling customers to access and utilize banking services without the need for direct assistance from bank employees. These technologies encompass a wide range of interfaces and platforms, including ATMs, online banking portals, mobile banking apps, and interactive voice response (IVR) systems. The recommendations put forth by various committees such as the Rangarajan Committee (1989), the SarafCommittee (1993), and the Vasudevan Committee (1998) have been instrumental in driving the adoption and integration of technology within banking processes. By embracing self-service technologies, banks can empower customers to perform a wide range of transactions and inquiries conveniently and securely, thereby reducing the reliance on physical branches and traditional service channels. This shift towards self-service not only aligns with changing customer preferences for digital interactions but also enables banks to optimize resource allocation and focus on value-added services. The inclusion of technology in banking processes, guided by recommendations from expert committees, has been crucial in driving innovation and transformation within the industry. As technology continues to evolve, banks must remain proactive in leveraging new advancements to further enhance the customer experience and maintain their competitive edge in the market. The adoption of technology as a competitive tool has indeed been a significant trend in the banking sector, particularly among new private sector banks. This strategy has been further reinforced by foreign banks and some old private sector banks, as highlighted in the Financial Sector Technology Vision Document of 2005 on the

RBIwebsite. In the post-liberalization era, banks across ownership categories recognized the imperative of embracing technology to remain competitive and deliver superior services to customers. This recognition led to a widespread acknowledgment that technology would be the primary differentiator in offering customer-centric services. As a result, banks, regardless of their ownership status (public sector or private sector), have heavily invested in the development and deployment of technology. This investment has led to the implementation of various technological solutions aimed at enhancing operational efficiency and customer experience.

Concept of Cyber Space and Cyber Security

The concept of cyberspace and cyber security quite accurately cyber space indeed refers to the virtual environment where computer systems and networks interact and exchange data. It encompasses a wide range of online activities, including communication, transactions, and information storage and retrieval. Given the pervasive nature of cyberspace and the increasing reliance on digital technologies in various sectors, cybersecurity has become paramount. Cyber security involves the protection of data, assets, and systems from unauthorized access, use, disclosure, disruption, modification, or destruction in cyberspace. In the business sector, where sensitive information and valuable assets are often stored oncomplex computer systems and networks, cyber security is of utmost importance. With the continuous evolution of technology and the increasing sophistication of cyber threats, businesses must employ advanced defence techniques to safeguard their digital infrastructure and mitigate risks. By implementing robust cyber security measures, businesses can protect their digital assets, maintain the trust of customers and stakeholders, and mitigate financial and reputational risks associated with cyber threats. As cyber threats continue to evolve, organizations must remain vigilant and proactive in adapting their cyber security strategies to address emerging challenges effectively.

Self-Service Technology as a Concept

Self-service technology refers to the way in which clients utilise technology to carry out different banking tasks. The relationship between banks and their clients has changed as a result of new delivery channels like ATMs, Internet Banking, and Telephone Banking, as well as improved access to customer data. Customer data can now be processed by banks and used for a variety of purposes. Businesses can advertise their goods and services online, and by focusing on current and potential clients, they can offer more financial services

like banc assurance, which allows for customisation to meet the demands of specific clients. The study looks into three key self-service technologies: Telebanking, online banking, and ATMs. Banking technology-security and centralization of data: For all financial organisations, security is the most important consideration. Advanced IT solutions are designed with security as their top priority in order to allay this worry. To ensure that connections are safe against man-in-the-middle attacks, the existing IT solution encrypts every user connection. Banking technology-scalability and control: The majority of banks and financial institution operate numerous branches throughout different states and frequently abroad. A banking institution investing in an IT solution should be able to easily scale up the network to meet the ever-evolving demands of business today while maintaining daily management.

