Impact of E-Banking Practices on Customer Satisfaction in Nepalese Commercial Banks

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Abstract

This study examines the impact of E-banking practices on customer satisfaction in Nepalese Commercial Banks. Customer satisfaction is selected as the dependent variable. Similarly, convenience, reliability, ease of use, security and privacy, time saving and perceived benefits are selected as the independent variables. This study is based on primary data with 121 observation. To achieve the purpose of the study, structured questionnaire is prepared. The correlation coefficients and regression models are estimated to test the significance and importance of different factors influencing E-banking practices on customer satisfaction in Nepalese Commercial Banks.

The study showed that that the convenience has a positive impact on customer satisfaction. It means that increase in convenience leads to increase in customer satisfaction. Similarly, reliability has a positive impact on customer satisfaction. It means that increase in reliability leads to increase in customer satisfaction. Moreover, the ease of use has a positive impact on customer satisfaction. It indicates that increase in ease of use of e-banking services leads to increase in customer satisfaction. In addition, the security has a positive impact on customer satisfaction. It indicates that increase in security of e-banking services leads to increase in customer satisfaction. Likewise, the time saving has a positive impact on customer satisfaction. It means that increase in time saving of customers leads to increase in customer satisfaction. Furthermore, the perceived/transaction benefits has a positive impact on customer satisfaction. It means that increase in perceived benefits leads to increase in customer satisfaction.

Keywords: Convenience, reliability, ease of use, security and privacy, time saving, perceived benefits, customer satisfaction.

1. Introduction

Customer satisfaction, in the context of e-banking, refers to the degree of fulfillment and contentment experienced by customers when utilizing electronic banking services. E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers

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through electronic, interactive communication channels (Shahriari, 2014). Digital banking is always a preference for account holders nowadays (Singh et al., 2017). Internet-enabled electronic banking systems offer faster information exchange between customers and service providers, setting them apart from traditional banking operations (Singhal and Padhmanabhan, 2008). Technology has succeeded in making various aspects of life easier for the societies of today (Rust and Oliver, 1994). More importantly, it has become a fundamental element in improving the quality of services in general and E-banking services in particular (Joseph and Stone, 2003). Customer satisfaction service to link processes culminating purchases and consumption with post purchase phenomena such as report purchase, brand loyalty and attitude change (Churchill & Suprenant, 1982).

When it comes to commercial banks, customer satisfaction level differentiates one bank from another, thus measuring customer satisfaction is exceedingly important (Zopounidis, 2012). The link between E-banking privacy and security and E-banking loyalty was proved as fully mediated by E-banking satisfaction; however, indirect effect of the reliability and website design with E-banking loyalty was partially mediated (Haq and Awan, 2020). Das and Ravi (2021) found that Service quality dimensions of Reliability, Security and privacy, Website design and Responsiveness, and communications affects positively to customer satisfaction in E-banking services. The study also added that among young people, website design is the most important dimension than others.

Parasuraman *et al.* (2002) stated that reliability is the ability of the service provider to perform the promised services accurately and consistently. The study found that the E-banking service quality directly linked with reliability features a significant effect on the degree of customer satisfaction. The study also found that well-timed transaction processing and a precise billing system are the key success factors of E-banking which helps to retain customers with this platform. According to Abid and Noreen (2006), electronic banking outlined as any use of knowledge and communication technology and electronic means that by a bank to conduct transactions and interact with stakeholders. Ainscough and Luckett (1996) stated that provision of customer interactivity is an important criterion that attracts users in the delivery of E-banking. Gerrard and Cunningham (2003) identified other factors of paramount importance in ensuring the success of E-banking, i.e. the ability of an innovation to meet users' needs using different feature availability on the web site.

Parasuraman *et al.* (1985) found that service delivery must be reliable to the customer to perform the promised service dependably and accurately. Similarly, Mosahab *et al.* (2010) conducted an empirical study in Tehran, Iran and found out that customer expectations are always higher and service offered by banking is low as well as customer satisfaction can play role of mediator that bridges gap between service quality and customer loyalty. Likewise, Siddiqi (2011) found that service quality is positively related to customer satisfactions in banking sector in Bangladesh. Ha and Jang (2009) found that equally well, dissatisfied customers are more likely to tell another ten people about their unfortunate experiences with a particular organization. Ghost and Gnanadhas (2011) found quality in service is very important especially for the growth and development of service sector business enterprise.

Parasuraman *et al.* (2002) stated that reliability is the ability of the service provider to perform the promised services accurately and consistently. The study found that the E-banking service quality directly linked with reliability features a significant effect on the degree of customer satisfaction. The study also found that well-timed transaction processing and a precise billing system are the key success factors of E-banking which helps to retain customers with this platform. Ghost and Gnanadhas (2011) found quality in service is very important especially for the growth and development of service sector business enterprise. It works as an antecedent of customer's satisfaction.

