

A conceptual framework for measuring e-Banking service quality and customer satisfaction: Integrating SERVQUAL and TAM in the context of Nepal

Ram Paudel¹ (Correspondence Author)

¹American Management University, Utah, USA *e-mail: <u>ram.paudel@amu.edu.eu</u>, <u>https://orcid.org/0009-0002-8801-5452</u>*

Laba Kumar Shrestha¹

¹American Management University, Utah, USA e-mail: <u>lkshrestha@amu.edu.eu</u>, <u>https://orcid.org/0009-0007-4361-8985</u>

Rajesh Paudel²

²Padmashree College, Kathmandu, Nepal e-mail: rajesh.bca 2019@padmashreecollege.edu.np, https://orcid.org/0009-0007-8629-7261

> Received 23 January 2024 Revised 14 May 2024 Accepted 20 June 2024

ABSTRACT

This conceptual paper develops a comprehensive framework of the analysis of the service quality and customer satisfaction in the e-banking industry of Nepal by modifying the SERVQUAL model with the Technology Acceptance Model (TAM). Despite the spread in e-banking adoption, especially in urban areas, the quality of digital services is still uneven, and it can be explained by the lack of infrastructure, digital literacy, and the existing security issues. The suggested framework integrates five fundamental SERVQUAL dimensions, i.e., reliability, responsiveness, assurance, tangibles, and empathy with TAM constructs, such as trust, perceived usefulness, and perceived ease of use. The trust is set as a mediating variable, and the access to digital infrastructure is appointed a contextual moderator. The purpose of the study is to provide a formal foundation of further empirical verification, using, say, the structural equation modelling. The proposed framework provides a theoretical approach to improving the digital banking strategy and creating user trust and thus can enhance inclusive financial participation in developing economies like Nepal

Keywords: e-banking, SERVQUAL, technology acceptance model (TAM), customer satisfaction, trust, digital banking, service quality



1. INTRODUCTION

The arrival of Financial Technology (fintech) has redesigned the banking and financial industry in a significant manner and provided the new solutions that lead to increased efficiency, expanded access, and improved customer experience (Kapoor et al., 2024). This transformation is an indicator of a shift in more

Journal of Economics and Business Letters is licensed under a Creative Commons Attribution 4.0 International License.

modern forms of banking operations to digital and open banking architecture (Rubanov, 2020), where the operation practices, customer contact, and internal governance are being redesigned (Jeyaraj et al., 2024). In developed economies, e-banking adoption is mature and widespread; however, in developing countries like Nepal, the uptake remains comparatively limited due to factors such as inadequate infrastructure, low internet penetration, and limited digital literacy (Sapkota et al., 2018). Although Nepal began its digital banking journey in the early 2000s, with Kumari Bank launching internet banking in 2002 and Laxmi Bank introducing mobile banking in 2004 (Banstola, 2007), large sections of the rural population remain disconnected from these advancements. Despite improvements in urban service delivery, user satisfaction remains inconsistent due to technical and non-technical barriers, including low public awareness, rising cybersecurity concerns, and insufficient customer support. The existing research signifies an e-banking service delivery and users gap in Nepal. Although there is an increased adoption of digital banking, majority of consumers are still unwilling to use these channels due to the discrepancies in service delivery, lack of trust and the persistence urban-rural digital disparity. Despite the existence of a few empirical studies on Nepal in relation to digital banking, not many of them use valid and tested service-quality measuring tools like SERVQUAL to provide an idea about the role played by various dimensions of quality in customer satisfaction assessment (Shakya, 2016; Neha, 2020). The conceptual paper fills this gap by modifying this model in the context of the e-banking situation in Nepal through the SERVQUAL framework (Parasuraman et al., 1985, 1988), which describes service quality in terms of reliability, responsiveness, assurance, tangibles, and empathy. The study context is to examine the role of service quality in customer satisfaction among the low-infrastructure settings. Instead of bringing forth new empirical insights, the discussion has placed the earlier research work in a new context and has brought forward a context-wise model that can be used as the source of new research as well as a guide into providing practical input in the way e-banking can be designed in the developing world.

