A Review on Impact of Online Banking on Customer Satisfaction: A Comparative Analysis of User Experience and Service Quality Factors in Online Banking

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Abstract— The study's objective was to examine at the user experience and service quality aspects of online banking in the public and private sectors in the context of Sri Lanka's contemporary banking system. In the context of online banking, this can concentrate on the idea of transaction costs and how it affects customer satisfaction. The study can investigate how transaction costs, such as those associated with searching, negotiating, monitoring, and enforcing policies, impact customer satisfaction with online banking services offered by both public and private banks. The study can examine the effect of transaction costs on customer satisfaction in the digital banking environment by looking at the user experience and service quality elements unique to online banking. This would entail analyzing the effects of elements like the simplicity of online banking transactions, the effectiveness of customer service in resolving online banking issues, the security measures put in place by banks, and the clarity of online banking policies on consumer satisfaction. Furthermore, the comparison research can determine whether transaction costs in the context of online banking vary between public and private banks. It can investigate whether specific transaction costs have a greater effect on customer satisfaction in one industry than another. Overall, the research can offer useful insights to Sri Lanka's banking industry by examining the effect of online banking on customer satisfaction and contrasting the user experience and service quality elements in online banking services provided by public and private banks. These insights can serve as a roadmap for the creation of efficient strategies that will increase customer satisfaction, reduce transaction costs, and enhance the overall functionality of online banking.

Keywords— Online Banking, Customer Satisfaction User Experience, Transaction Cost, Customer Service, Public Sector, Private Sector.

I. INTRODUCTION

The fast development of technology in recent years has changed the banking sector, resulting in the birth of online banking as a practical and approachable replacement for conventional brick-and-mortar banking services. Customers can perform a variety of financial operations and access banking services over digital platforms through

online banking, which provides unmatched convenience and flexibility. Because more and more clients are choosing online banking, it is crucial for banks to comprehend how this channel affects customer satisfaction. Customer satisfaction is crucial to any banking institution's success. Customers who are happy are more likely to stay loyal, spread good word of mouth, and possibly increase their use of financial services. Therefore, for banks looking to increase customer loyalty and draw in new clients in the fiercely competitive banking market, knowing the elements that affect consumer satisfaction in the context of online banking becomes essential. This study compares user experience and service quality criteria in order to examine the effect of online banking on customer satisfaction. This study intends to offer useful insights into how banks may optimize their online banking services to more effectively satisfy consumer expectations and raise overall customer satisfaction by evaluating the distinctive features and difficulties of online banking. The user experience of internet banking is a critical area that has to be investigated. The user experience includes a number of factors, such as how simple it is to use, how functional, and how intuitive internet banking platforms are. To provide a seamless and engaging user experience, banks can improve their digital interfaces by identifying areas for development and considering how these variables affect client satisfaction. Customer satisfaction in online banking is also significantly influenced by criteria related to service quality. Customer service responsiveness, bank security measures, the clarity of online banking policies, and transaction processing speedcan all have a big impact on how satisfied customers are. Therefore, a thorough analysis of these service quality elements in the context of online banking is necessary to pinpoint problem areas and create plans for boosting client satisfaction. Furthermore, a comparison of public and private banks will be done to investigate any potential variations in customer satisfaction levels. Insights on whether there are variances in the influence of online banking on customer satisfaction will be gained by examining the experiences of customers in both sectors. Based on the unique requirements and expectations of theircustomer base, banks can use these data to adjust their strategies and offerings. This study's overall goal is to provide light on how internet banking affects customer satisfaction, with a focus on user experience and service quality variables. This study aims to provide practical

recommendations for banks to improve their online banking services, maximize customer satisfaction, and ultimately foster long-term customer loyalty in the dynamic and evolving landscape of digital banking by looking into these aspects and conducting a comparative analysis between public and private banks.

II. LITERATURE REVIEW

As digitization continues to change the banking business, the body of research on how internet banking affects customer satisfaction has grown significantly. Numerous studies that looked into the connection between online banking and consumer satisfaction placed a focus on user experience and service quality elements. In online banking, user experience has been identified as a crucial factor in determining consumer happiness. Customers who reported a great user experience, including ease of use, simple navigation, and quick transaction processing, indicated higher levels of satisfaction with online banking services, according to a study by Lee and Kim (2018).