Statement of the Problem

The increasing sophistication of computers portends future bank rises and raises the bar for bank clients. The way Indian bank's function is being drastically altered by the convergence of computing, communication, information, and knowledge. According to reports from the RBI, banks do not have the drive to successfully implement customer-friendly technology. Laws and regulations must be appropriately applied to ensure compliance. Information technology is being used by many Indian banks to address these kinds of difficulties. According to the central bank, productivity, bank penetration, and technology were the reasons why it had not increased as anticipated. Customers that visit the bank for high-margin transactions and other crucial transactions can also receive better attention and service. Nonetheless, coordinated efforts are required to ensure those customers, particularly the elderly and the less tech-savvy, who may not feel confident and afraid to use technology. The emergence of information technology and the banking revolution have made the world a smaller place. Cybercrime is an offence committed online. Cybercrime refers to any criminal activity carried out via a computer or the internet. A range of wrongdoings known as "digital criminal acts" make use of computers and network technologies for illicit purposes. The increasing reliance of individuals and organisations on the internet has led to a growing concern of cybercrime in the virtual world. The risk of being attacked by cybercriminals worldwide has increased with the usage of the internet and other technology.

Given the quantity of theft, phishing, and computer virus incidences, given the increase in hacking, it is necessaryto investigate the cybercrime scenario. The study's primary issue is analysing the clients impacted by cybercrime in the banking sector.

Significance of the Study

The Reserve Bank of India strategized economic expansion to ensure a proficient financial framework that can fulfil the various demands for credit and development. To outline this goal and properly investigate the financial system, they used a hybrid model of economic development. In an effort to increase client satisfaction and grow the market for financial services, banks have implemented a number of basic banking technologies. Technology will enable banks to scale their services cost- effectively, which could lead to an increase in total factor productivity growth and productivity in the banking industry. The Indian banking industry has discussed the effects of digitization. Utilising technology to enhance customer satisfaction in banking operations is the aim of this study. In addition to the way that technology and organisational transformation are related, it is important to take into account comprehending the requirements for digitization. In order to build client relationships with higher service quality, researchers studying the effects of digitalization also investigate other elements, such as digitalization activities, digitalization adaptability, and digital solution implementation in the banking sector.

LiteratureReview

Rajinder Kaur, et.al. (2015), the study paper named "Current and Future Scenario of E-payment SysteminIndia"examinedthelatestdevelopmentsinE-payment systems and theirabilitytostreamline sales processes, increase customer base, and minimise paperwork. According to the study, since banking requires a lot of information, it makes sense to use IT and create a single, global payment systemthat combinesthebestfeatures of all current payment methods.

Sadia Samar Ali et.al (2015), Accordingto their research paper, "An Empirical approach to customer perception of Mobile Banking in Indian scenario,"customersaremorelikelytoadopttechnologyiftheyfinditeasytouse.Mbankinghasmadeitpossibleforuserstoconductfinancialtransactionsoverthephoneinthesamewaythatthey can in a bank branch or on the internet.

Dr. A Vinayagamoorthy, et.al (2015), in their study "Rural Consumer Perception Towards Internet Banking services in Salem District," found that there is a
significant
discrepancybetweenmaleandfemaleusersintermsofawarenessandperceivedcomplexity. Therefore, the study suggests that in order to promote banking services, bank authorities should raise awareness among women and those with lower levels of education.

P. Vidyapriya, et, al (2015), In order to determine the factors influencing the use of technological products, researchers examined customers' acceptability and perceptionsofthetechnologicalproductsofferedbybanks,particularlyin rural areas, as part of their study on "customer responsiveness on banking technology in rural south India." According to the report, housewives are not comfortable with these modern gadgets, and only educated men are interested in them.

Umma Salma, Mir Abdullah Shahneaz, (2013), In "Customer Satisfaction: A Comparative Analysis of Public and Private Sector Banks in Bangladesh," the authors highlight their efforts to compare the degree of satisfaction that customers have with the services that public and private sector banks offer. Five cities have participated in the project. However, when it come s to public sector banks, their clients were happier with the establishment's standing,dependability, and the fees they charge for services like depositing and withdrawing cash checks (it has been demonstrated tha publi csectorbankshavelowerfeesthanprivatesectorbanks).

Objectives of the Study

1. To know about perceptual mapping of internet banking customer.
2. To analyse the customer awareness.
3. To know the factors implementation e-banking based on cyber security.

Scope of the Study

The focus of this study was on the banking industry's technology-enabled services in three specific Assamese districts. This study took into account how technology is used in service delivery from the viewpoint of the business to the client. Based on a higher volume of digital transactions, the following public and private sector banks have been taken into consideration for this study. Additionally, the goal is to learn about the perceptions and understanding of banking customers about technology-enabled services as well as cyber security.

