

On Consumer satisfaction in case of electronic Banking: A Study of the e-Banking services provided by SBI (State Bank of India) in India

Shikhar Sinha

Student Manager at (BIIB)
Sri Balaji University Pune
shikher8520@gmail.com

Dr. Tushar Rathore

Faculty (BIIB)
Sri Balaji University Pune
tushar103tr@gmail.com

Abstract

This research has focused its attention on the measurement of the degree of satisfaction among the customers of the State Bank of India (SBI) in its branches in India who are availing the e-Banking (Electronic Banking) facilities offered by the bank for its customers. This research holds a lot of significance since digital banking is on the rise in India, making it imperative to understand how the customer perceives or feels about such services. This research was carried out in the form of an extensive study through surveys with the respondents for gathering insights from the customers of SBI to know about their experiences with the e-Banking services provided by SBI along with other information like their concerns over the security systems implemented by SBI for ensuring the integrity of their transactions to facilitate hassle-free banking. The ultimate aim of this research is to provide information, useful to the policymakers and stakeholders in the Indian banking and finance industry, which would enable SBI to maintain its position as one of the foremost providers of digital banking services, enabling it to adapt to the changing needs and expectations of the customers, today and tomorrow, enabling it to be true to the expectations by its customers in India and in the world.

Keywords- E-banking, Digital transformation, Service quality, Technological innovation, Customer satisfaction.

1. Introduction:

The State Bank of India (SBI) is the largest, public sector bank in India with a 23 percent market share in the banking services industry and has been at the front of the efforts for digital transformation in the Indian banking sector and is doing its part in enhancing and improving the ways the customers are engaging with its e-Banking services in a significant way. Recent studies in this realm have cast a light on the important aspects of customer satisfaction, regarding the digital banking services offered by SBI along with understanding the roles played by convenience, security and efficiency as the key drivers for positive experiences for the customers (Kumar et. al., 2022; Singh et. al., 2023). These insights reveal the commitment made by the SBI for providing the best experiences to its customers, in a way which will maintain the level of experiences provided by the SBI for its customers through relentless digital innovation,

designed for providing comfortable, on-time, safe and seamless banking experiences to its customers. The data (SBI Internal survey, 2022) reveals that SBI's efforts in this regard are bearing fruit as more than 90% of its customers are using its digital banking services and around 92% of its customers have expressed satisfaction with the quality of the e-banking services provided by SBI (SBI Annual Report, 2022; Rai et. al., 2023).

It is to be noted that localized studies in Chennai and Coimbatore have revealed that there is scope for improvement, regarding e-banking services offered by the State Bank of India (SBI) such as website UI, the general usability level of its e-banking App, level of personalization in the services delivered by SBI, the speed in which the transaction gets completed, etc. These factors are significant matrices in the framework of customer satisfaction and must be taken seriously as

the customers will not hesitate in changing their loyalty to another bank which is offering higher quality services and the State Bank of India (SBI) can capitalize on the positives it has earned in terms of the above and can maintain its position in the market by continuing its delivery of quality e-banking services to its customers along with navigating the changing map in the wake of the ongoing digital transformation in the country, in an effective way (Rai et. al., 2023). Customer feedback has been identified by SBI as a valuable source of crucial data as through the analysis of this data, information is generated which can guide SBI in taking decisions for evolving in a dynamic way to fulfill the various needs and requirements of its customers.

The data, particularly in case of positive customer experiences plays a vital role in attracting new clients and retaining them while building trust with the clients, necessary for long term business with the clients along with complying with the regulatory rules, regulations and standards. Recent studies conducted in several cities in India confirm the above, highlighting the role played by positive feedback in a customer's loyalty to his bank along with disclosure of areas of possible improvement within the State Bank of India.

(SBI) e-banking services system such as the Website and Mobile App UI, necessary for the provision of a comfortable user experience for SBI's many customers (Rai et. al., 2023). The research studies, conducted on a nationwide scale have indicated that the customers have expressed dissatisfaction with the way the customer support and the complaint resolution process and systems are working, indicating that these areas are in need for further improvement. The analysis of the complaints suggests that the SBI could start with rectification of the speeds in which the transactions usually occur so that they can bring it down to the levels so desired by the customers, along with modifying the way errors are handled and settled for greater customer convenience (Rai et. al., 2023).

This research seeks to study the different dimensions of the State Bank of India (SBI)'s banking services via comparison of the general satisfaction levels of the customers with the traditional (physical, counter based) banking services offered by SBI along with an analysis of the factors influencing the e-banking services adoption by the customers and to study the impact of the security measures offered by the bank on their satisfaction levels and has been conducted in response to the banking industry in India's digital shift for identification of patterns in the behavior of customers, crucial for the growth of SBI (Rai et. al., 2023). Moreover, the purpose of this study is to benchmark the efforts of the SBI's efforts in maintaining its edge against the competition, to identify areas for further enhancement which can be useful for guiding strategic decisions for improving the e-

banking services offered by the SBI.

