



Saud: The Journal of Commerce, Management and Economics, Vol. 1 (I), 2025,101-115

Saud:

The Journal of
Commerce,
Management and
Economics

Proactive and Reactive Support Systems and Challenges in Digitalisation of Banking Services: A Comparative Study in Select Cities of India

Munmi Bordoloi¹

Faculty, School of Management, CKB Commerce College, Jorhat

ARTICLE INFO

Article History:

Received 20 December 2024

Received in revised form

4 June 2025

Accepted 12 June 2025

Keywords:

Digitalisation of Banking
Proactive Support Systems
Reactive Support Systems
Challenges

ABSTRACT

Across the world, information technology has radically altered the traditional way of doing banking services and business. Hence, management of digital technical infrastructure is very necessary in this competitive and globalised era for the smooth running of the banking sector as well as to meet customers' expectations. In this direction, this study intends to identify and compare the challenges faced by the customer while availing digital banking services and understand their perception in this regard. Using SERVQUAL the study found out there is a significant gap in customer expectation and satisfaction regarding digital banking services (DBS) in India, primarily due to technological issues, lack of awareness, perceived risk and insufficient consumer support. It is necessary for banks to work on improve service quality, build customer trust, enhance digital literacy and ensure cyber security to boost DBS adoption.

1. Introduction

The changes after the economic liberalisation and globalisation process, initiated in 1991, have significant impact on the financial system, particularly on the banking industry. The fast pace of changes has radically and perceptibly transformed the operational environment of the banking sector. Information technology revaluation is entirely changing the way banking business and services are done and has considerably widened the range of products and services, as well as increased the expected demand of the customers. Technology development has become fuel for rapid changes in the banking industry.

¹ *Email Address:* bordoloimunmi209@gmail.com (M.Bordoloi)



Information and technology are the key drivers of the information age. The information age has ushered in a knowledge-based industrial revolution. Among the various developments, technological development has taken place in the Indian banking system tremendously. Marketing executives experience radical changes in EDI (Electronic Data Interchange) and in supply chain management and integrated logistics; finance executives appreciate development in financial currency, banking and products/services in the electronic world. The influence of Technology is always based on customers' interactions and communications with banks. Electronic products and channels such as digital banking payment services, mobile banking services, UPI, services through AAPs, and plastic cards are offered along with conventional channels. There is a shift from traditional banking channels to digital banking channels as per the evidence suggestions in this regard. Customers are moving towards digital payments and settlement systems through reliable channels. Hence, Banks which develop digital capabilities are to benefit by providing greater convenience to the stakeholders.

Like most other activities in the banking sector, the RBI also set up two committees in quick succession to accelerate the pace of automation of operations in the banking sector. In the early 80s, a high-level committee was formed under the chairmanship of Dr.Rangarajan, then Governor of the RBI, to draw up a phased plan for computerisation and mechanisation in the banking industry over a five-year time frame. The focus by this time was on customer service, and two models of branch automation were developed and implemented in the 1990s. The digital banking system was viewed as secure and reliable in the initial stage. However, the digital banking system witnessed growth in the 2000s with the initiative taken by the government and the RBI. The digitised banking system has uplifted the satisfaction level of customers by providing anywhere, anytime banking services and has benefited banking organisations through cost savings and increased penetration.

The development of information and technology creates market conditions in such a way that customers can access more information and readily compare rates of financial products and service offerings by different financial institutions. For banks to sustain margin in the highly competitive consumer-empowered market, they need to find a way to differentiate the quality of customer service, product knowledge and reliability through digital channels. The development of digital banking systems and, particularly the web, provides additional channels for delivering retail products and supporting customers. Bank's products are generally based on physical location, but after the digitisation of the banking system, it facilitated customers to easily compare all the products and services for sign-up irrespective of location.

1.1.Digitalisation of Banking Architecture

Digital Banking is an upgradation and automation of traditional banking services. Digital banking enables concerned banks' customers to access and adopt all banking products and services via an online platform. Digital banking system is nothing but digitising all of the banking operations, products and services provided by concerned banking institutions and substituting the bank's physical presence with an everlasting

online presence, eliminating a consumer's need to visit a branch and many more. In the current digital age, the banking and financial services industry has undergone a significant transformation with the advent of new technologies and innovations. One such development is the emergence of digital banking architecture, which refers to the technical infrastructure that supports the delivery of banking services (Shanab and Anagreh, 2015).

