

E-Service Quality as a Formative Higher-Order Construct: Mediating Role of Usefulness in Intention to Use E-Cards in Nepalese Digital Era¹

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Abstract

The paper explores how E-Service Quality (E-SQ) influences the Intention to Use E-cards (ITU) in Nepal with the mediating variable of Usefulness (UFN). The aim of the research is to offer empirical facts based on the dimensions of service quality and its effect on digital financial adoption in an emerging economy setting. The explanatory research design of positivist philosophy and deductive rationale approach was used. A structured questionnaire was used to collect data via Google Forms to 389 E-cards users and the sample size was calculated using Cochran formula. The purposive sampling and a cross-sectional quantitative approach were applied for the selection of relevant participants. The dataset had acceptable common method bias that was below the 50 percent mark. Measurement and structural model were analyzed using SmartPLS. Outer loadings, Cronbach alpha, composite reliability, AVE, HTMT ratio, Fornell-Larcker ratio and VIF values were used to confirm reliability and validity. The findings show that E-service quality has a positive impact on intentions to use as well as perceived usefulness of E-cards. Usefulness similarly plays a major direct role in adoption intention and partially mediates the correlation between quality of service and intention. The results are related to the Technology Acceptance Model (TAM), which proves the significance of perceived usefulness as an instrument by which service quality influences behavioral intention. This study has indicated that efficiency, reliability, responsiveness, security and satisfaction of E-card services would directly boost adoption and at the same time

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raise perceived usefulness. Technical enhancements should be highlighted as well as the communication of utility benefits to enhance digital financial inclusion by policy makers and service providers. The study is the extension of TAM that introduces conceptualization of E-service quality as a formative higher-order variable and empirically tests the presence of its impact on the digital financial adoption in the Nepalese setting.

Keywords: E-Service Quality; Intention to Use E-cards; Technology Acceptance Model

Introduction

High pace of digital financial services has revolutionized the way people transact their financial activities especially in emerging economies like Nepal. E-card services are one of such innovations that have been adopted as an important instrument in facilitating safe, convenient and effective digital payment. E-cards enable the user to conduct transactions electronically, which enhances financial inclusion and eases the daily banking operations (Adigwe, 2022). In spite of the increased access to these services, adoption is not only estimated in the light of availability but also in the quality of the e-service experience, perceptions of usefulness by users, and intentions to adopt the service (Rahi, S., & Abd. Ghani, 2019).

The e-service quality is a multi-dimensional concept that reflects how the users perceive the experience of the entire service (Khan et al., 2019). This paper conceptualizes it into a formative higher-order construct of five major dimensions. Efficiency is the ease and speed with which users' access and navigate the E-card platform whereas reliability is the consistent use of the system to provide accurate and reliable transactions. Responsiveness involves the timeliness and usefulness of customer care in fixing service problems. Security measures the level at which the site protects the personal and financial data of users, and fulfillment measures the results of the service to determine the realization of the service promises including timely and successful transactions. A combination of these dimensions determines the overall perception of the quality of E-service and affects users to adopt E-cards.

The technology acceptability Model has been used to determine the perceived usefulness of E-card services, which argues that users are convinced that E-card services improve efficiency and effectiveness of financial transactions (Lu, 2022). It is an intermediate between quality of E-services and intention to use E-cards which is a behavioral tendency of users to use and use the service (Alzoubi & Ghazal, 2022)).

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Empirical data indicate that quality e-services have a positive implication on the perceptions of usefulness which positively affects the adoption intention (Waqas et al., 2021).

In Nepal, though E-card services have been growing fast due to the growing smart phone penetration, internet connectivity and conducive banking policies. The exploration of the direct impact of E-service quality and the indirect impact through perceived usefulness on the intention of the users will be of great help in improving digital financial inclusion. According to this framework, the research questions are how does the quality of E-services affect the intention to use E-cards in Nepal, and to what extent does the perceived usefulness mediate such a relationship? The primary task is to investigate the direct and indirect impacts of E-service quality on E-card intention to use with emphasis on perceived usefulness as a mediator and offer the recommendations on how to enhance digital financial services.

Review of Literature

Theoretical review

The idea of E-service quality is based on the larger service quality literature that focuses the evaluation of service performance based on perceptions of customers (Parasuraman et al., 1985). Within the electronic service environment, Parasuraman et al. (2005) introduced the E-S-QUAL model which determines that there are several dimensions that sum up the judgments by users on online service quality, such as efficiency, reliability, responsiveness, security, and fulfillment. The combination of these dimensions has the combined effect of determining the satisfaction, trust, and intentions of users to use the digital platforms. E-service quality in this research has been modeled as a formative higher-order construct (HOC), in which the five dimensions are indicators of waiting to be combined to make up the overall perception of service quality instead of them being interchangeable reflective measures (Jarvis et al., 2003).