In addition, this research has also performed an exploration of the socio-economic impact of e-banking, particularly in its role as a promoter of financial inclusion and economic growth while addressing the obstacles to technological adoption in the Indian banking industry from a broader perspective. This research adds on to the body of literature, lending a helping hand for understanding the topic from an academic perspective along with displaying its practical applications which in toto provide an insight into the behavior patterns, satisfaction levels and preferences of the consumers in an Indian context and can be of use to the State Bank of India (SBI) in enhancing the quality levels of their services offered to their customers, through the acquisition of information from a rigorous analysis of the data points related to consumer satisfaction regarding the e-banking industry in India and from a managerial perspective, this research can be useful to the stakeholders as it emphasizes on the efforts for enhancing the quality of the e-banking services offered to the customers along with the implementation of the personalized strategies for enhancing the way business is done with the customers, taking of decisions related to strategic technological investments and for the provision of effective training to the employees for optimizing the way they assist the customers in enhancing their satisfaction levels with the e-banking services offered by the SBI.

There is scope for further research in this topic, particularly in the area of longitudinal exploration along with technological exploration of the ways in which the customer service personnel in the SBI can innovate new ways in which they can further refine and enhance the experiences of the customers in their e-banking operations with SBI and can lead to interesting research papers or book chapters in the days ahead, which could lead to policy level decisions, designed to meet the evolving needs of the digital consumers in India, today and in the future.

2. Literature Review:

Consumer satisfaction is one of the few crucial indices important for any business today, as it is an indicator which can reveal to the stakeholders how the business is going, acting in a similar way like a barometer which reveals how the customers feel about the business. With reference to the banking services offered by the State Bank of India (SBI), this is a crucial indicator, particularly in case of e-banking services, which due to its nature can be done at the consumer's own convenience and it is in the interest of SBI to make sure that the quality of their services being provided is as per the expectations of the customers so that they will continue with SBI for the solution of their banking needs. The State Bank of

India is one of India's biggest and oldest banks with a history dating back a century and has played a pivotal role in the Indian financial landscape for many decades until date offering various services to millions of customers in the country. The SBI has subjected itself to constant improvement and change, ensuring that it will capture the customers who are in need of quality banking services and its forays into the e-banking services is a foray in congruence with the above, to ensure that the bank will offer its customers quality banking services at their own convenient time and place. Due to the unique place occupied by the SBI in the Indian banking industry and in the wake of the constant evolution, change and growth witnessed in this industry, it is necessary to comprehend the factors which play a role in influencing the consumer satisfaction with the e-banking services offered by SBI as the information resulting from the analysis can be useful for the stakeholders and policy makers in the banking industry and the country.

One of the key factors which determine the levels of consumer satisfaction with the e-banking services offered by the State Bank of India (SBI) is the robust and strong, technological infrastructure it provides, necessary for the provision of the desired levels of quality in the e-banking services provided to the customers and this has been evidenced in the SBI's frequent investments in the latest technologies in the banking industry, enabling it to offer its customers a smooth, reliable and sure banking experience through various digital platforms, wherein the SBI has established its presence. Prior research studies in this topic have found a consistent factor that the customers who have perceived the e-banking services offered by the SBI as reliable and user friendly have a higher chance of reporting higher levels of consumer satisfaction level with the e-banking services availed by them, as offered by the SBI (Gupta et. al., 2018) Lending credibility to the claim that the SBI's relentless commitment for maintaining the levels of quality in the services offered by it, as per the expectations of its customers via the changes, innovations and other developments made by the banks in its software/hardware and other infrastructure has enabled it to cement its place on the topmost echelons in the e-banking landscape in India. Security, and trust play another crucial factor that affects levels of consumer satisfaction in the Indian banking industry across the e-banking vertical.

Security as in the extent to which the bank assures that the sensitive personal financial data and information as saved/uploaded onto its servers by its customers will remain safe and protected from any third party and Trust as in the extent to which the bank delivers in concrete terms its assurances made its customers regarding security of their data. The State Bank of India has implemented, as one of its several measures for reassuring their customers that they are safe and they can

relax while banking with them, several security measures to ensure the integrity and privacy of the data pertaining to their customers like above, because this information plays a critical role within the customers.

Bhatia & Jain (2015) have underscored the important role played by security in the e-banking satisfaction indicators framework as the customers who have a high degree of faith in the secureness of the e-banking services offered by the State Bank of India (SBI) are more likely to be satisfied more with the SBI than other banks regarding the online transactions conducted by them with the SBI. It could be stated that the convenience and accessibility of the e-banking services (due to such services being availed by the customers at their own time/place can be considered as the consumer satisfaction pivoting factors. With reference to the SBI, it has put in the effort to earn the satisfaction levels expressed towards it by its customers through its variety of e-banking services offered in the market (smart device/app/computer based) enabling greater convenience for its customers in today's date.

Agrawal & Singh (2019)'s findings in their research supports the above claim made by Bhatia & Jain (2015), lending credibility to the connection between customer satisfaction and the quality of the e-banking services embodied in the levels of convenience and accessibility offered by the banks and has been mirrored in case of the State Bank of India (SBI)'s commitment in meeting the changing needs of its customers in a way which does not compromise or change to the detriment of its customers, the ways in which they access the e-banking services offered by the SBI in a smooth and sure way and the bank has taken steps such as establishment of a diverse network of customer support channels ranging from offline support channels to online support channels via phone lines, website/app based chat and other ancillary ways for addressing and settling the queries and complaints raised by its customers in a smooth way.