1.2. Concept of Modern (Digital) Banking Architecture

In a modern context, customers are seeking easier, convenient and less complicated ways to move through their bank's virtual space and services offered. Banking Systems should be simpler, faster, and more convenient so that every age group of people can understand and access them according to their requirements. After the digitisation of banking products and services, banking institutions drove a customer-focused approach in every aspect that is directly or indirectly related to digital banking services, and simplification should be the main goal. Technological and multi-channel forms of banking are clearly the direction in which banking has moved over the last two decades. To accommodate customers' desire for digital banking, financial institutions must be equipped with the tools that create this convenient banking space (Pavithra, 2021).

Each bank has specific needs, financial objectives, and customer inclinations; accordingly, banks plan and execute their transformation towards a new architectural model. All banking institutions need a functional strategy to successfully manage their digital architecture. Much in the same way that an architect requires a blueprint, knowledge of materials, and a clear budget, banks require a similar set of tools to implement a new model for the smooth functioning of banking services.

1.2.1. Client-Server Architecture

Client-server architecture is a computer network system, i.e. remote processor, service requests of customers received from the centralised server (host computer) for processing. Client computers provide an interface to allow the bank customer to request services from the server and to display the results on the screen that the server returns to the customer. The bank server waits for requests to deliver from the clients and then responds to them accordingly. Ideally, a server provides a standardised, transparent interface to clients so that bank customers need not be aware of the specific computer system for doing a basic transaction. Client-server architecture is the most traditional and widely used type of digital banking architecture. The server is responsible for processing and storing customer data, as well as handling transactions and other banking operations. In this architecture, the client, such as a web browser or mobile application, communicates with a central server to access and manage banking services. Moreover, it also provides a high level of security and control.

1.2.2. Peer-To-Peer Architecture:

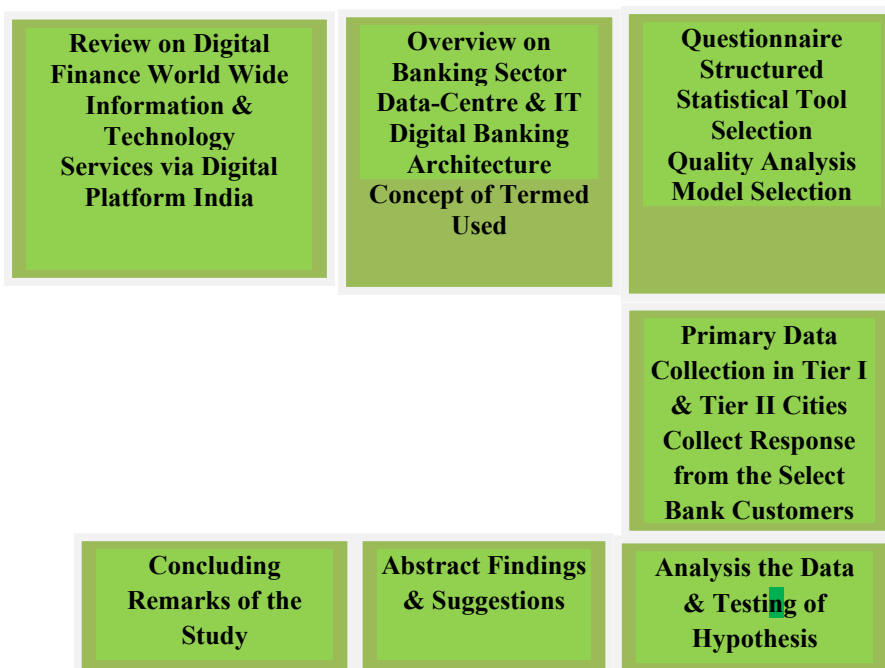
Peer-to-peer server is a payment platform that allows customers to link their bank accounts in the digital transaction platform for availing payment & lending so that the system can work together. In this server architecture, customers don't need to physically go to the banks for transactions; customers can transfer funds from the concerned account with less hassle. Most of the peer-to-peer payment systems require both parties to use the same application for making the transaction, but the accounts can be different for both parties. A peer-to-peer bank server is designed to make transactions between individuals via a digital app. Peer-to-peer (P2P) architecture is based on the decentralised model of distributed systems. In it, each peer (participant) acts as both a client and a server, allowing for direct communication and transactions without the requirements for a central server system.