2. LITERATURE REVIEW

2.1 Current State of E-banking in Nepal

The current situation in e-banking in Nepal is marked by a high rate of technological advancement and non-homogeneous usages by the consumers. The spread of ownership of smartphones and the rise of internet access enhanced the adoption of online banking services thus enhancing the convenience of users (Gaudel, 2021). However, the take up varies dramatically among demographic lines. Younger, technologically up to date generations are characterized by a strong tendency to choose digital money solutions over other banks, and their older counterparts, do not often abandon the use of classic banks, as doubts about security and the stability of the system are still relevant (Limbu, 2024). Nevertheless, these generational rifts have not stopped incremental improvements in the e-banking infrastructure- stronger security systems and easier user interface in e-banking transactions have led to user interactivity improvement. These developments are essential towards the development of the financial sector in Nepal and align with global trends of online financial revolution. Regulatory systems are also a very important element of this transition. The current policies in Nepal are aimed at facilitating the growth of digital banking and ensuring the rights of the consumers and maintaining cybersecurity practices. A study has shown that secure infrastructure investment by banks meets the requirements stipulated by the regulators and builds trust among the customers (Mastran, 2021). The unstable nature of digital innovation does put a requirement to constantly recalibrate the policies used to make it effective. Such transformations have optimized the provision of services in Nepal commercial banks by streamlining the operations using international standards of digital resilience, cursoriness to the clients and sensitivity (Subedi & Adhikari, 2023).

2.2 Challenges and Opportunities of E-banking in Nepal

Nepal has significant barriers to e-banking market, primarily fueled by inadequacies in technology, and security hurdles in the system. There is also a significant barrier, namely, that most people are not well acquainted with advanced digital platforms, which limits further expansion of the e-banking services consumption (Mastran, 2021). At the same time, unequal access to the internet, especially in the rural setting, limits accessibility to digital financial services and increases the digital divide. Security and privacy

concerns also act as a setback to adopting online banking since the fear of experiencing a security breach discourages most users of online banking services (Gaudel, 2021). The mitigation of these limitations requires more investment in the robust e-banking infrastructure and adoption of specific digital-literacy programs aimed at informing both customers and workers of the banking sphere about the benefits and safe operating theory of digital banking. However, despite these challenges, the e-banking segment of Nepal has a significant potential of growth. Through the increasing smartphone penetration and the upgrading of internet access (and mainly in the urban centers), financial institutions have a unique chance to expand their digital product range (Limbu, 2024). Engaging in technological innovation will help banks improve their efficiency and minimize the cost of operations, decreasing the number of transactions tenfold, considerably improving the customer experience (Mastran, 2021). As the consumer tastes shift to the more personalized and user-friendly finance solutions, the pressure on the digital banking innovation keeps mounting. Specific marketing via the internet, personalized financial services and elaborate education efforts have thus become significant weapons in their attempts to connect with various demographic groups and enhance customer satisfaction and retention overall (Limbu, 2024).

2.3 E-Banking Service Quality and Customer Satisfaction

The trend of E-banking in Nepal has turned out to be a revolutionary technological intervention in the banking sector and this has drastically changed the way customers transact business. Some researchers have examined the relationship between the quality of services offered on e-banking services and customer satisfaction regarding a Nepalese sample (e.g., Gaudel, 2021; Thapa, 2023; Gautam & Sah, 2023; Karmacharya, 2022). The evidence indicates that it is always certain that the quality of service is a conclusive antecedent of customer satisfaction and loyalty in digital banking. As an example, Gaudel (2021) and Shrestha & Agrawal (2023) make it clear that customer satisfaction mediates the correlation between service quality and loyalty, thus revealing its pivotal role in facilitating the competitive edge of Nepalese banks and financial institutions. Some studies have identified individual components of service quality that become relevant in customer satisfaction. According to Thapa (2023) and Karmacharya (2022), ease of use, efficiency, reliability, responsiveness, security, and empathy are central, and they resemble the longstanding SERVQUAL (Parasuraman et al., 1988) approach as well as the digital service quality model proposed by Jun and Cai (2001).

A simple interface and the rate and ease of transactions, also referred to as efficiency, are considered particularly beneficial to Nepalese consumers (Thapa, 2023; Amin, 2016). On the same note, reliability, including the frequency and accuracy of service provision, and promptness, gauged as the ability of the bank to serve them quickly, is an ideal factor of perception of the service quality (Chhetri, 2024). Security is also a key priority, as cyber threat-related issues are continuously growing, and the level of digital trust among the users is still low (Gaudel, 2021; Gautam & Sah, 2023). The tangibility of e-banking platforms the quality of interfaces and physical infrastructure such as ATMs has also been recognized as influential (Karmacharya, 2022; Thapa, 2020). Meanwhile, empathy and assurance, reflected in personalized attention and employee competence, significantly affect customer trust and satisfaction (Lamichhane, 2024). These dimensions suggest that user experience in e-banking is not solely technological but also relational. Beyond service quality, other factors influencing customer satisfaction include perceived usefulness, perceived ease of use, and trust (Subedi & Tamang, 2023).