Sarkar et. al (2016) has emphasized the significance of responsive customer support as a factor for driving customer satisfaction levels as the customers, who have received effective and on-time support from the State Bank of India (SBI) have a greater chance to be satisfied with their experiences with the e-banking services offered by the SBI and this commitment to its customers by the SBI extends to the bank's efforts in addressing the queries, concerns and complaints raised by its customers and settling them in a swift and conclusive way, reinforcing the bank's reputation as one of the foremost customer centric banks in India.

The role played by customization and personalization of the e-banking services offered to the customers cannot be ignored as a factor of consumer satisfaction and in case of the State Bank of India (SBI), the bank is offering a large range of customization options for its customers

such as personalized dashboards in its e-banking interface along with targeted promotions based on the customer's individual level needs and preferences, enabling the bank to provide a seamless and comfortable experience for its customers. The research also suggests that the level of personalization of the services offered by the banks can act in favor in their loyalty to the banks and in case of the SBI, the consumers who perceive the e-banking services offered by the bank as being in congruence with their desired levels of quality, they are more likely to become customers who are highly satisfied and engaged with the bank, developing a strong sense of loyalty to the SBI (Sreenivasan & Khanna, 2018).

In conclusion, it can be stated a consumer's satisfaction with the e-banking services availed by him/her depend on a various number of factors such as the technological infrastructure (hardware, software, firmware, etc.), the level of training provided to the front/back end personnel providing the e-banking services, the levels of security offered by the bank for the protection/security of the sensitive financial data and the different levels of customer support and the ways/means of customization of the services offered to the customers, etc. and this information can be useful for banks, keen on attracting more customers to them than their competitors.

The State Bank of India (SBI) is a leading player in the Indian banking industry and has made several efforts for improving the ways in which it offers a diverse bouquet of services to its customers and is doing the work in making sure that the quality of the bouquet of services it is offering is as per their expectations. However, it would not be wise for the bank to become complacent as further refinements and improvements will be required from the part of the bank so as to cater to the changing needs and preferences of the customers and advancements/changes/improvements in the global banking technologies. Being that the banking industry, too is on the path of evolution, SBI has to evolve in a similar way, which can match the pace of evolution so that it will ensure that its commitment in improving the ways in which it offers its e-banking services to the customers and the efforts in which it addresses and settles the queries, concerns and complaints raised by its customers can assume a critical form, through which it can maintain, improve and expand its share of the market. Further research studies in this topic can add to the body of literature, with the findings being useful to the SBI and other banks in India in making sense of the needs of their customers in a very clear way, enabling them to be in a better position, to lend a helping hand to them in satisfying their diverse needs through their e-banking systems, personnel and services.

3. Gap Analysis

The researchers have found a gap in the research, in

the literature assessing the connection between the variable of customer satisfaction and the segment variables – age, gender, income, location, etc. relating to the customers. Through this research, this gap can be addressed to, which can assist the State Bank of India (SBI) in tailoring the services it is offering for meeting the specific needs of the customers. The data also suggests that there is an additional gap in the research, through which the researchers can explain the connection between the efforts of the SBI in addressing the concerns related to data privacy and security of the sensitive financial information of its customers and the way in which these factors affect the satisfaction levels of the customers in an overall way and can lead to ways in which the SBI could enhance its various security measures and systems in a further way to strengthen the trust levels held true by its customers in the banking services offered by the bank in the country.

4. Research Objectives

1. To quantify the limits of the client satisfaction levels with respect to the electronic banking services provided by the State Bank of India as compared to other traditional financial services in India.
2. To carry out a research study into the reasons responsible for impacting the way customers are using the different e-banking services provided by the State Bank of India in India.
3. To analyze the possible co-relationship of the factor of State Bank of India's e-banking services attributes and the customer satisfaction levels with such services in the Indian market.
4. To analyze the co-relationship between the security measures that have been incorporated in the system framework of the e-banking services offered by the State Bank of India and the customer satisfaction levels amidst its clients in India.

5. Research Methodology

The researchers used the method of 'mixed approach' wherein they obtained the primary data from the samples through the method of stratified sampling (considering the age and employment status of the respondents into account, for ensuring a more representative sample) via presentation of questionnaires to the samples along with further analysis of the data using statistical software based quantitative techniques for the generation of descriptive statistical information such as mean, frequencies and percentages. The researchers used the published research literature, reports, documents, and other literature related to the research in form of secondary data for the conduction of content analysis of

the qualitative data to identify emerging themes and patterns in the data.

A comprehensive questionnaire was prepared by the researchers with questions designed to gather specific data points, of use to the researchers for the examination of the various factor aspects of consumer satisfaction such as specific e-banking features, the levels of security provided for the data, ways in which they engaged with the system, etc. in order to gain information for gaining a specific understanding in a holistic way about the various sentiments of the customers. The questions were framed in both open-ended and closed-ended forms, and varied amounts of both quantitative and qualitative information along with simple demographic details were captured from the respondents. The same were then served to them through electronic means – email, WhatsApp messaging etc. and physical means – physical distribution, delivery by post, etc. to reach a diversified sample base of the State Bank of India across various regions in India. The research was conducted keeping the tenets of research ethics in mind and the privacy/integrity of the data along with the personal information of the respondents was kept confidential.