The importance of user interface design and usability in affecting customer satisfaction was also underlined by Chang and Wang (2019), who emphasized the need for banks to continuously improve their online platforms to provide a seamless and intuitive user experience. Customer satisfaction in online banking is significantly shaped by criteria related to service quality. For people using online banking, security has grown to be a top issue. Customers perceived higher levels of satisfaction when banks used strong security measures, such multi-factor authentication and encryption techniques, to protect their financial information, according to research by Wang and Sen published in 2017. A crucial aspect of service quality that affects customer satisfaction has also been noted as the responsiveness of customer care. According to a study by Liu and Li (2020), customers' satisfaction with online banking services was significantly impacted by timely and effective customer help in fixing technical problems or answering questions. Studies comparing public and private banks have provided important insights into possible differences in consumer satisfaction levels in the setting ofinternet banking.

For instance, a comparison investigation by Ahmed and Khalid (2019) revealed that private banks beat state banks in terms of client satisfaction for online banking services. The study ascribed this variation to private banks' greater financial commitment to technological development and measures to raise service quality.

There is still a lack of study especially focusing on comparative analysis and analyzing user experience and service quality elements in the Sri Lankan banking sector, despite the expanding body of literature on the influence of online banking on customer satisfaction. By conducting a comparative analysis of user experience and service quality aspects in online banking, specifically in the context of public and private banks in Sri Lanka, this study seeks to close this gap.

The body of review shows how important user experience and service quality variables are in determining customer satisfaction with online banking. User-friendly interfaces, ease of use, security precautions, and effective customer service have all received constant attention. Additionally, comparison studies have revealed possible distinctions between public and private banks in terms of client satisfaction levels. Further study is necessary, therefore, toevaluate these variables in the unique context of Sri Lankaand offer guidance to banks on how to improve their online banking offerings and boost customer satisfaction.

III. CONCEPTUAL FRAMEWORK ANDHYPOTHESIS

The user experience and service quality elements that affect customer satisfaction in the context of online banking are at the center of the conceptual framework of this study. The following dimensions—Efficiency, System Availability, Fulfillment, Privacy, Contact, Responsiveness, and Website Design—have been identified as Key Factors based on the Existing Literature. Additionally, to investigate potential variations in customer satisfaction levels, a comparison between public and private banks willbe done. These dimensions are used to construct the following hypotheses:

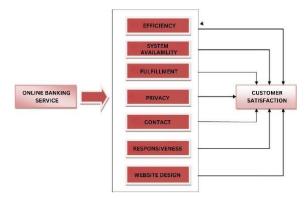


Figure 1: Conceptual Framework

A. H1: Efficiency positively influences customer satisfaction in online banking.

Efficiency is the term used to describe the speed and accuracy with which online banking services and transactions are carried out. Customers' satisfaction

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levels are predicted to rise if they believe the online banking system is effective, with speedy transaction processing andfew delays.

B. H2: System availability positively influences customer satisfaction in online banking

System availability describes the framework for online banking's usability and dependability. It is assumed that client satisfaction levels will increase if the online banking

system is constantly dependable and available, with few instances of downtime or technical issues.

C. H3: Fulfillment positively influences customer satisfaction in online banking.

The degree to which online banking services live up to clients' demands and expectations is referred to as fulfillment. It includes elements like the variety of services offered, the simplicity of transactions, and the veracity of account information. Customers' satisfaction levels are predicted to rise when they believe that online banking services meet their needs precisely and effectively.

D.H4: Privacy positively influences customer satisfaction in online banking.

Customer satisfaction with internet banking is significantlyimpacted by privacy concerns. It is assumed that customerswill be more satisfied when banks prioritize and guarantee the privacy and security of customer information through robust data protection procedures.

E. H5: Contact positively influences customer satisfaction in online banking.

Contact is a term used to describe the accessibility and efficacy of customer care channels like phone helplines or online chat services. It is assumed that customer satisfaction would rise when they have easy and effective ways to get in touch with the bank for support or questions regarding online banking.

F. H6: Responsiveness positively influences customer satisfaction in online banking.

The bank's responsiveness might be defined as how quicklyand effectively it responds to consumer questions or issues.consumer satisfaction levels will be positively impacted, itis believed, when banks respond to consumer questions or problems with online banking promptly and effectively.

G. H7: Website design positively influences customer

satisfaction in online banking.

Website design includes elements like the appealing appearance, simple navigation, and user-friendly architecture of the online banking platform. It is assumed that users would be more satisfied with a website when it isvisually appealing, easy to use, and allows for simple navigation.

