Measuring of Digital Banking Service Quality on Customer Satisfaction with Reference to Bengaluru

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Abstract

*Purpose: The study aims at adding to the existing knowledge of how service quality of Digital Banking has an influence on customer satisfaction of Banks in a Metropolitan City like Bengaluru. This will help Banks and policy makers to understand the internet banking dimension and its contribution to customer satisfaction. With the increased usage of Online banking services in **India** post COVID. India has emerged as the largest user of Online Payment system, there is an increased need to study the service quality of Digital Banking facility.*

Design and Methodology: An exploratory survey was conducted with the help of Likert Scale Questionnaire conducted to investigate the impact of Digital Banking service quality on customer satisfaction in Bengaluru. Convenience sampling was used, and various kinds of Digital banking customers were approached in Bengaluru. Data was collected from a sample of 216DigitalBanking customers. Descriptive statistics, correlation, confirmatory factors analysis are used to analyze the data

Findings: The findings suggest that there is a noteworthy correlation between the characteristics of online banking service quality and the level of customer satisfaction among internet banking users. Customer satisfaction in online banking is attributed to each of the following dimensions: efficiency, system availability, fulfillment, privacy, contact, responsiveness, and contact.

Implication of the Study: The Research will help bank Managers, policy makers to focus on these factors which have a great impact on satisfying the customers which will result in better service quality of Digital Banking services which ensure greater usage of banking services and prosperity resulting in greater number of transactions benefiting the economy.

Keywords: Digital Banking, Service Quality, Customer Satisfaction.

1. Introduction

Digital is part of everyone's (Galdolage & Rasanjalee, 2022) day to day life due to anytime anywhere features and on-going purchasing habits have increased digital Banking Transactions. The government of India is increasing its cashless transactions and due to this Indian Bank (Deepthi et al., 2022) customers are compelled to make greater use of Digital Payment system. Increased use of Digital Banking will enhance customers' expectations and perceptions about the quality of the new Digital Channel. Digital banking experienced tremendous growth in both developed and developing countries and transformed banking activities (Bhatnagar et al., 2017). Digital banking allows customers to access banking services online without visiting bank branches. Also known as e-banking or online banking, it uses the Internet as the delivery channel to offer banking products to its customers [1-3]. Digital Banking includes online banking, electronic banking and mobile banking- the terms that are of common usage (Afenya et al., 2021). Customers the ability to view transaction details, transfer funds, pay utility bills, or shop online it has transformed the traditional method to modern method [4].

1.1. Evolution & Digital Transformation of The Banking Sector

1996- 98 was the period known for Internet banking adoption. Banks such as ICICI, Citibank, Indus-Ind Bank and HDFC Bank were the early ones to adopt the technology in 1999(Raza et al., 2020). Reserve bank of India set up a 'Working Group on Internet Banking' to examine the different types of internet banking. Digital transformation is identified as "the process that aims to improve a unit by bringing about important changes in its structure(Malc et al., 2023) by combining information, information technology, communications, and connectivity technology(International Journal of Information, Business and Management ABOUT JOURNAL, n.d.). The prospect of an activity able to generate systemized databases, intercept quality customers and maintaining those customers already acquired is outlined(Gunaratnam et al., 2017). In Addition to this are the growth in terms of efficiency, speed, and full control of the data and indeed, dematerializing the physical space.

2. Literature Review

(Rasheed et al., 2015) The aim of this study is to test what factors impact bank customer loyalty in an online environment. A positivistic research philosophy, a deductive research approach, an explanatory purpose and a quantitative research method are adopted the study finds that three factors-customer satisfaction, corporate image and brand reputation has impact on customer loyalty [5]. Switching costs, perceived service value and commitment also impact bank customer loyalty online. The managers need to listen customer opinions, and this has to be platform for future work. Future research is to test the factors price and interest on loans that impact customer loyalty. Gong Jing and Yoo in Seon (2013), An empirical study on the effect of E-service quality to satisfaction,(Minser & Webb, 2010) The study conducted to assess users satisfaction by focusing on 3 factors system quality, information quality and service quality, The study is based on research model based on DeLone and McLean IS success model. The a(Ayinaddis et al., 2023)results show that system quality and service quality significantly influence customers satisfaction