Population: The population defined for the study was between 18 to 55 years, divided into two strata-18 to 35 and 36 to 55 years respectively. The first stratum is the younger generation, and the latter is the older generation. The first stratum is more keen on e-banking services than the second stratum due to their techno savvy nature, whereas the second stratum prefers to use traditional, or in other words, physical counter-based banking operations. Employment status of the respondents in the strata was also found to be an influential factor for e-banking usage as the working professionals in the strata were more likely to avail of the electronic banking services than those who were not working due to the convenience factor (time being a luxury for such professionals) and efficiency (the professional can avail of several e-banking services at the same time). This is supported by data released by the State Bank of India in 2022, where the report revealed that 80% of its customers who availed of e-banking services in this time were working professionals. The data also shows that 60% of the non-working individuals preferred using physical, counter-based banking services than e-banking services due to them requiring additional support (due to their age) or lack of motivation for using e-banking services in a complete form. Findings of the study, were presented and deliberated upon by the researchers to facilitate meaningful inferences for them to submit suggestions and recommendations to stakeholders and policymakers in State Bank of India, and also in Indian banking and financial system for decisions that would lead to safer, smoother on time, operations in e-banking services offered by State Bank of India.

Hypothesis statements

The researchers have formulated the following hypothesis statements:

- **(Null) Hypothesis 1:** There is no connection between the user's happiness/satisfaction levels with the frequency of their usage about the e-banking services offered by the State Bank of India as an increase in 'x' will also cause an increase in 'y'.
- **(Alternate) Hypothesis 1:** There is a connection between the user's happiness/satisfaction levels with the frequency of their usage about the e-banking services offered by the State Bank of India as an increase in 'x' will also cause an increase in 'y'.
- **(Null) Hypothesis 2:** The customer's satisfaction with the e-banking services offered by the State Bank of India is not influenced by the factors of – ease of usage (with the e-banking services), security mechanisms (used by the e-banking services for protection of financial data), ease of accessibility (of the e-banking services) and quality of the customer support provided by the State Bank of India.
- **(Alternate) Hypothesis 2:** The customer's satisfaction with the e-banking services offered by the State Bank of India is influenced by the factors of – ease of usage (with the e-banking services), security mechanisms (used by the e-banking services for protection of financial data), ease of accessibility (of the e-banking services) and quality of the customer support provided by the State Bank of India.

Data Analysis and Hypothesis Testing

Test Used- Non-Parametric One Sample Chi-Square Test

Table 1

Demographic Variables			
Employment Status		Age	
Student	52.8	18-28	39.6
Employed	39.6	28-38	30.2
Unemployed	1.9	38-48	17
Retired	5.7	Above 48	13.2
Percentage	100.00		100.0

Note: Table 1 illustrates the distribution of respondents' employment status and age in percentage terms

More about table 1

Employment Status:

- 52.8% of the population are students, which means half of the people are in their study phase of life.

- 39.6% are working, and that is quite a significant part of the people working in their life.
- 1.9% is considered as unemployed, and this percentage is relatively low, indicating that hardly anybody is currently in search of jobs.
- About 5.7% of the population is described as retired, meaning that a minor proportion of the population has attained retirement age and is not actively working in the formal sector.
- The sum total also adds up to 100%, thus ensuring that the classification of employment statuses for the population is correct.

Age Distribution:

- About 39.6% of the population falls between the ages of 18-28, meaning that the population has a substantial proportion of young people.
- Around 30.2 percent falls within the 28-38 age bracket, meaning nearly one-third would fall in between late twenties and early thirties.
- About 17% falls in 38-48 years age range, indicating almost a minuscule portion to be within their late thirties and even in their forties.
- Some 13.2 percent people fall in over 48, meaning the minimum is that number of people from old ages.
- The total percentage sums up to 100%, thus validating the proper categorization of age groups for the entire population.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig ^{a,b}	Decision
1	The categories of On a scale of 1 to 5, how happy are you with using SBI's E-banking services compared to traditional banking services? occur with equal probabilities	One-sample Chi-Square Test	.115	Retain the null hypothesis
2	The categories of What do you like more about SBI's E-Banking services compared to traditional banking? (Choose all that apply) occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
3	The categories of Would you recommend SBI's E-Banking services to others instead of traditional services? occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
4	The categories of What were the main things that made you decide to use SBI's E-Banking services? (select all that apply) occur with equal probabilities	One-sample Chi-Square Test	.002	Reject the null hypothesis