Efficiency can be described as the convenience and promptness of using and exploring the E-card platform. It has been found that the users tend to adopt the digital financial services more when the system is easy and quick (Bojjagani et al., 2023). One of the issues is reliability where the system will carry out transactions accurately and consistently which is very important in gaining the trust of the users and perceived risk minimization in digital payments (Kim et al., 2009). Responsiveness is the timeliness of customer service in responding to user inquiries and this has been identified to increase

perceived service quality and intention to use digital services (Ahn et al., 2007). Security encompasses safeguarding of delicate financial and personal data, a decisive factor in the adoption of digital banking since there are growing concerns on online fraud (Cele & Kwenda, 2025). Fulfillment is defined as the degree to which one finds the service to be as expected as in the case of a functional transaction and good processing that has been proven to positively correlate with the intention to adopt (Collier & Bienstock, 2006).

Technology Acceptance Model (TAM) offers the theoretical framework of what the perceived usefulness mediates between the quality of E-services and the intention to use E-cards (Davis, 1989). The perceived usefulness has been determined as the level of individual belief that the application of a given system will make him/her perform better. The usefulness of digital finance to the users directly affects their behavioral intentions towards the adoption of E-cards (Venkatesh & Bala, 2008). Empirical research indicates that quality e-services enhances the perceived usefulness, which subsequently leads to the adoption (Gefen et al., 2003; Venkatesh et al., 2003).

In addition, the combination of E-service quality and TAM gives a detailed view of the behavior of the user in online financial services. Although E-service quality is an independent variable that determines the perception of its users, it mediates between it and intention to use E-cards, as usefulness embodies both cognitive judgment and behavioral results (Yang, 2020). This service integration idea has been applying in recent literature examining the adoption of digital banking, mobile payments, and E-card adoption in emerging economies with a specific focus on the application of multi-dimensional service quality to improve user engagement (Bojjagani et al., 2023; Kumar & Lim, 2008).

The E-S-QUAL dimensions are also incorporated in the theoretical foundation of the research to describe the direct and indirect impacts of E-service quality on intention to use E-cards in Nepal through the formative higher-order construct (E-S-QUAL), and the perceived usefulness of TAM. This will enable a subtle realization of how dimensions of service quality can be applied to adoption behavior, and provides a solid theoretical basis to be used in empirical studies.

Empirical review and hypotheses development

E-service quality and intention to use e-cards

Olaleye et al. (2021) established that the quality of e-payment services in terms of dimensions such as tangibility, reliability, responsiveness, empathy, and assurance had a

positive impact on student satisfaction that further enhanced their desire to utilize the service. In a similar way, Andi (2019) showed that the quality of E-services played a significant role in influencing e-satisfaction and e-loyalty which ultimately increased the willingness of users to pay in digital services in Indonesia, implying the essential role of services quality and adoption intention. Bhati et al. (2022) used the Theory of Planned Behavior to investigate the issue of online purchasing behavior and discovered that the factors of reliability, responsiveness, personalization, convenience, trust, and ease of navigation have a positive impact on intention to use online platforms, which is applicable to the E-card adoption. Biswas et al. (2024) examined the digital services in Bangladesh and discovered that an improved quality of the services resulted in an increased level of satisfaction among the citizens that reinforced the desire to remain using the digital platform. Lastly, Udo et al. (2010) noted that perceived e-service quality had a strongly significant effect on customer perceptions and e-service satisfaction in online ticketing services with high implications on user intentions to embrace similar online services like E-cards. Taken together, these studies point to the fact that high-quality digital service experiences play a critical role in encouraging user adopting behavior.