with e-banking in China and information quality does not. Also, satisfaction has significantly influence on loyalty with e-banking in China context. Robert Ortstad&BinonSonono (2017), The Effects of the Digital Transformation Process on Banks' Relationship with Customers The purpose of this study is to investigate how the banks' relationship with customers is affected by this digital focus. This is a qualitative study that has been conducted through a case study at a large Swedish bank. The data gathered in the case study indicates that the relationship with customers has become less personalized and more automated. It also shows that an alignment in the bank has contributed to increased satisfaction among digitally oriented customers. Mustafa Al-Chalabi Lawand Bahram (2018), The Effects of the Digital Transformation Process on Banks' Relationship with Customers, Customer relationships are fickle, and it is not unusual for customer behavior to change. In this study, it is evident that the digitalization process within the case bank has affected its relationship with its customers. As the digital strategy is the main driving force for digital transformation in an organization, the alignment of the digital strategy with the business strategy and CRM in the case bank has led to the bank being able to notice changes in customer behavior quicker. Urvashi Solanki (2018), Impact of Electronic Banking on Customer satisfaction, Banks are making sincere efforts to popularize the e-banking services and products. The younger generation is beginning to see the convenience and benefits if e-banking services [6-9]. In years to come, e-banking services and products, e-banking will not only be an acceptable mode of banking but will be preferred mode of banking. Dr.S.Malathi (2020), digitalization in banking: a study of impact on internet banking for consumer satisfaction, The study focused on the Banking technology impact on the financial performance of public and private banking sector. However, there is a need for an educational drive both for the customers as well as the merchants. So, the proliferation of digital payments increases the operational profitability of the sector. We live in times where everybody is in a rush from dawn till dusk. Technological advancement in any sector saves

time and provides better customer services [10]. Moreover, it reduces the operational costs on the part of an institution. Stefanus & et.al (2023), the study aims to examine the influence of customer experience on customer satisfaction and loyalty with focus on Indonesia. The study uses convenience sampling and data was collected through an electronic questionnaire. The study used SEM (PLS) for data analysis, the results revealed that convenience and security significantly influence customer satisfaction while the influence of usefulness is not supported. Customer satisfaction is viewed as a significant mediator in the relationship between customer experience and loyalty. DelvirantiSyahfitri and Eddo Nanda (2024) the study is related to analyze the effect of service quality digital banking and customer satisfaction. The study uses quantitative descriptive method, data were analyzed using SPSS 26. The study finds that mobile banking service quality has a positive influence on customer satisfaction. Intended as a digital saving and storage system. This realized a significant economic saving that takes the form of replacing paper in computer systems, with advanced digital repositories to store, update and share documents and multimedia content. Limited studies are conducted in the literature, which embraces a rural and urban population of India measuring the service quality dimensions of internet banking. This study aims to identify the e-service quality dimensions and determine the impact on the customers' satisfaction with internet banking. The theoretical contribution of this study is significant to identify the service quality dimensions and its relationship with customer satisfaction in an Indian banking sector by mounting the prior literature in internet banking service quality [11-13].

3. Digital Banking Products & Services

Bank Statement is Account holders can view and download their bank statements for any period at any time. (Mwiya et al., 2022)Passbook is updated timely based; customers can avail these services without visiting the bank's branch [14]. Mobile Banking is digital banking through an app designed for smartphones and tablets. These apps allow users to make payments and receipts, view account balances,

invest in fixed deposits, and more. Fund Transfer is Digital banks provide services such as NEFT, IMPS, RTGS, and UPI which have reduces the need for cheques or having to go to the bank to transfer money [15-17]. Bill Payments is an Auto–debit feature that allows users to set up automatic payments for bills– users don't have to miss paying a bill. Finance is account holder can apply for investment, borrowing loans, and open fixed deposit accounts through digital banking [18].

4. Objectives

- To determine the different aspects of the quality of internet banking services.
- To investigate the relationship between internet banking services and customer satisfaction [19].