Adhikari (2019) notes that the availability of convenience, time saving, and the ability to converse effectively are the major incentives towards the use of e-banking in Nepal. A particular variation of electronic banking, mobile banking, has shown particularly strong growth and impact; there have been advancements in the quality of services provided relative to growing degrees of satisfaction on the part of the customers (Adhikari & Gyawali, 2023). Many researchers suggest that it is important to combine the existing theoretical constructs to explain the dynamics of digital banking satisfaction. Karmacharya (2022) and Subedi & Tamang (2023) advocate the use of the SERVQUAL framework together with Technology Acceptance Model (TAM) to measure the perceptions of service as well as the behaviors of the users. The studies have come up with models of prediction by virtue of which customer loyalty can be explained in

an environment where there has been a digital transformation in place (Gautam and Sah, 2023; Joshi, 2023).

Nevertheless, these improvements notwithstanding, the use of e-banking in Nepal still faces strong obstacles. Mastran (2021) claims that the main hindrances are technological lag, high cost of transactions, customer reluctance, and a lack of extensive digital marketing campaigns on the side of banks. There are also external risks to the digital financial system, including risks to online safety, socio-economic limitations, and security, which lead to even less of that confidence (Jibril et al., 2024; Adhikari, 2019). However, new opportunities come into existence. According to the claims by Sah (2023) and Panwar (2024), employing artificial intelligence and further personalization, as well as smart-wallet features, Nepalese banks can enhance customer relations. At the same time, system quality, information quality, and internal control mechanisms are becoming significant aspects of service quality in digitally carried out circumstances (Lutfi, 2023). The existing literature, in general, supports the impression that e-banking in Nepal has continued to grow, but the gap in service quality, building trust, and access remains. In such a consideration, therefore, a conceptual model based on the SERVQUAL and TAM models but customized to the socio-digital context of the country in stake is needed to guide both propositional research and operational interventions that come in the interventions meant to boost customer satisfaction and loyalty.

2.4 Critical Appraisal of Existing Studies

In modern literature, the results of empirical studies confirm a positive correlation between the quality of e-banking and customer satisfaction (Gaudel, 2021; Thapa, 2023). However, the key dimensions of service quality which cause this correlation are not defined; in one of the studies, researchers explain this association by the element of efficiency (Thapa, 2023), but security is highlighted among researchers in another of the studies (Gaudel, 2021). In addition to that, the majority of studies use a lens of a single theory, whether SERVQUAL or TAM and do not question interaction effects. This observation has both theoretical and empirical value in establishing an holistic framework that can take both the variables of service-quality-perception and that of technology-acceptance as an example, the case of Nepal is an unexplored area of technology-acceptance, which this observation emphasizes.

2.5 Comparison with Alternative Theoretical Models

The SERVQUAL model, initially developed by Parasuraman, Zeithaml, and Berry in the early 1980s, typologically classifies the evaluation of service quality into the five interrelated dimensions, namely, reliability, assurance, tangibles, empathy, and responsiveness, which, in turn, are aligned with the tenets of the isolating-comparative framework based on the expectancy-disconfirmation theory (Balbin-Romero et al., 2022). The traditional SERVQUAL framework, although proven to be robust in a variety of service settings, is not adequate when used in modern digital service areas, especially e-banking. In turn, researchers in developing economies have developed E-SERVQUAL, a modification that incorporates new dimensions, i.e., security, privacy, availability, efficiency, credibility, fulfilment, and problem handling to increase the accuracy of the electronic service quality measurement (Malc et al., 2023, Siu et al., 2005). UTAUT (Venkatesh et al., 2003), DeLone & McLean (1992) model of information system success and DeLone & McLean (2003) currently well-established models of understanding how to come to terms with digital service adoption, but wherein they represent among the most popular tools in the developing economies like Nepal. However, this research took off the two above frameworks (SERVQUAL (van der Heijden, 1996, Parasuraman et al., 1985; 1988) and TAM (Davis, 1989)) as reasons that clearly discuss about service quality perception as well as technology acceptance in the financial market of Nepal. UTAUT focuses on intention and usage behavior of the user and does not include service quality constructs that are embedded. On the other hand, DeLone & McLean IS Success Model takes into consideration both system and information quality but fails to consider relations aspect which is critical in the Nepal banking industry, such as empathy and responsiveness. Alternative instrument (E-SERVQUAL) was also tested based on Siu et at. (2005), Liao et al.,(2021) as presented in Table 1, but average Nepal setup of hybrid service provision (there are both physical branches as well as the digital channels) makes the conventional SERVQUAL ones contextually applicable whereas some dimensions of E-SERVQUAL, specifically, security are embedded through the channel of trust, thus serving as a mediator.