H₁: E-service quality significantly impacts on intention to use E-card

H₂: E-service quality significantly impacts on perceived usefulness of E-cards

Perceived usefulness of e-cards on intention to use e-card

According to Andi (2019), the connection between quality of e-service and customer satisfaction was remarkable in the presence of the perceived usefulness, which means that, with quality improvement, the users become more confident that the service is useful to them. The same study by Udo et al. (2010) established that the perceived usefulness enhanced the impacts of the e-service quality on satisfaction in online bus ticketing services, which indicated its essential role in enhancing further adoption. Bhati et al. (2022) demonstrated that the perceived usefulness directly increased with such aspects as reliability, responsiveness, and ease of navigation, which in turn had a direct impact on the behavioral intentions of users. Many other studies have also recorded that the better the quality of e-services, the more satisfied the users can be, which is closely connected to the perceived usefulness of digital payment services (Olaleye et al., 2021). Biswas et al. (2024) affirmed that the degree of satisfaction was a major factor that was determined by the quality of the service that increased the perceived usefulness of digital

platforms and encouraged further usage intentions. All these studies highlight the fact that E-service quality does not only have a direct impact on adoption intention; but has an indirect impact on behavior through the notion of usefulness, thus the relevance of multi-dimensional quality management in digital financial services.

According to Andi (2019), the association between quality of E-services and readiness to pay to digital payment services was significantly mediated by the variable perceived usefulness, which implies that the increase in service quality leads to the rise in perceived utility, which subsequently increases the adoption intention. The same mediation effect was also found by Udo et al. (2010) in online ticketing services where the quality of E-services higher, the perceived usefulness is higher, resulting in customer satisfaction and more willingness to continue to use the service. Similarly, Bhati et al. (2022) showed that reliability, responsiveness, and easy navigation did have a positive impact on perceived usefulness, which in turn mediated the impact on online purchasing intentions of users, showing a similar process with the adoption of E-cards. As well, as discussed by Olaleye et al. (2021), the usefulness perceived was one of the mediating factors between service quality and the intention to adopt service in e-payment services, which could support the idea that the quality of services may not directly affect behavioral intention without the cognitive appraisal of usefulness. The study by Biswas et al. (2024) validated the hypothesis that the perceived usefulness mediated the continued intention to use service in relation to service quality, and that the perceived utility of the user is the key to the long-term adoption of digital services. Taken together, these studies demonstrate that perceived usefulness is an important mediator, which converts high-quality digital service experience into actual adoption behavior.

H₃: Perceived usefulness of E-card significantly impacts on intention to use E-card

H₄: Perceived usefulness of E-card significantly mediates between E-service quality and intention to use E-card

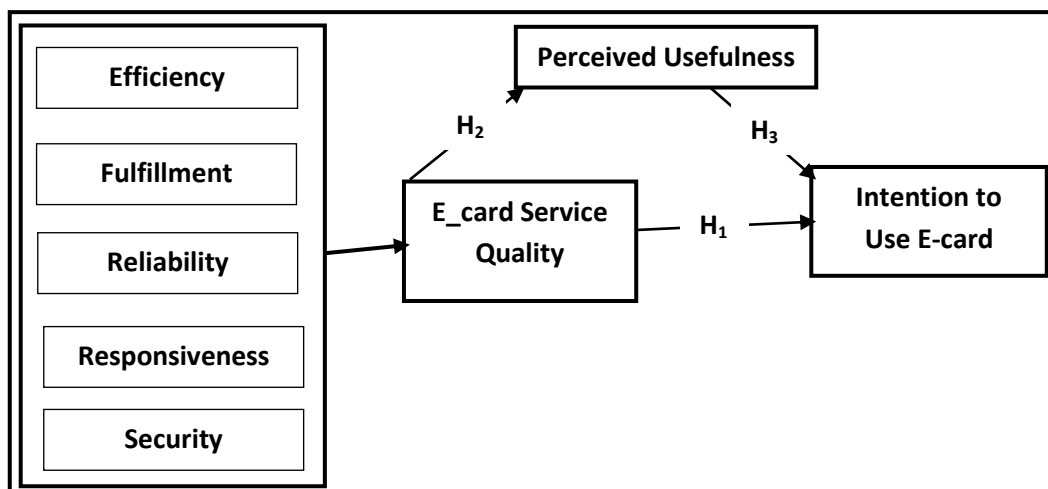
Methodology

The research design used in this study was explanatory research design based on a positivist philosophy, and an interpretivist deductive reasoning model to determine the relationship between E-service quality, perceived usefulness, and intention to use E-cards. The empirical data was gathered at a single point of time using cross-sectional quantitative approach of E-card users. Since the population size is large, purposive sampling was done to allow the study to sample the most appropriate respondents with