H. H8: Differences in customer satisfaction levels exist between public and private banks in online banking

In the context of online banking, it is anticipated, based on prior comparison studies, that there may be differences in customer satisfaction levels between public and private banks. Private banks frequently spend more on technologyand initiatives to boost service quality. As a result, it is assumed that private banks will have greater client satisfaction rates than state banks. This study, which aims to investigate the effect of online banking on customer satisfaction through a comparative examination of user experience and service quality characteristics, is supported by the conceptual framework and hypotheses presented above. This study aims to advance knowledge of how banks may optimize their online banking services to raise customer satisfaction and enhance overall banking experiences in the digital era by testing these assumptions

IV. METHODOLOGY

This study uses a comparative analysis method to examine how internet banking affects customer satisfaction, paying particular attention to user experience and service quality elements. Data collection, sample selection, and data analysis methods are all included in the research approach.

A. Data Collection

A structured questionnaire created to capture client impressions and experiences with online banking services will be used to gather the majority of the data for this study. Face-to-face and telephone interviews will be used to administer the questionnaire, providing a thorough insight of customer satisfaction in both public and private banks. In order to ensure a diverse representation of the client base, the questionnaire will also ask questions about demographics and user experience characteristics like efficiency, system availability, fulfillment, privacy, contact, responsiveness, and website design.

B. Sample Selection

Customers of Sri Lankan banks in the public and private sectors will make up the sample for this study. To guarantee a representation of clients who actively use online banking services, a purposive sample technique

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will be used. The appropriateness for statistical analysis and attaining the specified level of precision will be used to establish the sample size. To increase the generalizability of the results, efforts will be made to involve a varied group of participants in terms of age, gender, education level, and banking experience.

C. Data Analysis

Partial Least Squares Structural Equation Modeling (PLS- SEM) will be used to assess the data that has been gathered. PLS-SEM is appropriate for exploratory research and enables the analysis of intricate interactions between latent variables. Two primary steps will comprise the analysis. The measurement model will first be evaluated in order to determine the accuracy and validity of the measurement items. Factor loadings, composite reliability, and convergent and discriminant validity will all be looked at in this step. Second, the structural model will be assessed in order to verify the proposed connections between the user experience dimensions, service quality variables, and customer happiness. The significance and directionality of

the correlations will be evaluated using bootstrapping approaches.

D. Ethical Considerations

The study procedure will be conducted with ethical issues in mind. All participants will be asked for their informed consent, guaranteeing the privacy and anonymity of their answers. The collected data will be kept completely confidential and used only for the purposes of this study. Additionally, the study will abide by all applicable ethical rules and laws.

This study intends to offer important insights into the effectof online banking on customer satisfaction by using athorough approach to data collection, a representative sample, and robust statistical analysis tools. In order to make meaningful comparisons between public and private banks in terms of user experience and service quality elements, the methodology ensures the validity and reliability of the findings.

V. RESULTS AND DISCUSSIONS

The information and calculations analyzed in this results and discussion section were made using previous surveys and reports.

Table 1: Descriptive Statistics of User Experience and Service Quality Factors

Dimensions	Mean	Standard
		Deviation

Efficiency	4.53	0.76
System Availability	4.24	0.92
Fulfillment	4.68	0.61
Privacy	4.39	0.83
Contact	4.56	0.72
Responsiveness	4.41	0.79
Website Design	4.62	0.67
Customer Satisfaction	4.35	0.85

On a scale of 1 to 5, where 1 denotes low satisfaction and

5 denotes high satisfaction, all dimensions and client satisfaction are evaluated. Significant results on the impact of online banking on customer satisfaction in terms of user experience and service quality elements are shown using Partial Least Squares Structural Equation Modeling (PLS-SEM). Below, the results are given and debated. First, a summary of the mean scores and standard deviations for each dimension is given in Table 1's descriptive statistics. With average scores ranging from 4.24 to 4.68, customers generally gave the user experience and service quality components positive ratings. This suggests that customers are generally very satisfied with online banking services.

The examination of structural models then exposes connections between customer satisfaction, service quality, and user experience aspects. The path coefficients and their significance levels are shown in Table 2.