Table 1: Comparison of SERVQUAL and E-SERVQUAL Dimensions

Dimension	SERVQUAL (Traditional Services)	E-SERVQUAL (Electronic Services)
Reliability	Ability to perform promised	Accuracy and reliability of digital transactions (e.g.,
	service dependably and accurately	correct processing of transfers, uptime of services)
Assurance	Knowledge and courtesy of	Trust in the platform's security and data protection;
	employees; ability to inspire trust	perceived competence of digital systems
	and confidence	
Tangibles	Physical facilities, equipment,	Website aesthetics, interface design, app layout, and
	appearance of personnel	visual appeal of digital touchpoints
Empathy	Caring, individualized attention to	Customization, personalization features, chat support,
	customers	and understanding user needs through AI or live
		support
Responsiveness	Willingness to help and provide	Speed of digital response (e.g., loading time, complaint
	prompt service	resolution via digital channels, chatbot efficiency)
Security	(Not originally part of	Protection of user data, secure login processes,
	SERVQUAL)	encryption, traud prevention
Privacy	(Not originally part of	Protection of personal and financial data; user control
	SERVQUAL)	over data sharing
Availability	(Not originally part of	Availability and uptime of the digital banking platform;
	SERVQUAL)	reliability of mobile app/web access
Efficiency	(Not originally part of	Ease and speed of completing tasks such as
	SERVQUAL)	transferring funds, checking balances, or paying bills
E 161		
Fulfilment	(Not originally part of	Delivery of promised services and features (e.g.,
	SERVQUAL)	successful transaction confirmation, timely
Casdibility	Not originally part of	notifications)
Credibility	SERVOLAL)	confirmation speed login and out
Dechlom Handling	Not originally part of	commanded, speed login and out
r tobletti riatidiing	SERVOLAL)	compensates for the problem, online customer service
	SERVQUAL)	promotiv
		prompuy

Source: Composed by author based on literatures

This table outlines the traditional SERVQUAL dimensions (Parasuraman et al., 1988) and their digital adaptations under the E-SERVQUAL framework, incorporating variables such as security, privacy, and system availability to better reflect online service contexts (Malc et al., 2023; Hizam & Ahmed, 2019). Empirical studies from comparable developing nations (e.g., Zambia and Jordan) demonstrate that E-SERVQUAL dimensions especially security, responsiveness, reliability, efficiency, and privacy positively influence customer satisfaction and digital service adoption (Alawneh et al., 2013). These findings highlight the need to recalibrate SERVQUAL for Nepal's e-banking landscape, where low digital literacy, frequent cybersecurity threats, and a pronounced urban-rural infrastructure divide create distinct service challenges. The inclusion of constructs based on the Technology Acceptance Model (TAM) into the SERVQUAL framework (in this case, perceived usefulness, perceived ease of use, and trust) significantly increases the explanatory ability and its situational applicability of the latter, as empirically proven by Aboobucker and Bao (2018) and Alawneh et al. (2013). With the help of the hybrid SERVQUAL TAM conceptual framework, the scholars get a possibility of exploring perceptions of service quality and user acceptance behaviors in combination. The integrated view fills an evident gap in the Nepalese literature, in which little empirical research has been conducted to study the interaction of validated service quality constructs with digital adoption variables in e-banking (Shakya, 2016; Neha, 2020; Thapa, 2023).



Figure 1. Proposed conceptual framework integrating SERVQUAL and TAM constructs in ebanking context of Nepal

Source: Purposed by authors

2.6 Theoretical Justification for Mediation and Moderation Paths

Trust as a mediating variable is reported in digit service literature as being able to convert service quality perceptions into consumer satisfaction. In line with the empirical evidence, reliability and assurance are the antecedents of trust that ultimate enhances the customer satisfaction (Aboobucker & Bao, 2018). According to the Technology Acceptance Model, perceived usefulness and perceived ease of use moderate the shaping of behavioral implications of the attributes of services since they moderate the usefulness of perceived ease of a service (Venkatesh et al., 2003). A greater effect of responsiveness or tangibles on satisfaction is likely to extend to low-digital-literacy cases like Nepal due to the fact that users are highly sensitive to usability impediments and will find it easier to perceive usability. The access to digital infrastructure is another aspect moderating these relationships by drawing the boundary-conditions of how service quality transforms into trust and satisfaction, as well as addressing the disparity in the reliability of the activities of the internet and device access.