the final sample size of 389 that follows Cochran (1977) formula of large population sampling. The data was determined using a structured questionnaire that was conducted online using Google Forms. The data set showed that the common bias measure (CBM) had a value less than the 50 percent mark, which is generally accepted to reduce the effects of common method bias in the study of behavior (Podsakoff et al., 2003). To test measurement model and structural model, structural equation modelling was applied with SmartPLS. The aspects of validity and reliability were assessed based on the accepted criteria: outer loadings (>0.70), Cronbach alpha (>0.70), composite reliability (CR) (>0.70), and average variance extracted (AVE) (>0.50) to determine construct reliability and convergent validity. Discriminant validity was measured through Heterotrait-Monotrait (HTMT) ratio (<0.85) and Fornell-Larcker and variance inflation factor (VIF) (<5) was used to check the lack of multicollinearity (Hair, 2014). On the whole, these methodological decisions make the quantitative results of the study robust and rigorous.

Figure 1

Research Framework



Result and Discussion

Result analysis

Validity and reliability

In structural equation modeling, result analysis aims at measuring the measurement model and structural model to achieve validity and reliability. The research will entail the evaluation of the common method bias (CBM) with Harman single-factor

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test to control the measurement error, outer loading to test indicator reliability, composite reliability (CR) and average variance extracted (AVE) to endorse construct reliability; convergent validity, variance inflation factor (VIF) to test multicollinearity problems, and Heterotrait mono-trait ratio (HTMT) and Fornell-Larcker criterion to determine the discriminant validity (Hair, 2014). Such statistical tests can be used as empirical tests of hypothesized relationships and as a tool to enhance other research findings.

Figure 2

Measurement Model

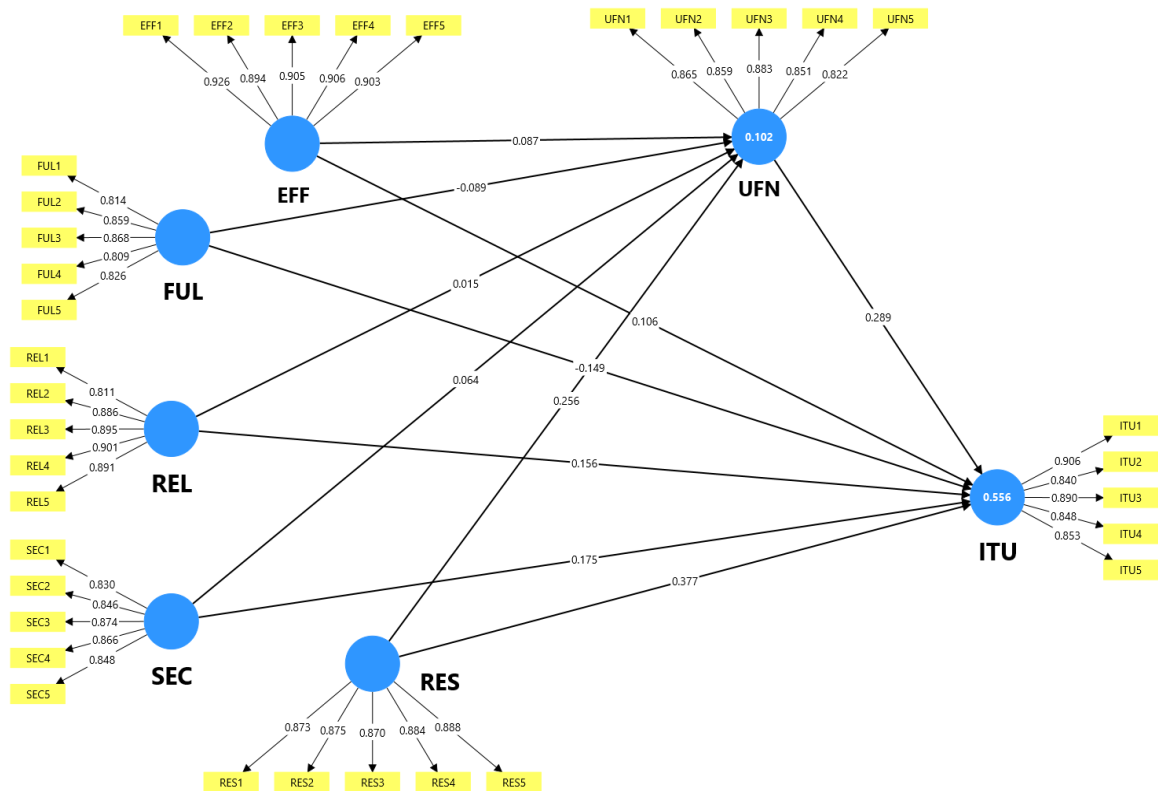


Table 1

Measurement Model

Constructs	Items	Outer loadings	Cronbach's alpha	CR (rho_a)	CR (rho_c)	AVE	VIF
Efficiency	EFF1	0.926	0.946	0.947	0.959	0.823	4.50