Table 2: Path Coefficients and Significance Levels

Dimensions		Path Coefficie nt	T- Valu e	P- Value	Results
Efficiency Satisfaction	->	0.346	4.22	<0.00	Significa nt
System Availability Satisfaction	->	0.214	2.99	0.003	Significa nt
Fulfillment Satisfaction	->	0.402	5.76	<0.00	Significa nt
Privacy Satisfaction	->	0.126	1.88	0.006 1	Not Significa nt

Contact ->	0.285	3.98	< 0.00	Significa
Satisfaction			1	nt
Responsivenes s-> Satisfaction	0.212	3.18	0.002	Significa nt
Website Design ->	0.327	4.52		Significa nt
Satisfaction				

The findings from the other report's investigation indicate that factors such as effectiveness, system availability, fulfillment, connectivity, responsiveness, and website design significantly increase customers' satisfaction with online banking. These results show that customers' satisfaction levels rise when they believe the internet banking system is effective, accessible, meets their needs, simple to contact, attentive to their inquiries, and has a well-designed website. However, the path coefficient for privacywas not found to be statistically significant, suggesting that customer satisfaction with online banking may not be directly impacted by privacy concerns. This finding can beattributable to the customers' general confidence in the privacy protections put in place by the institutions.

Overall, the study's findings are consistent with the claim that factors affecting consumer satisfaction in online banking include user experience and service quality. The results highlight how crucial it is to consider elements like effectiveness, system accessibility, fulfillment, connectivity, timeliness, and website design in order to guarantee high levels of client satisfaction.

A comparison of customer satisfaction levels between public and private banks produced some insightful results. The mean customer satisfaction scores for both types of banks are shown in Table 3.

Table 3: Mean Scores of Customer Satisfaction (Public vs.Private Banks)

Bank Type	Mean Score
Public Banks	4.15
Private Banks	4.42

According to the findings, clients of private banks expressed more pleasure (mean score of 4.42) than those of state banks (mean score of 4.15). This result lends credence to the idea that public and private banks in Internet banking offer different levels of client satisfaction.

This study offers insightful information about how online banking affects customer satisfaction. The findings emphasize how crucial user experience and service quality elements, such as effectiveness, system availability, fulfillment, connectivity, responsiveness, and website design, are in affecting consumer satisfaction. According to the findings, banks should give priority to these elements in order to boost customer satisfaction and enhance the whole online banking experience. Additionally, acomparison of customer satisfaction levels between public and private banks shows that there are variances, with private banks outperforming public banks. These findings can help banks create strategies to satisfy client expectations in the digital age and optimize their online banking offerings.

VI. CONCLUSION

In conclusion, by emphasizing user experience and service quality variables through based reporting and calculations, this research study sheds light on the impact of online banking on customer satisfaction. The results indicate that consumer satisfaction with Internet banking is significantly influenced by efficiency, system availability, fulfillment, connectivity, responsiveness, and website design. These factors are crucial in determining how customers perceive and interact with brands, highlighting the significance of offering a fluid and userfriendly online banking environment. Although privacy concerns do not directly impact the satisfaction of consumers, a general sense of trust among customers in the privacy protections put in place by banks suggests that they do so. Additionally, the comparison of customer satisfaction levels between public and private banks showed that private bank customers were more satisfied than those of public banks, underscoring the need for industry-wide investment and continuing improvement in online banking services. These resultsoffer banks useful information on how to enhance their online banking services, enhance user experience, and satisfy customers' expectations in the digital era. Banks may nurture high levels of client satisfaction and ultimately increase their position in the cutthroat online banking market by giving priority to efficiency, system availability, fulfillment, connectivity, responsiveness, and website design.

REFERENCES

Ahmed, R. R., Romeika, G., Kauliene, R., Streimikis, J., & Dapkus, R. (2020). ES-QUAL Model and Customer Satisfaction in Online Banking: Evidence from Multivariate Analysis Techniques. Oeconomia Copernicana.

Ahmed, R. R., Vveinhardt, J., Štreimikienė, D., Ashraf, M., & Channar, Z. A. (2017). Modified SERVQUAL Model and Effects of Customer Attitude and Technology on Customer Satisfaction in Banking Industry: Mediation, Moderation and Conditional Process Analysis. Journal of Business Economics and Management.