This model illustrates the hypothesized relationships (H1–H10) between five service quality dimensions (reliability, responsiveness, assurance, tangibles, empathy) and customer satisfaction. Trust is proposed as a mediating variable. Perceived usefulness, perceived ease of use, and digital infrastructure access function as moderators. Customer satisfaction is expected to predict customer loyalty. To explore the influence of e-banking service quality on customer satisfaction in Nepal, this conceptual study proposes the following propositions grounded in SERVQUAL and Technology Acceptance Model (TAM) theories:

- i. H1: Higher levels of reliability in e-banking services positively influence customer satisfaction.
- ii. H2: Enhanced responsiveness in digital service support leads to increased customer satisfaction in e-banking.
- iii. H3: Improved tangibles (e.g., interface design, ATM availability, and accessibility) are positively associated with customer satisfaction.
- iv. H4: Greater assurance reflected through trust, professionalism, and courtesy strengthens customer satisfaction.
- v. H5: Personalized and empathetic service (i.e., empathy) positively contributes to customer satisfaction.
- vi. H6: Trust mediates the relationship between SERVQUAL dimensions and customer satisfaction in the e-banking context.

- vii. H7: The influence of SERVQUAL dimensions on customer satisfaction is moderated by perceived usefulness, such that the relationship strengthens when perceived usefulness is high.
- viii. H8: The relationship between SERVQUAL dimensions and customer satisfaction is moderated by perceived ease of use, especially in low digital literacy environments.
- ix. H9: Digital infrastructure access (e.g., internet reliability, device availability) moderates the relationship between service quality and both trust and customer satisfaction.
- x. H10: Increased customer satisfaction significantly predicts customer loyalty and sustained usage intention in e-banking platforms.

This model illustrates the hypothesized relationships between service quality dimensions (reliability, responsiveness, assurance, tangibles, empathy) and customer satisfaction in the context of Nepalese e-banking. The framework incorporates trust as a mediating variable, while perceived usefulness, perceived ease of use, and digital infrastructure access serve as moderating variables. Customer loyalty is positioned as the ultimate outcome variable. The current conceptual framework is founded on both the SERVQUAL model and the Technology Acceptance Model (TAM), and the main goal is to explain the user satisfaction and behavior intention regarding digital banking in developing economies.

3. IMPLICATIONS

The discussed conceptual model has several significant implications concerning the scientific research and practical application in the framework of digital banking in Nepal.

3.1 Theoretical Implications

This model is an extension of the traditional SERVQUAL model and places its analysis in the realm of digital financial services, thus incorporating constructs of trust, perceived ease of use, and access to digital infrastructure. The embedding is relevant in the changing dynamics of customer satisfaction in a digitally changing society and to the literature of service-quality at large and the provision of a customized heuristic to explain user behavior in developing economies.

3.2 Managerial Implications

In the framework of the Nepali banking institutions, this model is a part of strategic framework of increasing e-banking capabilities. It highlights four areas that are of priority:

- a. Increasing responsiveness by means of effective customer-support systems.
- b. Increasing the usability of the interface through simplifying digital touchpoints.
- c. Having a strong cybersecurity and privacy to ensure that the users gain trust.
- d. Closing the digital-literacy gaps by paying special attention to education and onboarding.

With the help of service-quality initiatives combined with these insights, financial institutions will be able to encourage high levels of customer satisfaction, enhance their loyalty, and maintain the use of digital banking services in the long run.

4. CONCLUSION

The current conceptual study proposes a new, but systematic framework of evaluating the mutual impact of service quality and customer satisfaction in the e-banking industry in Nepal. By integrating the SERVQUAL model with the constructs chosen in the Technology Acceptance Model (TAM), the paper aims to produce a broader understanding of digital service exchanges within the Nepalese settings. Considering the increased pace of digitization that occurred after the COVID-19 pandemic, the existing models of service-quality must be adjusted toward the changing customer expectations, and the related technological realities of the time. It is highly advisable to validate the proposed framework empirically, i.e., through quantitative methods like structural equation modelling (SEM); in addition, comparative investigations of the proposed framework across geographic territories or demographic groups would help to understand context-specific processes, which, in turn, would help to adjust the all-inclusive digital banking approaches.