PublicsectorBank	**PrivateSector Bank**
Statebankof India	HDFCBank
PunjabNationalBank	ICICI
UnitedBankof India	AXISBank
UCOBank	YESBank

ResearchMethodology

The current studyisfounded on primary datathat wasgathered from usersof digital services in afew Indian cities who have been utilising them for three years, both in the public and private sectors. The Likert scale was used in the questionnaire's drafting. To guarantee the accuracy and uniformity of the information collected from customers, the survey will be meticulously structured.

Sample Data

Primary data: Primary data for the study has been collect through well framed questionnaire consisting of multiple choice and 5-point Likert scale-style items were used to gather primary data for the study. A popular method in research to indicate agreement or disagreement on a symmetric Agree-Disagreescale fora set of statementsinthequestionnaire is the5-point Likertscale. The scale has a rating range of 5 to 1, and the responses are presented in the format of SA to SD.

Secondary data: The descriptive research approach, which is primarily dependent on secondary data gathered from the Meta data provided by the National Payment Commission India (NPCI), has been utilised to describe the characteristicsofthesegmentchosenforthestudy.Inaddition,furtherpublished data will be used to obtain clarification on numerous technical issues as well as basic information at different hierarchical levels.

Sample Determination: The sample size has been determined by taking into account the Snowball sampling method. Four banks from the public and four from the private sectors were taken into consideration in the study.

Sampling Unit: The Sampling unit that contains the customer's opinion of cybercrime in public and private banks in a few selected Indian cities is known as the sampling unit.

Sampling Size: In this study, the participants were divided into one distinct group: internet banking users. A total of 248 internet banking service users were surveyed, drawn from the customer base of those who use the internet banking service.

Data Analysis and Interpretation

Table1- Gender

Gender	Frequency	Percentage
Male	130	52.41
Female	106	42.74
Others	12	4.85
Total	248	100

Interpretation: The above table shows about the gender of the respondents were out of 248 respondents52.41% are male and 42.74% are female and 4.85% are from other category. It shows that most of the respondents are male in our survey

Table 2- Age

Age	Frequency	Percentage
Below20	22	8.87
20-29	62	25.00
30-39	75	30.24
40-49	52	20.97
50& above	37	14.92
Total	248	100

Interpretation: The above table shows about the age of the respondents were out of 248 respondents 8.87% are from the age group of below 20 followed by 25.00%arefromtheagegroupof20-29,30.24% are from the age group of 30-39, 20.97% are from 40-49 & 14.92% are from above 50 Category. It shows that most of the respondents are from the age group of above 20 in our survey.

Table3-Weighted Mean of the variables under Convenience

Variables	S.A(5)	A(4)	N(3)	D. (2)	S.D(1)	W.F. S	W.M	A.W.M
Relyonthebank for notmisusingthe informationavailable inthedocuments and systems	28 (11.28)	63 (25.40)	93 (37.5)	32 (12.90)	32 (12.90)	308.88	1.24	1.254
Bankprovides financialsecurityand confidentiality	36 (14.52)	28 (11.29)	84 (33.87)	58 (23.38)	42 (16.93)	286.39	1.15	1.254
Thedeliveryof servicesareunique and asper expectations	32 (12.90)	66 (26.61)	112 (45.16)	28 (11.29)	10 (4.03)	318.73	1.28	1.254
ITUnitprovides sufficientsupport afteranewsystem or enhancementis introduced	42 (16.94)	58 (23.38)	92 (37.09)	31 (12.05)	25 (10.08)	336.22	1.35	1.254
Highreliabilityof existingsystems	32 (12.90)	58 (23.38)	94 (37.90)	36 (14.51)	28 (11.29)	311.92	1.25	1.254

Interpretation: The weighted means and average weighted means relating consumer perceptions of digitally enabled banking services are displayed in the table based on calculated data. The weighted frequency score of 308.88 and weighted mean of 1.24 for the variable "Rely on the bank for not misusing the information available in the documents and systems is convenient" are displayed in the table .The weight edmean of the bank's financialsecurityandsecrecyis1.15.Theweightedmeanscore for the banks 'service delivery is 1.28. The weighted mean valueofthevariableITsecureandseamless log-in process is 1.35. The weighted mean value of reliability and quick service is 1.25. The weighted mean and percentage sin thet ableindicatethatthemajorityofrespondentshavemixedperceptionabout that electronically manageable banking is convenient. Mistake recovery in the transaction process has the lowest weighted mean and maximum numbers of respondents are neutral about it.