5	The categories of What difficulties did you face when you started using SBI's E-Banking services? (Select all that apply) occur with equal probabilities	One-sample Chi-Square Test	.001	Reject the null hypothesis
6	The categories defined by Do you think there are any improvements that SBI could make to their E-Banking services that would make you more likely to use them? occur with equal probabilities	One-sample Chi-Square Test	.332	Retain the null hypothesis
7	The categories of How satisfied are you with the specific features and functions of SBI's E-Banking services? occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
8	The categories of Does the quality of SBI's E-Banking affect your overall satisfaction with the bank? occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
9	The categories of Would you be willing to pay more for SBI's E-Banking services if they were of higher quality? occur with equal probabilities	One-sample Chi-Square Test	.926	Retain the null hypothesis
10	The categories of How worried are you about the safety of SBI's online banking services? occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
11	The categories of How frequently do you use SBI's online banking services? occur with equal probabilities	One-sample Chi-Square Test	.004	Reject the null hypothesis
12	The categories of How satisfied are you with the security level of SBI's online banking services? occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
13	The categories of How likely are you to recommend SBI's online banking services to others in terms of security? occur with equal probabilities	One-sample Chi-Square Test	<.001	Reject the null hypothesis
14	The categories of How does the security of SBI's online banking services compare to other banks' online banking services? occur with equal probabilities	One-sample Chi-Square Test	.004	Reject the null hypothesis

a. The significance level is 0.50

b. Asymptotic significance is displayed

Note: Table 2 presents a summary of the hypothesis test result.

6. Interpretation:

Some key findings from the statistical analysis of customer perceptions of SBI's E-banking services compared to traditional banking include the following:

1. Happiness with SBI's E-banking Services – The test ($df = 4, p = .115$) has no significant difference in how customers rate their happiness, meaning that their responses are distributed similarly. Therefore, the null hypothesis is retained.

2. Preferences for SBI's E-banking Services – The test ($df = 9, p = .001$) shows that there is a significant difference in what customers value most about SBI's E-banking services. This means that some aspects are more preferred than others, thus rejecting the null hypothesis.

3. Recommendation of SBI's E-banking Services – The test ($df = 2, p = .001$) shows that there is significant variation in whether customers would recommend SBI's E-banking services over traditional banking, hence rejecting the null hypothesis.

4. Motivations for Using SBI's E-banking Services – The test ($df = 14, p = .002$) shows that there are different reasons why various customers prefer SBI's E-banking services, thus rejecting the null hypothesis.

5. Initial Problems Encountered – The test ($df = 7, p = .001$) reveals significant differences in the types of problems customers encountered when first using SBI's E-banking services, thus rejecting the null hypothesis.

6. Need for Service Improvements – The test ($df = 4, p = .332$) indicates no significant difference in whether customers feel SBI should improve its E-banking services. This suggests a general consensus, leading to the retention of the null hypothesis.

7. Satisfaction with Specific Features – A test ($df = 2, p = .001$) indicates that significant differences exist among the satisfaction items for SBI's E-banking features so that the null hypothesis is rejected.

8. Effect of Service Quality – The test ($p = .001$) shows that a quality service would have a greater effect on total customer satisfaction while using SBI's E-banking services compared to the current situation, leading to the rejection of the null hypothesis.

9. Willingness to Pay Extra for Better Service Quality – The test ($df = 2, p = .926$) fails to establish a statistically significant difference between customers' willingness to pay additional money for higher service quality. The null hypothesis is retained.

10. Security Risks of Online Banking – The test ($df = 4, p = .001$) reveals significant variations in the levels of perceived risks associated with online banking security; the null hypothesis is rejected.

11. Frequency of Online Banking Usage – The test (df

$= 4, p = .004$) indicates significant variation in how often customers use SBI's online banking services, rejecting the null hypothesis.

12. Satisfaction with Security Levels – The test ($df = 4, p = .001$) reveals significant differences in customer satisfaction with SBI's online banking security, rejecting the null hypothesis.

13. Probability of recommendation through security – In test, difference proves to exist significant in cases on the variability about the perceived of customers with security for their tendency to recommend to SBI about E-Banking services null rejected ($df = 4, p = .001$).

14. Security Comparison of SBI with Other Banks – The test shows that there is a significant variance in the perception of customers toward SBI's security in comparison with other banks ($df = 4, p = .004$) while rejecting the null hypothesis.

In summary, the analysis strongly identifies variations in customer preferences, satisfaction, security concerns, and usage patterns of E-banking services from the respondents for SBI. There is no variation in happiness levels or willingness to pay more for quality improvements or the need to enhance the services on their part.

7. Findings:

The analysis of the data has revealed that the customers have reported high satisfaction levels with the e-banking services offered by the State Bank of India, as they value the convenience, efficiency and the user friendliness of the e-banking services availed by them, enabling them to conduct various transactions such as online money transfers, digital payments, accounts balance checking and other related banking transactions via the online route through the convenience of their apps and smart devices.

It is to be noted that the general satisfaction levels regarding the e-banking services are not uniform as the levels vary across the different segments of the customers, which might be an indication of their satisfaction levels as the effect of the different levels in the end quality of and the user experiences with the services availed by the customers. The users have also expressed concerns regarding security and privacy of their financial data uploaded to the bank's servers, highlighting the need for more strong, reliable and robust security mechanisms and systems and have raised concerns regarding technical issues encountered by them while availing of the services, increasing the need for ensuring a proper and seamless customer/technical support system & mechanism for constant and sure online/offline support for the system framework, ensuring that no errors or delays are encountered in the transactions.