4.1. Research Methods and Data Collection

The purpose of this research is to determine how value-added services affect customer satisfaction and aid in customer retention in a market which is highly competitive. The information gathered from primary and secondary sources was subjected to both descriptive and quantitative analysis techniques. The study employed a structured questionnaire for its execution. The study's questionnaires were created in a way that collected data on the aspect of e-banking customer satisfaction as well as the quality and add-on services offered by the bank under investigation. Furthermore, the questions were self-administered. In other words, the respondent completes the questions on their own [20-22]. This study's sample design covers every step of how the group units on the frame calculate the sample size, distribute the sample among the several frame unit classifications, and then choose the sample. The study sample was chosen in a non-random manner by the application of non-probability selection techniques. Convenience based sampling technique is used for data collection. In order to guarantee the quality of the study, only individuals who had used add-on banking services from both public and private banks were included in the survey samples. Out of the 235 people who were asked to participate in the survey, 216 valid questionnaires taken up the final validation (Table 1).

4.2. Data Analysis

Table 1 Demographical Profile of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	103	47.7	47.7	47.7
	Female	113	52.3	52.3	100.0
	Total	216	100.0	100.0	
Age	18-25	144	66.7	66.7	66.7
	26-30	11	5.1	5.1	71.8
	31-40	57	26.4	26.4	98.1
	41-45	4	1.9	1.9	100.0
	Total	216	100.0	100.0	
Education	puc	8	3.7	3.7	3.7
	degree	164	75.9	75.9	79.6
	master degree	44	20.4	20.4	100.0
	Total	216	100.0	100.0	
Marital Status	unmarried	151	69.9	69.9	69.9
	married	65	30.1	30.1	100.0
	Total	216	100.0	100.0	
Profession	student	132	61.1	61.1	61.1
	private employee	76	35.2	35.2	96.3
	govt employee	8	3.7	3.7	100.0
	Total	216	100.0	100.0	

Table No 1 shows the demographic profile of respondents. The table indicates that gender i.e.,47.7 % percent of the respondents are female, and the Majority 52.3 % percentage of the respondents are female. In the age group, the Majority of Respondents (66.7%) are age group of 18-25 Years, Followed by 31-40(26.4%), between 26-30years (5.1%), and lastly 41-45years (1.9%). Further in Education Qualification Majority (75.9 %) are Graduates, followed by (20.4%) are Master degree, and the remaining respondents are PUC (3.7%) respectively. Regarding marital status Majority (69.9%) are unmarried, Followed by (30.1%) are married. Profession of respondents Majority (61.1%) belonging to students category, followed by Private Employee (35.2%) and lastly (3.7%) are Government employee. The information obtained from the questionnaire was imported into SPSS and subjected to analysis. Thirty criteria pertaining to the quality of digital banking services were considered for the study (Table 2). Confirmatory factor analysis was employed to decrease the data. In order to determine that the gathered data was appropriate for factor analysis, the subsequent actions were considered:

Table 2 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.754
Bartlett's Test of Sphericity	Approx. Chi-Square	6349.928
	Df	435
	Sig	0.000

Confirmatory factor analysis was performed to confirm the factors for the study. Kaiser – Meyer-Olkin's test has shown marvelous sampling adequacy (0.754) and Bartlett's test of Sphericity has shown significance at P<0.05 (Table 3).

Comp onent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.044	36.813	36.813	11.044	36.813	36.813	5.034	16.780	16.780
2	3.217	10.723	47.537	3.217	10.723	47.537	4.939	16.462	33.242
3	2.128	7.095	54.631	2.128	7.095	54.631	4.452	14.841	48.083
4	1.802	6.008	60.639	1.802	6.008	60.639	3.767	12.556	60.639
5	1.731	5.771	66.410						
6	1.367	4.556	70.966						
7	1.157	3.855	74.821						
8	0.988	3.292	78.113						
9	0.888	2.960	81.073						
10	0.740	2.466	83.539						
11	0.699	2.332	85.871						
12	0.646	2.153	88.024						
13	0.502	1.673	89.696						
14	0.472	1.574	91.270						
15	0.415	1.385	92.655						
16	0.327	1.091	93.746						
17	0.302	1.008	94.754						
18	0.271	0.905	95.658						
19	0.254	0.847	96.505						
20	0.228	0.758	97.264						
21	0.184	0.613	97.877						
22	0.147	0.489	98.366						
23	0.121	0.402	98.768						
24	0.109	0.363	99.131						
25	0.084	0.280	99.411						
26	0.059	0.197	99.608						
27	0.041	0.136	99.744						
28	0.032	0.107	99.851						
29	0.030	0.102	99.952						
30	0.014	0.048	100.000						

Table 3 Total Variance Explained

Extraction Method: Principal Component Analysis.