Lichtenstein and Williamson (2006) examined the Australian banking consumer experiences with the adoption of internet banking. The study found that perceived risk and trust are the most significant factors affecting internet banking adoption, followed by perceived benefits and ease of use. Similarly, Kumbhar (2011) determined the factor affecting customer satisfaction in E-banking services in Indian banks. The study also found that age and education level of the customers have significant effect on their satisfaction with E-banking services. Haq and Awan (2020) examined the E-banking procedures that affect consumer happiness. The study showed that E-banking service quality had a positive and significant impact on e-satisfaction, and e-satisfaction had a positive and significant impact on e-loyalty.

Fianto (2021) investigated the relationship between mobile banking service quality and customer satisfaction in Indonesian Islamic banks. The study concluded that a strong positive relationship between mobile banking service quality and customer satisfaction in the context of Indonesian Islamic banks. In addition, Ahmad and Al-Zu'bi (2011) investigated the relationship

between E-banking functionality and customer satisfaction outcomes in the Jordanian banking sector. The study found that E-banking capability has a favorable and significant impact on customer satisfaction results. The study also found that customer satisfaction is positively associated with customer loyalty and willingness to recommend the bank to others.

In the context of Nepal, Khatri *et al.* (2012) revealed that limited services were provided by the bank and financial institutions through internet banking facilities. The study concluded that the improvements were certainly needed in the internet banking application and environment of use; banks should not merely focus on adaptation of the new technology but should also focus on encouraging customers towards using the internet banking. Paudel *et al.* (2020) found that the consumers' age, gender, education level, and wealth had a substantial influence on their view of banking communication. The study also found that trustworthiness has the most significant influence on customers' perception of banking communication.

Pradhan et al. (2021) found that automated teller machine has a positive impact on financial inclusion which indicated increase in financial inclusion. The study also found several challenges for E-banking in promoting financial inclusion in Nepal that includes lack of awareness and education about E-banking services, low levels of trust and security among customers, and a lack of infrastructure in some areas, such as reliable internet connectivity. Moreover, Bist (2020) showed that awareness, responsiveness, reliability, ease of use, trust and privacy have positive impact on customer satisfaction. Further, Shrestha (2020) found that several factors affect customer satisfaction with e-payment systems, including ease of use, security, reliability, trust, and customer support. In addition to it, Gyawali and Kunwar (2014) found that there is a positive and significant relationship between customer satisfaction and five service dimension.

The above discussion shows that the empirical evidence varies greatly across the studies on the impact of E-banking practices on customer satisfaction. Though there are above mentioned empirical evidence in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The main purpose of the study is to analyze the impact of E-banking practices on customer satisfaction in Nepalese commercial banks. Specifically, it examines the impact of convenience, reliability, ease of use, security

and privacy, time saving, perceived benefits with customer satisfaction in Nepalese commercial banks.

The remainder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical results and the final section draws the conclusion.

2. Methodological aspects

The study is based on the primary data. The data were gathered from 121 respondents through questionnaire. The respondents' views were collected on convenience, reliability, ease of use, security and privacy, time saving, perceived benefits and customer satisfaction in Nepalese commercial banks. The study used descriptive and casual comparative research design.

The model

The model estimated in this study assumes that the customer satisfaction depends on convenience, reliability, ease of use, security and privacy, time saving, perceived benefits. The dependent variables selected for the study is customer satisfaction. Similarly, the selected independent variables on convenience, reliability, ease of use, security and privacy, time saving and perceived benefits. Therefore, the model takes the following form:

$$CS = \beta_0 + \beta_1 C + \beta_2 R + \beta_3 E + \beta_4 S + \beta_5 TS + \beta_6 PB + e$$

Where,

CS = Customer satisfaction

C = Convenience

R= Reliability

E= Ease of use

S = Security and privacy

TS = Time saving

PB= Perceived benefits.

Convenience was measured using a 5-point Likert scale where respondents were asked to indicate the responses using 1 for strongly agree and 5 for strongly disagree. There are 5 items and sample items include "Customers can save money through E-banking.", "The bank handles

complaints and solves problems quickly through online web-chat." and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.581$).

Reliability was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 6 for strongly agree. There are 6 items and sample items include "An error-free transaction is offered by E-banking software.", "The contents of E-banking apps are up to date." and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.690$).

Ease of use was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "E-banking Service of the bank is easy to use.", "Apps and website of the bank is properly designed", and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.677$).

Security and privacy was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "Every transaction is alerted or informed by the bank through texts and letters.", "The bank's E-banking service advises creating strong passwords.", and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.565$).

Time Saving was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "The number of clients visiting branch offices has decreased due to E-banking.", "The customer does not need to visit the branch office to request the checkbook.", and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.662$).

Perceived Benefits was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 6 items and sample items include "E-banking enables 24*7 hour a week accessibility to the bank service.", "E-banking improves relationship with customer and bank", and so on. The reliability of the feature was measured by computing the Cronbach's alpha ($\alpha = 0.741$).