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	EFF2	0.894					3.34
	EFF3	0.905					3.70
	EFF4	0.906					3.76
	EFF5	0.903					3.58
Fulfillment	FUL1	0.814	0.892	0.894	0.920	0.698	2.02
	FUL2	0.859					2.38
	FUL3	0.868					2.63
	FUL4	0.809					2.01
	FUL5	0.826					2.14
Reliability	REL1	0.811	0.925	0.936	0.943	0.770	2.26
	REL2	0.886					3.06
	REL3	0.895					3.17
	REL4	0.901					3.36
	REL5	0.891					3.03
Responsiveness	RES1	0.873	0.906	0.907	0.930	0.728	3.15
	RES2	0.875					3.03
	RES3	0.870					3.05
	RES4	0.884					3.98
	RES5	0.888					4.03
Security	SEC1	0.830	0.926	0.928	0.944	0.771	2.29
	SEC2	0.846					2.40
	SEC3	0.874					2.96
	SEC4	0.866					2.86
	SEC5	0.848					2.52
Usefulness	UFN1	0.865	0.909	0.912	0.932	0.733	2.70
	UFN2	0.859					2.49
	UFN3	0.883					3.01
	UFN4	0.851					2.55
	UFN5	0.822					1.99
Intention to Use E-card	ITU1	0.906	0.918	0.923	0.938	0.753	3.37
	ITU2	0.840					2.39
	ITU3	0.890					3.04
	ITU4	0.848					2.42
	ITU5	0.853					2.57

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Table 1 provides the results of the measurement model. The outer loading of each item was more than 0.70 which means good indicator reliability of each construct. The coefficients of Cronbach alpha and composite reliability (rho a and rho c) exceeded the level of 0.70, which represents a level of internal consistency reliability (Hair, 2014). The mean variance extracted (AVE) of all the constructs was more than 0.50, which represents convergent validity (Fornell & Larcker, 1981). Besides, the values of variance inflation factor (VIF) were less than 5.0, which meant that there was no collinearity (Hair, 2014). Overall, these results prove that the measurement model can be relied on since it lies within the recommended range of reliability and validity and the constructs can be assessed in the structural model further.

Table 2*HTMT Ratio*

	EFF	FUL	ITU	REL	RES	SEC	UFN
EFF							
FUL	0.554						
ITU	0.497	0.369					
REL	0.641	0.677	0.538				
RES	0.528	0.599	0.686	0.615			
SEC	0.574	0.576	0.613	0.631	0.716		
UFN	0.226	0.150	0.519	0.206	0.324	0.261	

Table 2 displays the Heterotrait-Monomethod (HTMT) ratio of correlations to test the discriminant validity. The values of all HTMT were lower than the recommended at 0.85 that means that the constructs are empirically different between each other (Henseler et al., 2015). These findings are good indications of the discriminant validity in the measurement model.

Table 3*Fornell Larcker Criterion*

	EFF	FUL	ITU	REL	RES	SEC	UFN
EFF	0.907						
FUL	0.510	0.835					
ITU	0.464	0.337	0.868				
REL	0.598	0.613	0.504	0.877			
RES	0.495	0.544	0.640	0.574	0.878		

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SEC	0.532	0.519	0.562	0.583	0.655	0.853	
UFN	0.211	0.137	0.477	0.197	0.301	0.240	0.856

Table 3 presents the Fornell–Larcker criterion for assessing discriminant validity. The square root of the AVE for each construct (diagonal values) is greater than its correlations with other constructs (off-diagonal values), indicating that each construct shares more variance with its own indicators than with other constructs. This demonstrates adequate discriminant validity of the measurement model (Fornell & Larcker, 1981).