Based on Varimax Rotation with Kaiser Normalization 4 factors have been extracted. Each factor is constituted of those variables that have factor loadings greater than 0.5. 4 factors were extracted from the 20 variables used in the study. These 4 extracted factors explained 60.639% of the Variability. 16.780 %, 33.242 %, 48.083 %.

Conclusion and Findings
The study investigates the relationship between services and customers in Bengaluru using Digital banking and e-service markets. A sample of 236 users was surveyed, and the independent variables were responsiveness, personal needs, customer reliability, user friendliness, site organization, and efficiency.

The dependent variables were customer satisfaction and electronic customer loyalty. The findings suggest that customers build their perceptions based on the interactivity of the web page. Service quality plays a crucial role in every culture, and banks should focus on all four factors to maintain high service quality. Customers are more attracted to banks that offer faster transactions via online portals. Banks should focus on enhancing client awareness about the acceptance of new technology and providing accurate, timely, and high-quality services to drive their gratification, value, faith, and obligation. To maintain a competitive edge, banks should invest more in efficiency, prioritize customer needs, and provide fast processing times for customer requests and issues. Personal needs are another strong influencer, and higher authorities and banks should focus on fulfilling these needs to create quick and effective internet services. The study explores the relationship between services and customers in Bengaluru's digital banking and e-service markets. It reveals that customers' perceptions are influenced by web page interactivity. To maintain high service quality, banks should focus on responsiveness, personal needs, reliability, user friendliness, site organization, efficiency, and customer satisfaction. Additionally, banks should prioritize efficiency, customer needs, and personal needs to create effective internet services. While consumers in Bengaluru are hesitant to trust internet services, it has been shown that when they sense quality considerations, they are more likely to use such technologies. Furthermore, personal wants are another powerful factor, thus Bengaluru's banks and higher authorities should give careful consideration to their clients' demands—that is, what they want and how they can get it. Because clients desire speedy service, Internet services should be designed to meet the needs of all kinds of users.

Limitations and Scope for Further Study

This research has certain limitations even if it offers valuable information. First off, the information gathered solely reflects comparable lives and tastes among College Going students. However, individuals from various demographic groups, places of residence, and histories may have differing attitudes and perspectives toward online banking services. Additionally, a convenience sampling technique was used to acquire the data, which is relatively akin to a random sample. Consequently, it is advised that information be gathered from people living in different parts of the nation or the globe for upcoming research, since this would yield a more thorough result. In the future, researchers may also use different methods to conduct in-depth analyses. Second, while this study takes into account a second-order component, it may be overlooking other factors that could influence consumers' e-loyalty. For this reason, it is advised to take into account additional factors such product attributes or incentives. Furthermore, a research is also required to study the human values in the times of the electronic banking system, to meet the increased demand so banks are expected to increase their spending on Internet banking technology.

Bibliography

[1]. Afenya, M. S., Arthur, B., Selase, A. M., & Benedict, A. (2021). An Assessment of Customer Attitude towards Internet Banking In Ghana. The International Journal of Business and Management Research, 5(07), 2021.https://www.researchgate.net/publication/353285387

[2]. Ayinaddis, S. G., Taye, B. A., &Yirsaw, B. G. (2023). Examining the effect of electronic banking service quality on customer satisfaction and loyalty: an implication for technological innovation. Journal of Innovation and Entrepreneurship, 12(1), 22. https://doi.org/10.1186/s13731-023-00287-y

[3]. Alsudairi, M. A. (2012). E-service quality strategy: Achieving customer satisfaction in online banking. Journal of Theoretical and Applied Information Technology, 38(1), 6-24.

[4]. Angur, M. G., Nataraajan, R., &Jahera Jr, J. S. (1999). Service quality in the banking industry: an assessment in a developing economy. International journal of bank marketing, 17(3), 116-125.

[5]. Bhatnagar, S. B., Syed, A. A., & Mishra, J. K. (2017). Identifying Customer Loyalty Supporting Factors in the Retail Banking

Context: An Empirical Examination. Journal of Relationship Marketing, 16(3), 197–225. https://doi.org/10.1080/15332667.2017.1349556

[6]. Deepthi, B., Gupta, P., Rai, P., & Arora, H. (2022). Assessing the Dynamics of AI Driven Technologies in Indian Banking and Financial Sector. Vision. https://doi.org/10.1177/09722629221087371

[7]. Edo, O. C., Etu, E. E., Tenebe, I., Oladele, O. S., Edo, S., Diekola, O. A., &Emakhu, J. (2023). Fintech adoption dynamics in a pandemic: An experience from some financial institutions in Nigeria during COVID-19 using machine learning approach. Cogent Business & Management, 10(2), 2242985.