2. Objectives of the study

- To identify and compare the challenges faced by the customers while availing Digital Banking services in the select cities.
- To understand the perception of customers from select cities with regard to the need for the proactive and reactive development of various support systems required for Digital Banking services.

3. Methodology

Figure 1 A Roadmap to Conduct the Study



The following hypotheses are formulated for testing the relationship between the variables.

H₀₁: There is no significant difference in the opinion between select cities on NEFT/RTGS and transactions through Debit/Credit cards.

H₀₂: There is no significant difference in the opinion of select cities' respondents on challenges faced with DBS

H03: There is no significant difference in respondents’ satisfaction level in respect of select cities on overall DBS.

To fulfil the objectives of this study, the researcher drafted the questionnaire with various closed-ended questions. Some of the questions were in bipolar scale (Yes/No type), some were multiple choice type, and others were framed with 5 5-point Likert scale. The questionnaire was distributed among the targeted customers according to the parameters requesting their responses.

3.1.Model for Perceptual Assessment of Service Quality: SERVQUAL Model

Studies like Lau *et al.* (2013), Mekonnen (2022), etc., use the SERVQUAL instrument (i.e. questionnaire) to measure potential service quality problems and the model of service quality to help diagnose possible causes of the problem. The model of service quality is built on the *expectancy-confirmation paradigm*, which suggests that consumers perceive quality in terms of their perceptions of how well a given service delivery meets their expectations of that delivery. Thus, service quality can be conceptualised as a simple equation:

$$SQ = P - E$$

Denotes;

SQ is Service Quality

P is the Individual's Perceptions of Given Service Delivery

E is the Individual's Expectations of a Given Service Delivery

4. Analysis and Interpretation

The SERVQUAL MODEL provided the following empirical evidence supporting the study:

4.1. TANGIBILITY - The Appeal of Facilities, Equipment, Material

Table 4.1.1 Respondents’ Opinion on TANGIBILITY

STATEMENT	SDA	DA	N	A	SA
I am able to login on the site quickly and the site is easy to navigate and simple to use	7 (0.9%)	22 (3%)	117 (15.8%)	387 (52.3%)	207 (28%)
It is not easy to find all the important information from the bank website	5 (0.7%)	144 (19.5%)	218 (29.5%)	270 (36.5%)	103 (13.9%)
The organization and structure of online content is easy to follow	0 (0%)	28 (3.8%)	184 (24.9%)	371 (50.1%)	157 (21.2%)
Physical evidence of the service is necessary	17 (2.3%)	39 (5.3%)	216 (29.2%)	333 (45%)	135 (18.2%)
Implementing modern innovation technology	4 (0.5%)	57 (7.7%)	233 (31.5%)	280 (37.8%)	166 (22.4%)

Compiled By the Researcher

Table 4.1.2 Respondents’ Opinion value TANGIBILITY

STATEMENT	Mean	SD	T value	P value	Decision
I can log in to the site quickly, and	3.94	0.85	-3.374	0.001	Significant

the site is easy to navigate and simple to use	4.13	0.74			
It is not easy to find all the important information on the bank website	3.54	0.96	3.026	0.003	Significant
The organisation and structure of online content are easy to follow	3.96	0.85	2.524	0.012	Significant
Physical evidence of the service is necessary	3.79	1.00	2.208	0.028	Significant
Implementing modern innovation technology	3.64	0.79			
	3.79	0.96	1.576	0.115	Not Significant
	3.69	0.85			

Compiled by the Researcher

Table 4.1.3 Respondents’ opinion on TANGIBILITY

Dimension	N	Mean	SD	t-value	p-value	Decision
TANGIBILITY	370	3.8038	0.68660	1.836	.067	Not Significant
	370	3.7211	0.52868			

Compiled by the Researcher

The average opinion score of public and private sector bank respondents for the dimension Tangibility is very close to each other, and the difference is not statistically significant at the 5% level of significance as per the insignificant p-value (0.067) of the t-test (1.836). Hence, the hypothesis is accepted.