Table 4

Measurements of HOCs

	Original sample (O)	Sample mean (M)	SD	T value	P values	VIF
LV scores - EFF -> Service Quality	0.205	0.202	0.091	2.246	.025	1.752
LV scores - FUL -> Service Quality	-0.259	-0.254	0.082	3.147	.002	1.827
LV scores - REL -> Service Quality	0.201	0.201	0.101	1.993	.046	2.175
LV scores - RES -> Service Quality	0.678	0.669	0.100	6.752	.000	2.042
LV scores - SEC -> Service Quality	0.266	0.263	0.106	2.514	.012	2.075

The measurement results of the higher-order construct (HOC) Service Quality indicate that all five lower-order constructs—Efficiency (EFF), Fulfillment (FUL), Reliability (REL), Responsiveness (RES), and Security (SEC)—make significant contributions to the formation of Service Quality. The outer weights show that Efficiency ($\beta = 0.205$, $t = 2.246$, $p < .05$), Fulfillment ($\beta = -0.259$, $t = 3.147$, $p < .01$), Reliability ($\beta = 0.201$, $t = 1.993$, $p < .05$), Responsiveness ($\beta = 0.678$, $t = 6.752$, $p < .001$), and Security ($\beta = 0.266$, $t = 2.514$, $p < .05$) are all statistically significant because their p-values are below the recommended threshold of .05. Among these dimensions, Responsiveness exhibits the strongest contribution to Service Quality, followed by Security, Efficiency, and Reliability. Although Fulfillment has a negative outer weight, its significant p-value indicates that it remains an important formative dimension of the higher-order construct. Furthermore, multicollinearity is not a concern because the Variance Inflation Factor (VIF) values range from 1.752 to 2.175, which are well below the recommended threshold of 3.0, demonstrating acceptable levels of collinearity among the formative indicators. Therefore, the results confirm that all five lower-order constructs significantly

form the higher-order construct of Service Quality and satisfy the requirements for formative measurement model assessment in PLS-SEM (Hair et al., 2022).

Figure 2
Path Analysis

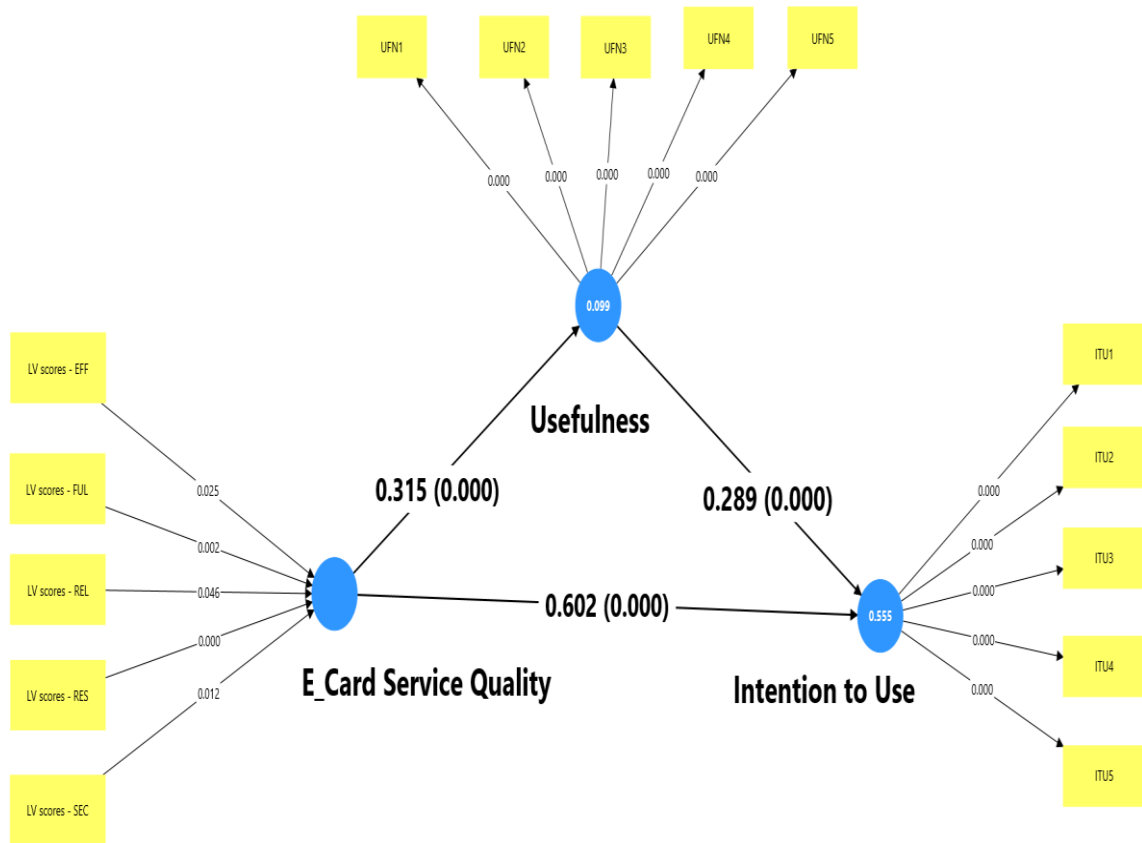


Table 4
Direct Path Coefficients

Path	Original sample (O)	Sample mean (M)	SD	T values	P values	CL 95%		Remarks
						2.50%	97.50%	
Service Quality -> Intention to Use	0.602	0.604	0.045	13.461	.000	0.512	0.687	H1: Supported
Service Quality -> Usefulness	0.315	0.325	0.053	5.924	.000	0.219	0.428	H2: Supported