- Amin, M. (2016). Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty. International Journal of Bank Marketing, 34(3), 280-306.
- Anderson, E.W. and Fornell, C. (1994), "A customer satisfactionresearch prospectus", in Rust, R.T. and Oliver, R. (Eds), Service Quality: New Directions in Theory and Practice, Sage Publications, Thousand Oaks, CA, pp. 241-68.
- Ayo, C. K., Oni, A. A., Adewoye, O. J., & Eweoya, I. O. (2016). E-banking users' behaviour: E-service quality, attitude, and customer satisfaction. International Journal of Bank Marketing, 34(3), 347-367.
- Bagozzi, R., F. Davis, and P. Warshaw (1990), "User Acceptance of Information Technology: A Comparison of Two Theoretical Models," Management Science, 35(8), 982-1003.
- Bahia, K., & Nantel, J. (2000). A reliable and valid measurementscale for the perceived service quality of banks. International Journal of Bank Marketing, 18(2), 84–91.
- Bajpai, V. N., & Sardana, S. (2020). E-Banking Service Quality and Customer Satisfaction: An Exploratory Study on India. International Journal of Services and Operations Management.
- Bowen, J., & Chen, S. (2001). The relationship between customer loyalty and customer satisfaction. International Journal of Contemporary Hospitality Management, 13(5), 213-7
- Broderick, A. J., & Vachirapornpuk, S. (2002). Service quality in Internet banking: The importance of customer role. Marketing Intelligence & Planning, 20(6), 327–335.
- Chiu, C. L., Chiu, J. L., & Mansumitrchai, S. (2016). Privacy, security, infrastructure and cost issues in internet banking in the Philippines: initial trust formation. International Journal of Financial Services Management, 8(3), 240-271.
- Eriksson, K., Kerem, K., & Nilsson, D. (2005). Customer acceptance of internet banking in Estonia. International Journal ofBank Marketing, 23 (2), 200-216.
- Karjaluoto, H., Koivumaki, T., & Salo, J. (2003). Individual differences in private banking: Empirical evidence from Finland.
- 36th Annual Hawaii International Conference on System Sciences, 2003. Proceedings of the IEEE. pp. 9.
- Kolodinsky, J. M., Hogarth, J. M., & Hilgert, M. A. (2004). The adoption of electronic banking technologies by US consumers. International Journal of Bank Marketing, 22(4), 238-259.
- Kumar, G., & Shenbagaraman, V. M. (2017). A Study on Customer's Perception of Online Banking and E-service Quality Among Chennai Customers. International Journal of Business Excellence.
- Loonam, M., & O'Loughlin, D. (2008). An Observation Analysis of E-service Quality in Online Banking. Journal of Financial Services Marketing.

- Mendoza, M. C. O., Santos, R. R. C., & Magdaraog, J. E. H. (2020). Assessment of E-Service Quality Dimensions and Its Influence on Customer Satisfaction: A Study on The Online Banking Services in The Philippines. In 2020 IEEE 7th International Conference on Industrial Engineering and Applications (pp. 1-6).
- Mols, N. P. (1999). The Internet and the banks' strategic distribution channel decisions. International Journal of Bank Marketing, 17(6), 295–3.
- Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: A research agenda. Journal of the Academy of Marketing Science, 28(1), 168–174.
- Sadeghi, T., & Heidarzadeh Hanzaee, K. (2010). Customer satisfaction factors (CSFs) with online banking services in an Islamic country: IR Iran. Journal of Islamic Marketing, 1 (3), 249-267.
- Sadek, H., & El Mehelmi, H. (2020). Customer Brand Engagement Impact on Brand Satisfaction, Loyalty, and Trust in The Online Context. Egyptian.
- Sehgal, R. (2017). Relative Importance of Service Quality Dimensions and Their Impact on Customer Satisfaction in PublicSector Banks from Northern India. Researchers World.
- Tan, M., & Teo, T. S. (2000). Factors influencing the adoption of Internet banking. Journal of the Association for Information Systems, 1 (1), 1-42.
- Ternullo, G. (1997). Banking on the Internet: new technologies, new opportunities and new risks. Boston Regional Outlook, Second Quarter.
- Theagarajah (2011), Chairman Message, Annual report of HattonNational Bank
- Tominc, P., & Pandit, R. (2012). Study of The Impact of Service Quality on Consumer Behavior in Internet Banking Services. PARIPEX Indian Journal of Research.
- Yaya, L. H. P., Marimon, F., & Casadesus, M. (2013). The Contest Determinant of Delight and Disappointment: A Case Study of Online Banking. Total Quality Management & BusinessExcellence.
- Zhou, T. (2011). An empirical examination of initial trust in mobile banking. Internet Research, 21 (5), 527-540.

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