The existing systems can also benefit from receiving technical and technological upgrades, changes and refinements through adoption of the latest national/international standard banking operations softwares and firmwares, as such efforts can make sure that the efforts of the State Bank of India in providing the best e-banking services in the country can transform into object reality so that the bank will be in a position to satisfy the diverse needs of the customer groups and segments in a smooth and sure way.

Following findings have been reported by the researchers in this study, through the analysis of the data gained from the questionnaires and discussions with the samples and are listed here as follows:

(1) Customer satisfaction levels (Overall): The findings reveal that the customers of the State Bank of India have expressed high levels of satisfaction with the e-banking services provided by the bank along with the convenience, timeliness and ease of use of the e-banking services availed by them.

(2) Positive reception by the customers with the key features of the e-banking services: Analysis of the data gathered from the samples has revealed that the customers are responding favorably with the key banking services such as online fund deposit/withdrawal, fund transfer, accounts details checking, online purchasing of FDs etc. offered by the State Bank of India through its e-banking operations apps and websites to the customers.

(3) Dissimilar customer satisfaction levels: The analysis of the data acquired from the samples has suggested that the customers are not uniformly satisfied with the e-banking services offered by the State Bank of India as there is a large diversity, regarding the customer satisfaction levels based on their experiences with the e-banking services availed by them through their smart devices. A diversity was also observed amidst the expectations from the customers regarding the e-banking services offered by the bank for improving the existing systems to ensure seamless operations, post update.

(4) Concerns about security and privacy of sensitive financial data/information: The samples surveyed by the researchers have expressed concerns about the robustness of the security mechanisms and systems adopted by the State Bank of India for ensuring the secrecy and privacy of their sensitive financial information and data and have emphasized the need that the bank can benefit from adopting the latest, A.I. based security systems and mechanisms as such new systems could protect their data in a surer way.

(5) Technical glitches and other issues: The data suggests that there is a need for the State Bank of India to upgrade its existing technical/technological systems, processes and protocols regarding hardware, software and firmware updates, repair and overhaul to be in

congruence with the global standards regarding e-banking system infrastructure to reduce the chances of technical issues, glitches and other errors from occurring in order to provide a higher quality e-banking experience.

(6) Customer Support: The data suggests that the State Bank of India can benefit from upgrading and improving its existing customer support and assistance systems and mechanisms in a way which can benefit its customers in providing solutions to their queries and problems in a surer way. Usage of A.I. powered helpdesks and systems can be beneficial in this regard as such efforts can lead to the analysis of the problem leading to the discovery of practical solutions, personalized as per the expressed needs of the customers.

(7) Technological upgrades: Interactions with the samples has revealed that the State Bank of India can benefit from ensuring that the systems they are using are in congruence with the national and international level standards regarding banking and e-banking operations software, hardware and other related ancillary and intermediate systems and that the same is upgraded and maintained in a regular basis throughout the year as such efforts will ensure that the customers will be able to transact with the bank's e-banking portal systems in a safer and sure way, increasing their satisfaction levels regarding the quality of the e-banking services availed by them.

(8) Personalization and Customization of services: The data reveals that there is a need for the State Bank of India to provide personalized e-banking services as per the unique needs/requirements of the customers in order to cater to a large and diverse customer user base. Usage of Artificial Intelligence based generation and provision of customized services can be beneficial as such services, tailored to the specific needs, use cases and other requirements of the customers can increase the chances of the transactions being concluded in a fruitful way, increasing the satisfaction level with the services offered by the bank to the customers in a sure way, enabling the bank to cater to the changing needs of its customers, today and tomorrow in India.

8. Discussion

The findings by the researchers indicate that the customers of the State Bank of India are generally satisfied with its e-banking services (as evidenced by the high levels of user contentment resulting from the convenience, timeliness and user friendliness of the service as per their experience) but there is room for further improvement, growth and change which will ensure that the bank will be in a position to live up to the expectations expressed by the customers regarding the banking services availed by them, which will result in the attainment of the desired customer satisfaction levels

within the customers. Analysis of the data acquired from the respondents has revealed that the various e-banking features such as online fund transfer, online money deposit/withdrawal, balance checking, purchase of FDs and other banking products, etc. via online mode are playing a role in contributing to the customer satisfaction levels, in a way which will surely increase to the level as desired by the bank.

The study has found that there is an absence of uniformity in the customer satisfaction levels amidst the different customer segment groups as some groups are highly satisfied while the others are not which can indicate a need for the State Bank of India to customize its services as per the diverse needs expressed by its customer user base. One of the most common and persistent concerns expressed by the users is their worry whether the sensitive personal financial information and data inputted by them into the servers by the bank is indeed safe and secure and that the privacy of their data is assured in concrete terms as such assurances if made by the bank in action can improve the customer satisfaction levels due to the generation of trust within the customers, regarding the safety and security of their data along with the provision of mechanisms for resolving customer issues and complaints raised by them in a swift and sure way, which are supported by the findings in support of the above in the research and has been validated by the findings in other research studies and literature, increasing the need for the development of concrete solutions to the lacunae so as to increase the chances for the improvement of the customer satisfaction levels by the bank as a happy customer is a repeat customer and a repeat customer keeps the business going.