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Usefulness

Usefulness -> Intention to Use	0.289	0.282	0.049	5.900	.000	0.186	0.380	H3: Supported
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The E-Service Quality (E-SQ) to Intention to Use E-card (ITU) relationship was positive and significant ($\beta = 0.602$, $t = 13.461$, $p < .001$), and this means that an increase in the level of perceived E-service quality has a substantial influence on the intention to use E-cards. This result confirms H1 and indicates that enhancement in system efficiency, reliability, responsiveness, security, and fulfillment together have a significant influence on behavioral intention with a significant contribution to explain a significant amount of variation in ITU.

E-Service Quality (E-SQ) and Usefulness (UFN) also had a positive and significant relationship ($\beta = 0.315$, $t = 5.924$, $p < 0.001$) which is corroborated by H2. This finding proves that increased E-service quality contributes to perceived usefulness of E-cards, which underscores the fact that customers are more likely to feel that the service is helpful when the system is reliable, and efficient. The mediocre effect size indicates that E-service quality is significant, but other things can also cause the perceived usefulness.

Usefulness to Intention to Use E-card (ITU) was positively significant with a path ($\beta = 0.289$, $t = 5.900$, $p < .001$), and in support of H3. The meaning of this is that users will be more willing to adopt the service when they have a perception that E-card will be helpful in conducting financial transactions. The magnitude of its influence is not as large as the direct effect of the E-service quality, but the influence of Usefulness as a mediator is significant in converting quality perceptions into behavioral intention.

Table 5

Indirect Path Coefficient

Path	Original sample (O)	Sample mean (M)	SD	T value	P values	CL 95%		Remarks
						2.50%	97.50%	
Service Quality -> Usefulness -> Intention to Use	0.091	0.092	0.024	3.817	.000	0.049	0.142	H1: Supported

The positive, statistically significant ($\beta = 0.091$, $t = 3.817$, $p < .001$) E-Service Quality (E-SQ) mediation effect on Intention to Use E-card (ITU) through Usefulness (UFN) supported H4. It means that Usefulness partially mediates the relationship between E-service quality and intention to adopt E-cards implying that an increase in

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service quality not only directly affects the intention to adopt E-cards but also leads to the improvements in the way the users perceive the utility of E-card which consequently increases their intention to use it. Even though the influence of the indirect effect is not as high as the influence of the direct effect, it emphasizes the significant role of the Usefulness as a means by which the enhancement of the E-service quality can be transformed into better behavioral intention.

Table 6

Predictive Power and Effect Sizes of the Endogenous Variables

Endogenous Construct	R ² Square	f ² Square	Q ² predict	Threshold	Sources
DA	0.555	0.732	0.462	R ² : 0.02 = weak, 0.13 = moderate, 0.26 = substantial; Q ² predict > 0 = predictive relevance; f ² : 0.02 = small, 0.15 = medium, 0.35 = large	Cohen, 1988; Henseler et al., 2015; Hair et al., 2022
EW	0.099	0.110	0.082		

The predictive ability of the structural model is shown in Table 6 following R², f², and Q²predict. The results demonstrate that Intention to Use has an R² value of 0.555 which means that predictor variables explain moderate variance of Intention to Use, 55.5 percent. Conversely, Usefulness is not very well explained with R² = 0.099. The f² values show that the Intention to Use showed a large effect size (f² = 0.732) while the Usefulness showed a small effect size (f² = 0.110). Moreover, the Q²predict values of Intention to Use (0.462) and Usefulness (0.082) are above zero, indicating the predictive relevance of the model. Overall, the model shows more predictive power for Intention to Use as compared to Usefulness (Hair et al., 2022; Shmueli et al., 2019).