[8]. Galdolage, B. S., &Rasanjalee, R. M. K. S. (2022). Why do People move Towards Self-Service Technologies? Insights from Banking Sector in Sri Lanka. Journal of Business and Technology, 6(1), 19–41. https://doi.org/10.4038/jbt.v6i1.60

[9]. Gupta, A., & Dev, S. (2012). Client satisfaction in Indian banks: an empirical study. Management research review, 35(7), 617-636.

[10]. Gunaratnam, A., Kajenthiran, K., Ratnam, U., & Sivapalan, A. (2017). Factors Influencing on E-Banking Practices: Evidence from Sri Lanka. Journal of Sociological Research, 9(1), 1. https://doi.org/10.5296/jsr.v9i1.11989

[11]. International Journal of Information, Business and Management ABOUT JOURNAL. (n.d.). www.cabells.com

[12]. Khan, M. R., Pervin, M. T., Arif, M. Z. U., & Hossain, S. K. (2024). The impact of technology service quality on Bangladeshi banking consumers' satisfaction during the pandemic situation: Green development and innovation perspective in banking service. Innovation and Green Development, 3(2), 100120.

[13]. Kanagaraju, P., & Ganesha, B. (2023). Customer Perceptions and Satisfaction with Banking Services: A Cross-Sectional Study of Public and Private Sector Banks in Bengaluru Urban District. Journal of Research Administration, 5(2), 5893-5909.

[14]. Malc, D., Dlačić, J., Pisnik, A., &Milfelner, B. (2023). The Development of E-Banking Services Quality Measurement Instrument: MPQe-BS. Sustainability (Switzerland), 15(16). https://doi.org/10.3390/su151612659

[15]. Minser, J., & Webb, V. (2010). Quantifying the Benefits: Application of Customer Loyalty Modeling in Public Transportation Context. Transportation Research Record: Journal of the Transportation Research Board, 2144(1), 111–120. https://doi.org/10.3141/2144-13

[16]. Mwiya, B., Katai, M., Bwalya, J., Kayekesi, M., Kaonga, S., Kasanda, E., Munyonzwe, C., Kaulungombe, B., Sakala, E., Muyenga, A., & Mwenya, D. (2022). Examining the effects of electronic service quality on online banking customer satisfaction: Evidence from Zambia. Cogent Business and Management, 9(1).https://doi.org/10.1080/23311975.2022.2143017

[17]. Murthy, K. S., & Subramanyam, M. (2021). Impact of e-banking strategies on customer satisfaction in select public and private sector banks in India. Academy of Marketing Studies Journal, 25(5), 1-13.

[18]. Rasheed, H. M. W., Khalid, J., Khizar, H. M. U., Sajid, M., Shahid, M. N., Ahmad, M., & Khan, W. A. (2015). Factors affecting Customer Loyalty in Banking Sector: A study on Banks in Bahawalpur (Pakistan). International Journal of Accounting and Financial Reporting, 1(1), 239. https://doi.org/10.5296/ijafr.v5i1.7726

[19]. Raza, S. A., Umer, A., Qureshi, M. A., & Dahri, A. S. (2020). Internet banking service quality, e-customer satisfaction and loyalty: the modified e-SERVQUAL model. TQM Journal, 32(6), 1443–1466. https://doi.org/10.1108/TQM-02-2020-0019

[20]. Rani, S., Maurya, N., Shaika, S., & Pankajam, A. (2022). Service Quality Perception in Private Banks: A Study with Special Reference to Karur Vysya Bank Ltd. ECS Transactions, 107(1), 16803.

[21]. Shaji, A. K., & Mathews, A. P. (2020). A study of the awareness of electronic banking services among rural women of Nelamangala, Bangalore, India. Journal of International Women's Studies, 21(5), 88-96.

[22]. Shakya, S. (2020). Impact of Service Quality on Customer Satisfaction of Nepalese Commercial Banks: With Special Reference to Biratnagar Metropolitan City. Shanlax International Journal of Management, 7(S1), 61-71.