4.2. RELIABILITY- Consistency of Performance and Dependability

Table 4.2.1 Respondents’ opinion on RELIABILITY

STATEMENT	SDA	DA	N	A	SA
The bank’s site freezes many times after I have put in all information	12 (1.6%)	54 (7.3%)	184 (24.9%)	319 (43.1%)	171 (23.1%)
My online transactions with the bank are not always accurate	33 (4.5%)	115 (15.5%)	223 (30.1%)	257 (34.7%)	112 (15.1%)
The bank does not resolve problems I encounter with my online transactions and does not compensate for the problem the bank create	4 (0.5%)	131 (17.7%)	263 (35.5%)	246 (33.2%)	96 (13%)
Customers are delighted and satisfied with the reliable services	12 (1.6%)	57 (7.7%)	171 (23.1%)	368 (49.7%)	132 (17.8%)
Keeping up their promises in rendering satisfactory services	12 (1.6%)	64 (8.6%)	262 (35.4%)	294 (39.7%)	108 (14.6%)
Maintaining error-free accounts	31 (4.2%)	75 (10.1%)	210 (28.4%)	291 (39.3%)	133 (18%)

Compiled by the Researcher

Table 4.2.2 Respondents’ Opinion value RELIABILITY

STATEMENT	Mean	SD	t- value	p value	Decision
The bank’s site freezes many times after I have put in all the information	3.77	0.92	-.511	0.610	Not Significant
My online transactions with the bank are not always accurate	3.81	0.95			
	3.31	1.08	-2.436	0.15	Significant
	3.50	1.03			

The bank does not resolve problems I encounter with my online transactions and does not compensate for the problem the bank create	3.29	0.92	-3.339	0.001	Significant
Customers are delighted and satisfied with the reliable services	3.72	0.95	-.699	0.485	Not Significant
Keeping up their promises in rendering satisfactory services	3.77	0.83	-654	0.513	Not Significant
Maintaining error-free accounts	3.55	0.98	-.500	0.618	Not Significant
	3.59	0.81			Significant
	3.55	1.12			Not Significant
	3.59	0.93			Significant

Compiled by the Researcher

Table 4.2.3 Respondents’ opinion on RELIABILITY

Dimension	N	Mean	SD	t-value	p-value	Decision
RELIABILITY	370	3.5315	0.71603	-1.957	0.051	Not Significant
	370	3.6284	0.62743			Significant

Compiled by the Researcher

About the dimension reliability, the overall opinion of the respondents belonging to both the cities, i.e. is more or less similar as per the insignificant p-value (0.051) and the corresponding t-value (-1.957) of the student t-test. The hypothesis is accepted.

4.3. RESPONSIVENESS- Willingness or Readiness of Employees to Provide Services

Table 4.3.1 Respondents’ opinion on RESPONSIVENESS

STATEMENT	SDA	DA	N	A	SA
The bank gives a prompt response to my request by e-mail or other means	20 (2.7%)	42 (5.7%)	165 (22.3%)	315 (42.6%)	198 (26.8%)
The bank is willing to help customers and provide prompt services	13 (1.8%)	108 (14.6%)	250 (33.8%)	255 (34.5%)	114 (15.4%)
The bank’s site takes a long time to provide confirmation of the services ordered	7 (0.9%)	31 (4.2%)	235 (31.8%)	338 (45.7%)	129 (17.4%)
Encouraging the customers of all category, even the self-help groups	4 (0.5%)	61 (8.2%)	251 (33.9%)	335 (45.3%)	89 (12%)
Make the employees responsible for the customer needs	0 (0%)	75 (10.1%)	304 (41.1%)	261 (35.3%)	100 (13.5%)
Inform the latest schemes, products and services to the customers	0 (0%)	27 (3.6%)	182 (24.6%)	292 (39.5%)	239 (32.3%)

Compiled by the Researcher

Table 4.3.2 Respondents’ Opinion value RESPONSIVENESS

STATEMENT	Mean	SD	t- value	p-value	Decision
The bank gives a prompt response to my request by e-mail or other means	3.82 3.88	0.95 0.98	-795	0.426	Not Significant
The bank is willing to help customers and provide prompt services	3.71 3.78	0.79 0.94	-1.025	0.306	Not Significant
The bank’s site takes a long time to provide confirmation of the services ordered	3.48 3.46	0.94 1.02	.338	.735	Not Significant
Encouraging the customers of all	3.56	0.82	1.124	.261	Not Significant

categories even the self-help groups	3.49	0.88			Significant
Make the employees responsible for the customer needs	3.58	0.91	-.535	0.593	Not Significant
Inform the latest schemes, products and services to the customers	3.71	0.97	2.140	.033	Not Significant
	3.56	0.88			Significant