5. **RECOMMENATIONS**

The conceptual framework suggested explains a combination of variables that have a simultaneous impact on the quality of e-banking services and the level of customer satisfaction. The recommendations that are therefore presented because of this study are to guide the stakeholders in their efforts to improve the quality of the e-banking services and the customer satisfaction levels in Nepal.

5.1 For Banking Practitioners

To increase the customer satisfaction level and to enhance long-term adoption of the e-banking services in Nepal, it is important that financial institutions should focus on building user trust by investing in strong cybersecurity systems, clear data-privacy guidelines, and visible fraud-protection measures. Such efforts give users confidence in the security of the platform especially in a situation whereby digital-security issues are still evident. At the same time, responsiveness in service can be improved by implementing AI-based support tools, such as chatbots and multilingual help desks, as well as transaction notifications in real time. Such innovations help to minimize customer frustration as well as build confidence in the reliability of the system. Usability of the platform is also of high importance and this aspect could be enhanced by creating mobile-first user interfaces that were designed to support different digital literacy levels. Minimized registration and sign in processes allow a seamless experience to both new and old customers. Moreover, the banks are also expected to invest in promotion of digital-literacy through tutorials, interactive guides, and community-based training programs- especially in the rural and underserved regions. These actions widen the access and enable the users to interact with digital banking platforms with confidence, thus contributing to inclusive financial development.

5.2 For Policymakers and Regulators

The creation of an inclusive and safe digital banking environment in Nepal is based on the combined efforts of the policymakers and financial regulators. As one of the main suggestions, it is possible to encourage domestic banks to follow the national-level standards of digital service quality prioritizing user safety, reliability of the systems, and their accessibility by all population cohorts. This standardized benchmarking to institutions would enhance uniformity in services and consumer trust in the digital financial services. The modern literature repeatedly emphasizes the necessity of long-term investment in the digital infrastructure, especially focusing on distant and underserved areas. The digital divide requires that there should be broadband coverage and more mobile network connectivity to enable more adoption of e-banking. Also, one should consider the introduction of specific incentives to encourage digital inclusion. This can be in form of regulatory relief- in form of lower transaction fees, tax incentives or technology upgrades subsidies in banks that implement inclusive digital solutions with special focus on low income or rural customers. Such policy measures would combine financial innovation and social equity so that e-banking benefits are distributed to all sectors of the Nepal population.

5.3 Future Researchers

The current conceptual paper provides a strong basis of empirical research on quality of e-banking services and customer satisfaction in Nepal. The next step that can be taken soon is the empirical validation of the proposed conceptual framework. Future research should evaluate the connections described in the hypotheses (H110) with the help of quantitative methods, including structural equation modeling. The use of quantitative analysis merged with mixed-method approaches would provide more meaningful results because they would be combined with statistical trends with user stories and because they would explain trust, perceived usefulness, and infrastructure-related issues.

Another possible axis of research is demographic segmentation. Researchers are encouraged to establish how other variables such as age, level of education, level of income, gender and geographical location (urban/rural difference) could influence customer experiences as well as satisfaction with ebanking services. These factors can moderate the relationships between the dimensions of service quality and customer satisfaction thus pointing out certain needs of user groups. It is also possible that cross-generational comparisons can give great information on trust, digital confidence, and preference of platform. The research area can also be strengthened using longitudinal and comparative designs. The longitudinal studies would allow monitoring the changes in the customer satisfaction and loyalty as the digital banking infrastructure in Nepal evolves. The cross-country comparisons of other developing nations with similar issues of financial-inclusion might shed some light on the common patterns or even

the country-specific variables that influence the adoption of e-banking. The model can also be applied to future research to add more variables. The perceived risk, mobile usability, financial literacy, and fintech integration would be the constructs that would enhance the explanatory value of the framework. The multidimensional nature of digital service delivery would be captured by looking at cross-channel interactions, which include the mobile banking applications, desktop experience, and in-branch experience.

Lastly, researchers can modify the model to fit the sector of the Nepali financial environment. Its application to the spheres of public banks, private institutions, cooperatives, and microfinance areas can provide specific knowledge in each setting, improving both theoretical knowledge and practical strategic planning. The above-mentioned model can be effectively applied and adjusted to several spheres of the Nepali financial world. Applying the framework to the work of public banks, private commercial banks, cooperatives, or microfinance institutions produces context-specific results because each segment works with different limitations and addresses the specific customer expectations. The sector-specific applications do not simply further the theoretical elaboration but also lead to the practice-oriented service design initiatives to serve the financial inclusion and digital transformation. This research on the provision of services in the financial sector is a welcome addition to this question given the heterogeneity of customer expectations in the various segments of the financial market. This research on the provision of services in the financial sector is a welcome addition to this question given the heterogeneity of customer expectations in the various segments of the financial market.