In conclusion, the researchers would like to state that there is scope for the State Bank of India to achieve the desired levels of customer satisfaction if it will make the efforts in fulfilling the wishes of their customers to provide for solutions for the various lacuna such as their concerns regarding the security of their financial data, more swift and smooth resolution of their complaints, etc. as the solutions, if implemented will create happiness within the customers, necessary for maintaining their business with the bank as a satisfied customer creates new business and it is in the interest of the businesses to make sure that they create such customers so that they will be in a position to reap the benefits, increasing the market share for the bank, enabling it to foster the desired scale of growth while creating and retaining new customers.

9. Recommendations made by the researchers

The researchers have made the following recommendations for the stakeholders and decision makers in the State Bank of India. The suggestions can be useful for other banks in the country and can lead to

improvement in the customer satisfaction levels amidst the customers of the banks.

(1) Service enhancement: The research outcomes can lead to improvements in the way the State Bank of India (SBI) serves its customers through its e-banking portals, programs and apps. Business and managerial thinkers have stated that the quality of the customer service offered by business is the factor which can make or break a business as a customer has the choice to go to an alternate service provider, in case he or she feels that the businesses they are transacting with, are not serious about fulfilling his needs and in case of the SBI, they have to make sure that they fulfill the needs expressed by their customers, regarding the ways in which their queries and complaints are settled and the data security mechanisms adopted by the bank as it could create satisfaction within the customers, enabling it to maintain its competitive edge in the market.

(2) Personalization and customization: The banking industry is a service based industry and the State Bank of India (SBI) can benefit from introducing new ways in which it can personalize and customize the services provided to its customers. Usage of Artificial Intelligence based tools can be useful in this regard as they can study the transaction history of the customers, in order to suggest tailor made personalized e-banking service options, in congruence with their unique needs. Such an approach can improve the customer satisfaction levels for the SBI and can help it in the achievement of its goals in the market. The AI based analysis of the data can also lead to the innovation and development of new service offerings by the SBI for its e-banking operations, which can act in its favor, increasing the levels of customer satisfaction, to a plane which will be beneficial for the stakeholders, policymakers and decision makers of the bank.

(3) Investments in technology: The State Bank of India (SBI), if it wishes to achieve the expectations from its customers, particularly in case of the security/privacy of their financial data and more swift and sure resolution of complaints and queries, need to invest in the latest technologies (hardware and software) in their e-banking systems as such efforts alone will render the SBI in a position to satisfy the wishes of the customers. Usage of AI (Artificial intelligence) based helpdesks and other AI based programs, tools and algorithms can be beneficial as they can enable the SBI to study their customers in a better way, enabling them to personalize the e-banking services provided to them in a way which can increase their satisfaction levels.

(4) Employee training/development: The State Bank of India will be in a position to actually deliver on the expectations raised by its customers, if it takes the effort in employee training and development, enabling them to deliver to its customers, increasing the SBI's chances in

enhancing the levels of customer satisfaction. The training/development efforts should include AI based e-banking training as AI is the future and it has the power to transform the hopes and dreams of the SBI into reality. Along with technology based training, sensitivity training can be useful in order to make the employees more empathetic to the customer's needs, enabling them to serve them in a way which will increase their satisfaction levels.

(5) Continuos feedback mechanisms: The State Bank of India (SBI) can benefit from adoption of an AI (Artificial intelligence) algorithms, tools or models which can provide for a way to gather feedback from the customers across a very large and diverse methods of feedback acquisition in order to process and analyze the data using AI tools in order to gain information from the customer feedback data. Through this analysis, the SBI can identify pain points, bottlenecks and other areas of concern and interest, which can be identified by the bank in order to solve the lacunae as the same if done, can enhance the satisfaction levels of the customers.

(6) Efforts for increasing awareness and user comfort for e-banking services: The data revealed that there is a small but significant portion of the population which does not use e-banking services offered by the State Bank of India (SBI). This might be due to reasons such as possible distrust with technology, the need for a human touch, etc. The SBI can create new customers from this population by convincing them to avail of such services by understanding the reasons why they do not avail of the services in order to resolve the lacunae. Targeted campaigns via webinars, social media campaigns, road shows, workshops, etc. can lend a helping hand for the above. In addition, the SBI can assure its customers that it is indeed serious about data security and privacy and the SBI can introduce personalized services tailored to the unique needs of the customers via machine learning and deep learning based analysis of the customer data which can increase the chances of conversion amidst this population segment for the e-banking services offered by the SBI.

10. Conclusion

Today, the State Bank of India is one of India's oldest and biggest banks. Banks in India and the world have to perform a large variety of services apart from their main services of accepting deposits and lending money to their customers. Now in today's world of instant gratification, social media and instant feedback customer satisfaction has been identified as an extremely important metric for the banks as the extent to which the customer is satisfied with the e-banking services offered by the banks, will decide the extent to which they will stay loyal to the bank which is satisfying their various needs and continue to

give further business to them. Customer satisfaction is very important for large banks like the State Bank of India (SBI) as by satisfying the various needs expressed by their customers as per their expectations, they will be in a position to retain the customers for a longer run and create new customers, enabling them to increase their operations as per their desired scale of growth. The above can be supported through the researchers' interactions with the respondents, particularly in case of the concerns expressed by the customers regarding safety of their data with the SBI and they have stated that they will be spreading the name of SBI in their circles of friends if they would take concrete steps in ensuring the security and safety of their data, as per their expectations. The Banking industry in India is one of the most dynamic industries in the country and is a particular industry where change and turmoil are to be expected.