Compiled by the Researcher

Table 4.3.3 Respondents’ opinion on RESPONSIVENESS

Dimension	N	Mean	SD	T Value	P Value	Decision
RESPONSIVENESS	370	3.6450	.65802	.317	.752	Not Significant
	370	3.6302	.61872			

Compiled by the Researcher

The above table explains about the overall opinion of the respondents on willingness to serve the customer by the bank employees. The p-value of the student t-test is greater than 0.05, the level of significance, which reveals that there is no significant difference between the banks' respondents’ opinion on the above-mentioned aspect at 5% level of significance. Hence, the decision is not significant, and the hypothesis is accepted.

4.4. ASSURANCE- the knowledge and courtesy of employees and their ability to convey trust and confidence

Table 4.4.1 Respondents’ opinion on ASSURANCE

STATEMENT	SDA	DA	N	A	SA
The bank does not misuse my personal information	12 (1.6%)	61 (8.2%)	188 (25.4%)	311 (42%)	168 (22.7%)
The bank takes care in handling my personal information	2 (0.3%)	73 (9.9%)	271 (36.6%)	239 (32.3%)	155 (20.9%)
I don’t feel safe in my online transactions with the bank	39 (5.3%)	106 (14.3%)	236 (31.9%)	250 (33.8%)	109 (14.7%)

Compiled by the Researcher

Table 4.4.2 Respondents’ opinion value ASSURANCE

STATEMENT	Mean	SD	t-value	p-value	Decision
The bank gives a prompt response to my request by e-mail or other means	3.92	0.92	-2.573	0.10	Significant
The bank is willing to help customers and provide prompt service	4.08	0.76			
	3.86	0.91	-.172	0.863	Not Significant
The bank’s site takes a long time to provide confirmation of the services ordered	3.87	0.80			
	3.45	1.05	1.589	0.113	Not Significant
	3.32	1.08			Significant

Compiled by the Researcher

Table 4.4.3 Respondents’ opinion on ASSURANCE

Dimension	N	Mean	SD	t-value	p-value	Decision
ASSURANCE	370	3.7432	0.75668	-.310	0.757	Not Significant
	370	3.7586	0.57497			Significant

Compiled by the Researcher

About the assurance provided by the banks, both respondents opined similarly, with an average opinion score very close to 3.75, i.e., 3/4th of the respondents feel that their banks are providing security for their personal information and online transactions done by them. The result is insignificant, and the hypothesis is accepted.

4.5. EMPATHY- Providing caring, individualised attention to customers

Table 4.5.1 Respondents’ opinion on EMPATHY

STATEMENT	SDA	DA	N	A	SA
The bank is not easily accessible	2	52	157	362	167
by telephone	(0.3%)	(7%)	(21.2%)	(48.9%)	(22.6%)
The site has no customer service	8	114	180	355	83
representative available online	(1.1%)	(15.4%)	(24.3%)	(48%)	(11.2%)
Bank’s site is designed so that it contains	0	59	258	298	125
all the information needed for customers.	(0%)	(8%)	(34.9%)	(40.3%)	(16.9%)

Compiled by the Researcher

Table 4.5.2 Respondents’ opinion value EMPATHY

STATEMENT	Mean	SD	t-value	p-value	Decision
The bank is not easily accessible	3.73	0.92	-.852	0.394	Not
by telephone	3.79	0.98			Significant
The site has no customer service	3.62	0.98	2.605	0.009	Significant
representative available online	3.44	0.92			
Bank’s site is designed so that it	3.55	0.87	-3.619	.000	Significant
obtains all the information needed	3.77	0.81			
to the customer.					