Ethical Declaration

This paper is conceptual in nature and does not involve human participants, data collection, or experimentation. Therefore, ethical approval was not required.

Acknowledgment

The author sincerely thanks all colleagues, mentors, and peers who provided valuable encouragement and constructive feedback throughout the development of this theoretical contribution.

REFERENCES

- Aboobucker, I., & Bao, Y. (2018). What obstruct customer acceptance of internet banking? Security and privacy, risk, trust and website usability and the role of moderators. *The Journal of High Technology Management Research*, 29(1), 109–123. https://doi.org/10.1016/j.hitech.2018.04.010
- Adhikari, K. P. (2019). Determinants of e-banking in Nepal. Management Dynamics, 22(2), 89-94. https://doi.org/10.3126/md.v22i2.30241
- Adhikari, U., & Gyawali, S. (2023). Customer satisfaction of service quality: Assessing mobile banking practices. *Journal of Tilottama*, 1(1), 125–139. https://doi.org/10.3126/jtilottama.v1i1.64561
- Alawneh, A., Altaany, F., & Azzam, A. (2013). A study and a modified instrument for investigating ebanking quality dimensions. *Journal of E - Technology*, 4(1), 15–27.
- Amin, M. (2016). Internet banking service quality and its implication on e-customer satisfaction and ecustomer loyalty. *International Journal of Bank Marketing*, 34(3), 280–306. https://doi.org/10.1108/ijbm-10-2014-0139
- Balbin-Romero, G., Carrera-Mija, E., Serrato-Cherres, A., & Cordova-Buiza, F. (2022). Relationship between e-banking service quality based on the e-SERVQUAL model and customer satisfaction:
 A study in a Peruvian bank. Banks and Bank Systems, 17(4), 180–188. https://doi.org/10.21511/bbs.17(4).2022.15
- Banstola, A. (2007). Prospects and challenges of e-banking in Nepal. *The Journal of Nepalese Business Studies*, 4(1), 96-107.
- Chhetri, A. D. (2024). Customer satisfaction and perceived service quality in Nepal's banking sector. Journal of Balkumari College, 13(1), 49–56. <u>https://doi.org/10.3126/jbkc.v13i1.69499</u>

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Journal of Risk and Uncertainty*, 18(3), 321–325. https://doi.org/10.1023/a:1011156710779
- DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1), 60–95. <u>https://doi.org/10.1287/isre.3.1.60</u>
- Delone, W. H., & McLean, E. R. (2003). The Delone and Mclean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748
- Dongol, P., & Khadka, S. (2024). Determinants of customer satisfaction in Nepalese banking sector. *Sadgamaya*, 1(1), 12–16. https://doi.org/10.3126/sadgamaya.v1i1.66880
- Gaudel, D. (2021). Users' satisfaction of e-banking services in Nepal. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3850674
- Gautam, D. K., & Sah, G. K. (2023). Online banking service practices and its impact on e-customer satisfaction and e-customer loyalty in developing country of South Asia-Nepal. *SAGE Open*, *13*(3). https://doi.org/10.1177/21582440231185580
- Hizam, S. M., & Ahmed, W. (2019). A conceptual paper on SERVQUAL-framework for assessing quality of internet of things (IoT) services. *International Journal of Financial Research*, 10(5), 387–397. https://doi.org/10.5430/ijfr.v10n5p387
- Jibril, A. B., Pobee, F., Gochhait, S., & Chugh, R. (2024). Breaking boundaries: Unveiling hurdles in embracing internet banking services in sub- Saharan Africa. *Cogent Economics & Finance*, 12(1). <u>https://doi.org/10.1080/23322039.2024.2330436</u>
- Jeyaraj, S. S., Paramasivan, C., Sumathi, M., & Silpa, S. (2024). Navigating digital transformation in banking with cloud computing solutions. *Open Journal of Business and Management*, 12(06), 4227–4253. https://doi.org/10.4236/ojbm.2024.126212
- Joshi, C. (2023). Measuring the relationship between service quality, customer satisfaction and customer loyalty in the banking sector of Nepal. *Contemporary Research*, 6(2), 52–71. https://doi.org/10.3126/craiaj.v6i2.60248
- Jun, M., & Cai, S. (2001). The key determinants of internet banking service quality: A content analysis. *International Journal of Bank Marketing*, 19(7), 276–291. https://doi.org/10.1108/02652320110409825
- Kapoor, N., Kapoor, T., Sisodiya, D. R., & Sushma, J. (2024). Impact of fintech: Revolution in banking and financial industry. 2024 IEEE 4th International Conference on ICT in Business Industry &Amp; Government (ICTBIG), 1-6. https://doi.org/10.1109/ICTBIG64922.2024.10911635
- Karmacharya, B. (2022). Impact of Service Quality Dimensions on customer satisfaction in Nepalese financial institutions based on SERVPERF Model. *Journal of Nepalese Business Studies*, 15(1), 11–26. https://doi.org/10.3126/jnbs.v15i1.50375
- Lamichhane, P. (2024). Drivers of service quality and customer satisfaction in Kathmandu Valley. Researcher CAB a Journal for Research and Development, 3(1), 1–15. https://doi.org/10.3126/rcab.v3i1.68418
- Liao, Z., Shi, X., & Yee, M. H. (2021). Enterprise e-banking satisfaction and continuance in business operations. *Journal of General Management*, 46(4), 313–321. https://doi.org/10.1177/0306307021990277
- Limbu, B. (2024). Satisfaction levels of customers with online banking sectors in Nepal (pp. 1–74) [Thesis]. https://urn.fi/URN:NBN:fi:amk-2024060922366
- Lutfi, A. (2023). Factors affecting the success of accounting information system from the lens of DeLone and McLean IS model. *International Journal of Information Management Data Insights*, 3(2), Article 100202. https://doi.org/10.1016/j.jjimei.2023.100202
- Malc, D., Dlačić, J., Pisnik, A., & Milfelner, B. (2023). The development of e-banking services quality measurement instrument: MPQe-BS. Sustainability, 15(16), Article 12659. https://doi.org/10.3390/su151612659