Discussion

The results of this research report that E-Service Quality (E-SQ) which is the generalized evaluation of efficiency, reliability, responsiveness, security and fulfillment in the E-card platform has a positive effect on Intention to Use E-cards (ITU). This confirms the Technology Acceptance Model (TAM) which states that an increased perceived quality of a system creates an increase in behavioral intention of the users to utilize a system (Davis, 1989). Empirical evidence also indicates that E-service quality is a major stimulus to adoption intention when it comes to digital financial services (Andi, 2019; Bhati et al., 2022; Udo et al., 2010).

E-Service Quality positively influences Usefulness (UFN), meaning that the greater the quality of the service is, the more the perceived utility of the E-card platform will be. This is theoretically consistent with TAM which highlights the importance of perceived usefulness as a factor in technology adoption (Davis, 1989). It is also proven by previous studies that perceived usefulness is enhanced by system efficiency, reliability, and responsiveness in the context of e-payment and digital services (Andi, 2019; Biswas et al., 2024; Olaleye et al., 2021).

Usefulness (UFN) has a positive effect on Intention to Use E-cards (ITU) indicating that the higher users feel the platform useful in transacting their financial transactions, the higher their intention to use it. TAM is satisfied with this observation since perceived usefulness is the driver of user behavior (Davis, 1989) when it is backed by previous research in digital financial services which indicates the transfer of quality perceptions into real adoption by perceptions of usefulness (Bhati et al., 2022; Olaleye et al., 2021; Udo et al., 2010).

The findings reflect that E-Service Quality (E-SQ) is somehow mediated by Usefulness (UFN) with respect to Intention to Use E-cards (ITU). This is an indication that the greater the perceived quality of E-service the greater the intention of users to adopt E-cards and the greater their perceived usefulness of the platform, which in effect, strengthens the intention to adopt E-cards. In theory, this result is consistent with the Technology Acceptance Model (TAM) that considers perceived usefulness as the main mechanism of interaction between the quality of systems and user behavior (Davis, 1989). Empirical studies also contribute to the mediating position since they underline a significance of the perceived usefulness of the digital financial services in increasing the effect of the service quality on the adoption intention (Andi, 2019; Olaleye et al., 2021; Udo et al., 2010). These results indicate that E-service quality is a two-sided factor of user behavioral intention both directly and indirectly by augmenting their perceived usefulness.

Conclusion and Implications

Conclusion

This study confirms the fact that E-Service Quality (E-SQ) is a significant issue in shaping Intention to Use E-cards (ITU) among the users of the Nepal-based digital environment. The direct and indirect lines of evidence prove that the higher quality of the services which involve efficiency, reliability, responsiveness, security, and fulfilment

positively influence the behavior intention of users and also, they increase their perception of Usefulness (UFN) of E-cards. It conforms to the Technology Acceptance Model (TAM) that stipulates that perceived usefulness and system quality are the variables that determine the adoption of technology (Davis, 1989). The findings further prove that Usefulness is a moderating factor between E-service quality and adoption intention implying that user perceptions of utility constitute a key mediating factor between the quality of the service and behavioral effects. In general, the research establishes the twofold impact of E-service quality both as the source of adoption intention and indirectly by perceived usefulness.

Implications

It is an expansion of the Technology Acceptance Model (TAM), including a formative higher-order construct of E-service quality, which illustrates that various dimensions of service quality have a direct and indirect influence on the sense of usefulness on adoption intention. The results also support TAM in arguing that usefulness perceptions mediate the relationship between system attributes and behavioral intention, which justifies the relevance of the model in the context of digital financial services and especially in developing economies. The above results indicate that enhancing the overall quality of E-card services, i.e. efficiency, reliability, responsiveness, security, and fulfilment are possible ways of directly increasing the adoption intention of users. At the same time, the usefulness of E-cards in marketing and user experience design can be reinforced to enhance user perceived value and promote the adoption further. The strategies that can be taken into account by the policymakers and the service providers must be aimed at not only enhancing the technical quality but also letting everyone know the actual advantages of using E-cards to promote participation in digital financial services.

Further research prospects

More researches can also be made to clarify other categories of factors that have the potential to impact adoption of E-cards beyond E-service quality and perceived usefulness. Further investigation of the role of these factors could provide a more holistic perspective on user behavior in digital financial services e.g. the role of trust, perceived risk, social influence or digital literacy. In addition, other theoretical frameworks such as the Unified Theory of Acceptance and Use of Technology (UTAUT) could be considered in the further study of the research to validate and extrapolate the findings of the present

study, thereby, answering questions to the theory and practice, in the new digital economies.

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