Compiled by the Researcher

Table 4.5.3 Respondents’ opinion on EMPATHY

Dimension	N	Mean	SD	t-value	p-value	Decision
EMPATHY	370	3.6315	0.76369	-.0661	0.509	Not
	370	3.6676	0.71778			Significant

Compiled by the Researcher

The overall opinion of the respondents related to both the sectors banks with regard to empathy is more or less similar as per the insignificant p-value (0.509) and t-test (-.661) mentioned above. Hence, the hypothesis is accepted.

5. Findings of the Study

5.1. Customers’ Perception of the Digital Banking System

The stakeholders (customers) from select cities and public & private sector banks were targeted for the study, below is a discussion of the key findings:

- **Awareness and usage:** Approximately, stakeholders (Customers) are aware of various digital banking products and services and have used Services mostly through ATMs and APPs for comparatively low transactions. Although there are stakeholders who have stated that they are aware of certain digital banking products and services, but used none because of the procedural difficulties they faced in terms of language, accessibility and confidence.
- **Benefits and Difficulties of Digital Banking Products and Services:** Benefits and difficulties of digital banking products and services were explored across different demographic variables. Statistical test (Chi-Square value, p-value, t-value) reflects the existing difference in opinion in select cities' customers on challenges faced and support systems on Digital banking products and services. For the demographic variables like education, income level and occupation, there is no significant difference in perception in the digital banking system.
- **Digital Banking System Performance Disclosure:** There is a significant difference in certain aspect that impacts on digital banking systems in terms of digital banking strategies and proactive as well as reactive support system for adoption, RBI roles etc. Additionally, perception differences do exist in certain age group of customers (Between 40- 60 ages, approx) in both cities.
- **Proactive and Reactive Support System:** Stakeholders from select cities differ in their opinion according to the age categories that digital banking systems enhance the knowledge on digital products and services facilitated by the banking institutions, digital banking systems easily handle new technology and give positive impressions on customers' minds. It is observed in the study that most of the time, customers faced difficulties in adopting digital banking services due to various procedural difficulties and a lack of human touch.
- **Qualities of Digital Banking System:** The qualities of digital banking system were measured by using 14 combinations and clubbed with 6 dimensions along with sub-dimensions, tested across the geographical spread selected for the study. It has been observed that perception on the digital banking system vary according to the concern categories of cities in India.
- **Satisfaction with Digital Banking System:** Satisfaction with quality support system of digital banking system is examined in this study by using SERVQUEL model. It is found that approximately 70% of the stakeholders are satisfied with the quality of digital banking systems. But there is significance in perception is observed between cities respondents in certain age categories.
- **Sources of Information:** Frequency analysis of various sources of information on digital banking systems revealed that the traditional banking system is the most common source of receiving information on digital products and services offered by the banks, followed by online sources and social media.

5.1.1. Aspect 1: Bankers' Assistance and Stakeholders' Perception

It has been found that for carrying out digital banking services, the customer must have some knowledge about the internet, but at the same time, many people who are not comfortable with computers find it difficult to use this service. Hence, many of the respondents state their neutral opinion on various statements regarding Tangibility under the SERVQUAL model, with the appeal of facilities, equipment and material handling regarding digital banking services. It is found that customers face difficulties in case the bank server goes down while making an urgent transaction. It has been found that the biggest problem of the digital banking system is the risk of fraud. It has been found that customers cannot make in time transactions on time because the bank's computer has an extremely high volume.

5.1.2. Aspect 2: Stakeholders (Customers') Opinion On Security Aspect

It is found that the digital banking service is time-consuming for beginners. It is found that many people find it difficult to trust a completely mechanised system to carry out their financial transactions. It is establishing that the level of customer trust in generating digital transaction the level of satisfaction is very less due to unavailability of guarantee statements every transaction as compared to conventional banking for or sometime time customers find it difficult where they can download the transactions summary for proof due to lack of knowledge regarding the service structure and they feel insecure with large transactions. Customers stated a neutral opinion on the knowledge and ability to convey trust and confidence in assurance under the SERVQUAL model.

5.1.3. Aspect 3: Stakeholders' (Customers') Opinion on Large Transactions

It has been noted that, in a digital banking system, there is a possibility of leaked transactions and hacking of accounts. It is observed in the study that customers are very conscious about the security of the usage of credit cards, debit cards and other electronic transfers. It has been found that most of the respondents face privacy issues regarding digitalised transactions. It is found that many times, technical difficulties create problems for the customer to complete their transaction. Reliability under the SERVQUAL model is clearly found in customers state their opinions, on neutral.