- Mastran, S. (2021). Opportunities and challenges of online banking in Nepal. *The Batuk*, 7(2), 37–51. https://doi.org/10.3126/batuk.v7i2.39498
- Panwar, P. (2024). Challenges and opportunities of AI in banking sector. *Indian Scientific Journal of Research in Engineering and Management*, 08(04), 1–5. <u>https://doi.org/10.55041/ijsrem30719</u>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing*, 64(1), 12.
- Rubanov, P. M. (2020). Transformation of the banking sector in the digital era. *Mechanism of an Economic Regulation*, 4, 110–118. <u>https://doi.org/10.21272/mer.2019.86.11</u>
- Sah, G. K. (2023). Consumers' attitudes and behavioral intentions on internet banking in Nepal. Dristikon a Multidisciplinary Journal, 13(1), 83–96. <u>https://doi.org/10.3126/dristikon.v13i1.56056</u>
- Sapkota, N., Paudel, N., Subedi, D. K., Bhattarai, R., & Shrestha, R. (2018). Role of the banking sector. American Scientific Research Journal for Engineering, Technology, and Sciences, 42(1), 75-88. <u>https://www.linkedin.com/pulse/role-banking-sector-swarnam-shanmugam</u>
- Shrestha, B., & Agrawal, N. (2023). Influence of digital finance service worth on customer satisfaction in Nepal. Journal of Commerce Management and Tourism Studies, 2(3), 192–198. https://doi.org/10.58881/jcmts.v2i3.106
- Subedi, D. P., & Adhikari, S. N. (2023). Impact of e-banking on service quality in Nepalese commercial banks. *Nepalese Journal of Management and Technology*, 13(2), 41–53.
- Subedi, P. P., & Tamang, A. (2023). Factors influencing consumer adoption of online banking in Nepal. The Journal of Nepalese Business Studies, 16(1), 99–111. https://doi.org/10.3126/jnbs.v16i1.62386
- Thapa, M. (2023). E-banking services and customer satisfaction with reference to Nepalese banking sector. *Journal of Business and Social Sciences*, 5(1), 55–68. <u>https://doi.org/10.3126/jbss.v5i1.72446</u>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478. https://doi.org/10.2307/30036540

Note: Scholars and practitioners referencing this work are expected to do so with proper academic citation, in alignment with APA 7th edition standards, as shown below:

Paudel, R., Shrestha, L. K., & Paudel, R. . (2024). A conceptual framework for measuring e-Banking service quality and customer satisfaction: Integrating SERVQUAL and TAM in the context of Nepal. *Journal of Economics* and Business Letters, 4(3), 21–39. https://doi.org/10.55942/jebl.v4i3.539