Table4 - WeightedMeanofthevariablesunderTrust

Variables	S.A(5)	A(4)	N(3)	D. (2)	S.D(1)	W.F.S	W.M	A.W.M
Bank and its associates provide true information	32 (12.90)	61 (24.60)	110 (44.35)	34 (13.71)	11 (4.44)	314.73	1.27	1.254
Clear and accessible guidance	25 (10.08)	65 (26.21)	95 (38.31)	31 (12.50)	32 (12.90)	308.87	1.25	1.23
There is a responsiveness towards/ problem handling &Support on new system enhancement	31 (12.50)	36 (14.52)	88 (35.48)	52 (20.97)	41 (16.53)	288.39	1.16	1.23
Banks understand customer's expectations about e-banking	42 (16.94)	66 (26.61)	95 (38.31)	26 (10.48)	19 (7.66)	335.23	1.36	1.23
Credit card account information of the bank is excellent	27 (10.89)	46 (18.55)	75 (30.24)	52 (20.97)	48 (19.35)	280.2	1.13	1.23
Timely response in every call by the customers	39 (15.73)	57 (22.98)	58 (23.39)	70 (28.23)	24 (9.68)	307.4	1.24	1.23

Interpretation

The weighted mean value and weighted frequency score of trust regarding service delivery from bank employee help are displayed in the table based on calculated data. The table indicates that the variable "Bank and its associates provide true information" has the greatest mean value based on customer responses. Clear and understandable instructions with a weighted mean of 1.25 came next. With a weighted mean of 1.16 the majority of respondents have a neutral opinion of bankers' aid in helping customersgraspnewtechnology.Basedoncustomerreplies,theresultsindicatethatcustomersshould receive training about new services related to credit cards and other pocket cards, as this category has the lowest weighted mean value 1.13according to the responses of the customers.

Findings

1. Most of the respondents are male in our survey.
2. 30.24% are from the age group of 30-39.
3. Majority of respondents have mixed perception about that electronically manageable banking is convenient.

4. Mistake recovery in the transaction process has the lowest weighted mean and maximum numbers of respondents are neutral about it.
4. Majority of respondents have a neutral opinion of bankers' aid in helping customers grasp new technology.
5. Customers should receive training about new services related to credit cards and other pocket cards.

Suggestions

- All unsolicited emails should be responded to, especially if you don't know the sender. Exercising caution and never visitingstrangewebsitesbyclickingonlinksintheseemailssince they may include connections to malicious software that might damage your machine.
- Avoid opening attachments from unsolicited emails since they can include a virus or malware that might take control of yourcomputer.Youshouldalsoavoidsharingfilesorprogramswith other users and only use free software if you are certain it is reliable and secure. Install anti- virus software, keep it up to date and run regular security scans. Install the latest security updates for your computer software, also known as patches. Install and learn how to use a personal firewall.
- Use caution when sharing personal information on social networking sites and other websites that do not encrypt the data you post.
- Also, avoid using the same password across several websites. Examples of such information include address information, bank account information, phone numbers, and date of birth.
- Despitetheincreasedcomplexityofmanaging yourinternet accounts, the work is worth while. T o maket his process simpler, youmayutilizeencryptionandpasswordmanagementsoftware.

II. CONCLUSION

The study concludes that in order to lower cybercrime in the future, more customer awareness campaigns should be run. The findings indicate that in order to spur growth in the cutthroat industry, the banking system should adapt its services to meet the evolving demands and expectations of its clientele. The expansion of a nation's banking sector is crucial to the development of the whole economy. Consequently, in order for banks to grow their clientele and achieve financial success, they must investigate the elements that impact the quality of their customer relationships and comprehend the necessity of implementing additional cyber security features.

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