5.1.4. Aspect 4: Stakeholders' (Customers') Opinion on Proactive and Reactive Support

It is found that service outages become an issue because customers get used to having access to a number of online services, which results in long lines in case of a lengthy outage. It is also found that customers are not aware of the proper use of digital banking services, i.e. about password setting, logging out, and closing the browser after completing online transactions. It is established that most of the respondents have a fear of thieves in case they write down the password and username somewhere. Readiness to provide service assistance in the digital banking system, customers agreed with the Responsiveness aspect under the SEVQUAL model.

5.1.5: Aspect 5: Stakeholders' (Customers) Opinion on Procedural Aspect

It is found that customers face difficulties in case the bank server goes down while making an urgent transaction. It has been found that the biggest problem of the digital banking system is the risk of fraud. It is observed that customers cannot make it in time in case of bank's computer has an extremely high volume. It has been found that most of the respondents face problems in case of the transaction is complex in nature and requires direct communication or a meeting, instead of an online portal. It has been found that charges involved in the digitalised banking services are too high for the general customers. It is also found that customers are not satisfied with the problem-solving approach of banks, and many times customer feels hesitant to call the toll-free number provided by banks. Customers find it a little difficult due to a lack of individual attention to the customers on empathy under the SERVQUAL model.

5.1.6. Sub-Dimension 1: The Extent of Adoption of DBS

From the study, it is clear that, after compilation of responses collected from select cities, 282 respondents (38.1%) out of the total sample of 740 are found in the age group of below 50 years, and the lowest 12.8 per cent are in between 51-60 years. Regarding public sector banks, the highest 34.3 per cent are below 40 years, and the lowest 16.5 per cent are between 51-60 years. Whereas in private sector banks, the highest 41.9 per cent are below 40 years, and the lowest 5.4 per cent are found in the age group of 51-60 years. It may be concluded that about 66.5 per cent of the total sample respondents are below 40 years. In other words, the sample respondents are young and want to use digital banking services. On the other hand, the lowest 12.8 per cent of the respondents are between 51-60 years. The p-value of the chi-square test is less than 0.05, the level of significance, so it is concluded that age and type of bank are dependent on each other, i.e., a significantly higher age group of respondents prefer public sector banks. Similarly, a significant majority of the lower age group respondents prefer private banks. The difference in the proportions is statistically significant. The hypothesis is refuted.

5.1.8. Sub Dimension 2: Digital Banking Activities according to the Nature of the Bank

It is also found from the researcher's observation that a majority of the respondents are private employees because nowadays the private sector is dominating the public sector, and it is proven in the present study. The proportion of private employees is significantly higher in private sector banks from the select banks and their branches in both cities; on the other hand, the proportion of government employees is significantly higher in public sector banks. Thus, it can be concluded that occupation of the respondents has an impact on the type of bank they had chosen, as per the chi-square value 36.675 and p-value 0.000. There is a difference of opinion among the total sample respondents. The decision is significant, and the hypothesis is rejected.

5.1.9. Sub-Dimension 3: Customer Perception According to the Demographic Variables

The hypothesis is rejected for the following variables like age, occupation, banking experience, usage of

banking services, usage of Digital Banking products and services, internet facility at home, usage of banking products and services via APPs, degree of confidence on digital banking, manual banking is more convenient than digital banking versus public and private sector bank in cities in India. Hence, there is a significant difference of opinion among the bank respondents on the above variables. These variables are dependent on each other. For the variables monthly income and internet facility at home, the hypothesis is accepted; hence, the variables are independent of each other.

5.2: Findings on Challenges Faced by the Customers

5.2.1: Sub Dimension 4: Conceptual Awareness and Issues

This section of the study denotes the respondents' degree of confidence in Digital banking services. It is to be noted that about 35.4% of the total respondents revealed some confidence and 34.2% of the total sample respondents revealed high confidence in digital banking services, respectively, whereas 15.4% and 6.6% of the respondents showed little and very high confidence, respectively. The highest and lowest confidence percentages among public bank respondents is high confidence (33.0%) and very high confidence (5.9%). For private banks, respondents expressed some confidence (41.1%) and little confidence (7.0%). Overall, it may be concluded that respondents have some confidence (35.4%) and high confidence (34.2%) in digital banking. On the other hand, some of the respondents lack confidence in digital banking services.