The State Bank of India, if it wants to stay afloat amidst the choppy, turbulent waters and murky swamps of the industry has to induct within itself a reputation and trust for its brand. The said reputation and trust depend on the results of the SBI as satisfying the varied needs and wants of its customers, as expressed through queries, complaints, and questions that are made available via its e-banking feedback sharing portal. The SBI has to settle all the queries and complaints raised by the customers promptly and properly for strengthening and reinforcing its reputation and trust among the customers and general public in the market, since such a sound reputation can become a shot in the arm for the bank in its efforts toward attracting new clients through the generation of positive feedback by the satisfied customers. Customer satisfaction is one of the most significant factors for any business since the quality of service rendered to customers has a link with their general satisfaction levels; if a customer experiences a service in congruence with the level of quality as expected by him, he will experience a sense of happiness with the service and the service provider, which is communicated by the customer in the form of feedback shared by him with the business and to other potential customers through word of mouth and references. A satisfied customer who is satisfied with the service rendered to him by the business can create more customers through his positive word of mouth reviews in an organic way, enabling the business to grow in the future.

This is very crucial in case of banks as through the quality of services they provide to the customers, they can create more customers in the days ahead and in case of the State Bank of India, this can help the bank as it can enable it to hone its competitive edge in the Indian banking industry as a bank which has gained a reputation for quality service stands out amidst the crowd in a good way, thereby helping it to secure its future through the acquisition of increased revenue through additional business opportunities for its diversified range of

services. Another major reason why customer satisfaction is crucial for the State Bank of India is that satisfied customers are less likely to raise complaints about the services rendered to them, thereby reducing the costs involved in managing customer service, thus improving the operational efficiency of the bank in the long run, which can also benefit the bank as the government banking regulatory bodies usually accord a higher score for banks which do the extra efforts for ensuring the satisfaction of their customers. It is to be noted that this is dependent on the efficiency of the e-banking infrastructure and software used by the banks as a faulty or non-well maintained system, can create a pain point for the customers, leading to a rise in complaints, which brings forth the role played by feedback mechanisms and preventive maintenance systems so that a problem can be solved at the symptom stage itself, increasing the overall efficiency of the banks in the long run.

11. Limitations and Scope for future research:

Following limitations were experienced by the researchers in the course of the study –

Language and cultural barriers: The researchers faced some challenges resulting from the barriers created by the dissimilarities in the language and the culture of the regions wherein the sample studies were conducted. Due to this challenge, slight disparities in the data collection and interpretation were experienced.

Response bias: The responses could be skewed in a slight way, possibly due to biases such as social desirability, halo/horn effect with the e-banking services experiences of the respondents with the State Bank of India.

Narrow scope of the research: This study was performed with the customers of the e-banking services offered by the State Bank of India only. Due to the nature of the research, other banks were not considered and due to the research design, specific aspects of customer satisfaction factors might assume a greater role in the spotlight, at the cost of other factors.

Limited applicability: In addition, being that this research was conducted within India only, it may be possible that researchers in other countries might face trouble in the validation of the findings in their respective territories, due to the logistical difficulties associated with the transferability of the findings into the other

countries due to differences in the culture, the nature of the banking industry and other market factors, unique to the country.

External factors: Several external factors (not in the control of the researchers or the respondents) such as economic conditions, unforeseen financial events (such as stock market crash, etc.) and other factors such as changes in the banking industry regulatory norms etc. might create factors which could affect the consumer satisfaction levels but the skewness might not be integrated into the study in a complete way.

Preciseness of the data: The accuracy of the data is dependent on the extent to which the respondent filled in the questionnaire or answered the questions of the researchers in a precise way as any changes or skewness within the respondents, regarding the responses could have an effect on the outcomes of the study.

Scope for further research: There is scope for further research in this research area and further research can be conducted into two specific areas: 1) Long term longitudinal studies into the evolution of customer satisfaction levels with the e-banking services offered by the State Bank of India or other prominent banks, apart from the State Bank of India. Through this approach, the researchers will be able to observe and analyze the changes in the evolution of consumer satisfaction with the e-banking services in the observed time period and such a research study can gain insights into the changes in the customer preferences and the usage patterns amidst the customers' usage of the e-banking services and the analysis of the data can reveal the dynamic changes and shifts into the digital banking landscape in India. 2) A deep investigation into the ways in which the introduction of novel e-banking services and features and the ways in which the technological advancements, changes and enhancements in the quality of the services (offered by the State Bank of India or other banks to its customers) have an effect on the consumer satisfaction levels, in order to discover and isolate consumer satisfaction factor elements, not found before. Through such an investigation, the future studies can assist the prominent banks in India in refining and clarifying their services in a way which will 'future proof' them by ensuring that they will identify the ways and means through which they will not only meet the current needs of their customers but their future needs as well, keeping in mind the changing dynamic landscape of the Indian banking industry in order to deliver the desired levels of customer satisfaction, today and tomorrow and in the future.

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