5.2.2. Sub Dimension 5: Customers' Perception of Bankers' Service Delivery

It may be concluded that a huge majority of 87.2 % of the total respondents agree that digital channels will completely replace bank branches because people may sit at home and do the banking transactions through internet and withdraw, deposits, transfer money through ATM and customers can use and carry out other banking transactions rather than going to the bank. Overall, both the bank respondents are comfortable using digital banking channels to carry out banking transactions than going to another bank. There is no significant difference as per the chi-square test mentioned above. Hence, the hypothesis is accepted, and the variables are independent of each other. But after analysing the responses in cities, a considerable number of responses are found that the age group of people between 45 to 60 years, still find it difficult to go to the various digital banking services when it comes to huge transactions, NEFT, RTGS, etc. The calculated Chi-square values and its corresponding p-values are found to be significant for the variables periodicity usage of various types of digital banking transactions like bill payments, money transfer, online booking, online shopping UPI payments and card payments like ATM card, credit cards, information technology has increased the gap between bank and the client, security of financial information, technological banking discourages. There is a significant difference of opinion among the public and private banks respondents for the above variables according to the age categories. Hence, the hypothesis is refuted. The hypothesis is accepted for the variables comfortable to use ATM and technology banking assures concerned age category.

Therefore, the variables are independent of each other.

5.2.3. Sub Dimension 6: Proactive Support System On DBS

About the statement lack of human touch has increased the 'gap' between the banks and the customers, a significant majority of the respondents who were having account in public sector banks is agreed with the statement when compared with private sector banks respondents i.e., the difference in the opinion on this aspect is statistically significant. There is a difference of opinion among the public and private banks respondents. Therefore, the hypothesis is refuted.

6. Conclusion

This study will act as a guide for Indian banks to diversify their digital banking activities and adopt more and more digital banking products and services according to the classification of cities. Evaluation scorecard contributed to evaluating banks' services and the proactive & reactive support system for that. The statistical index will become the basis for evaluating the performance of the digital banking system and improving customers' perception regarding the same. Since the people in general do not possess all the knowledge and information about the DBS, bankers should come forward to take steps to make them aware of the advantages of DBS services. Among the sample respondent's significant difference was noted between their expectation and satisfaction levels with regards to various digital banking facilities availed by banks. Hence, banks must take this issue under consideration and overcome the support barriers. Most customers are not using DBS due to the possibility of risk, so it is suggested that bankers should attempt to remove this fear from the customers' minds. Customers are facing various technical difficulties at the time of using various DBS, server slowness, sudden page clogging, etc., so it is suggested to the high authority to remove these types of challenges. Banks can hold education campaigns with the help of IT personnel regarding the uses of the digital banking system and should create awareness through publications, lectures, television, seminars, training and so on. The government should provide enough funds to hold such campaigns. Banks should work on building trust of the customers towards digitalised services. Banks should effectively design their websites as a service-providing mechanism, and they should also give information beyond the services offered by banks. Banks should eliminate the language barriers to have effective communication with clients. Specifically, in India, banks should provide banking information in English as well as in Hindi (the local language). Banks should have more prevention measures against hackers, as it is the primary concern for the customers. It was found that there are no significant prevention measures against intrusion attacks in the banks. Banks should take significant action in this direction. In case of a complex transaction, a support system needs to be there for the convenience of the customers.

References

Lau, M. M., Cheung, R., Lam, A. Y., & Chu, T. Y. (2013). Measuring service quality in the banking industry: A Hong Kong-based study. *Contemporary Management Research*, 9(3), 263–282.

- Mekonnen, T. H. (2022). Effects of electronic banking service quality on customer satisfaction: In the case of Commercial Bank of Ethiopia in Africa Region, Ethiopia. *International Journal of Health Sciences*, 6(S1), 9578–9594.
- Pavithra, C. B. (2021). Factors affecting customers' perception towards digital banking services. *Turkish Journal of Computer and Mathematics Education*, 12(11), 1608–1614.
- Shanab, E. A., & Anagreh, L. (2015). Impact of electronic customer relationship management in banking sector. *International Journal of Electronic Customer Relationship Management*, 9(4), 254–271.