Customer Satisfaction was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "Reliability on E-banking service of the bank encourages using the service.", "Pleased with the service the bank offered.", and so on. The reliability of the feature was measured by computing the Cronbach's alpha ($\alpha = 0.758$).

The following section describes the independent variables used in this study along with hypothesis formulation.

Convenience

Convenience is a dimension of E-banking that enables customers to access E-banking services at anytime and anywhere (Kumbhar, 2011). E-banking offers customers 24/7 banking services. E-banking customers are able to check their account balances, pay bills, apply for loan, trade securities and conduct other financial transactions (Saatcioglu *et al.*, 2001). Similarly, Zeithaml *et al.* (2002) showed that perceived ease of use and convenience have a positive effect on behavioral intention to use the internet banking. Likewise, Oliver (1980) explained that the feeling of satisfaction arises when customers compare their perception of actual product/ service performance with expectations. Traditional service is restricted by distance and opening hours, whereas e-service substantially circumvents these barriers (Surjadjaja *et al.*, 2003). This provides the customer with convenience and control (Rowley, 2006). E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Based on it, this study develops the following hypothesis:

H₁: There is a positive relationship between convenience and customer satisfaction.

Reliability

Reliability involves two concepts, dependability and uniformity in performance. Joseph *et al.* (1999) considered reliability of the service as an important factor of service quality. Reliability has been identified as a key determinant of service quality each in interpersonal and self-service (Zeithaml *et al.*, 2002). Similarly, Zeithaml (2000) advised that customers should be specifically influenced by the reliability of new technology because they might be associated with risks such as the technology malfunctioning. Reliability also refers to the correct technical functioning of a self-services technology and the accuracy of service delivery. The reliability is significant

in the determination of service quality (Parasuraman *et al.*, 2005). Based on it, this study develops the following hypothesis:

H₂: There is a positive relationship between reliability and customer satisfaction.

Ease of use

Ease of use is an important determinant for the customer preferring the internet banking (Gounaris and Koritos, 2008). According to Timothy (2012), E-banking deals with getting availability to help ATM, phone access, E-mail access, and account access when abroad. It involves approachability and ease of contact. Furthermore, the adoptions of E-banking have been linked to high levels of workplace internet use (Durkin, 2004). Lau (2002) concluded that perceived ease of use is significantly correlated with intention towards using the online trading system. Based on it, this study develops the following hypothesis:

H₃: There is a positive relationship between ease of use and customer satisfaction.

Security and privacy

This is an important factor for E-banking users against their account information guarantee that the record showing banking activities and security of account information is not shared (Yang and Fang, 2004). According to Madu (2002), security is another common interest of customers to decide usage of Internet banking. Similarly, Polatoglu and Ekin (2001) indicated that risk in terms of financial, physical and social characteristics was the main cause of slow growth of internet banking usage. Security is ensued when the service becomes safe, and the customer information gets protection (Zeithaml *et al.*, 2002). Based on it, this study develops the following hypothesis:

H₄: There is a positive relationship between 'security and privacy' and customer satisfaction.

Time saving

According to Buttle (1996), customers are sensitive in speed of service delivery; while they are getting service from others. Similarly, Mols (1999) argued that slow service providing has a negative impact on over all perceptions of service quality. Likewise, Dabholkar *et al.* (1996) concluded that individuals are expecting rapid service delivery system. In addition, Shankar and Kumari

(2016) revealed that technology should always be compatible with the need of the user and mobile banking can adopt by consumer only if it is compatible with banking activity needs of consumer. Prospective customer can gather all the information from the website and thus if he comes to the branch with queries it will be very specific and will take less time of employee (Srivastava et al., 2017). Based on it, this study develops the following hypothesis:

H₅: There is a positive relationship between time saving and customer satisfaction.

Perceived benefit

Online banking has recently come to be considered as one of the most effective banking transaction methods because it possesses many advantages which offline banking channels cannot offer. Thus, online banking managers aim to utilize these advantages to increase the online banking adoption rate (Huang *et al.*, 2005). Similarly, Al Khasawneh (2015) revealed perceived benefit is the most significant positive predictor of consumer attitude towards using m-banking. Likewise, Singh *et al.* (2011) showed that perceived benefit has the strongest influence on relationship quality, followed by self-expression and altruism. In addition, perceived benefits have a direct, positive effect on the satisfaction of customers with their bank (Molina *et al.*, 2007). Based on it, this study develops the following hypothesis:

H₆: There is a positive relationship between perceived benefit and customer satisfaction.

3. Results and discussion

Correlation analysis

On analysis of data, correlation analysis has been undertaken first and for this purpose, Kendall's Tau correlation coefficients along with means and standard deviations have been computed, and the results are presented in Table 1.

Table 1

Kendall's Tau correlation coefficients matrix

This table presents Kendall's Tau coefficients between dependent and independent variables. The correlation coefficients are based on 121 observations. The dependent variable is CS (Customer Satisfaction). The independent variables are C (Convenience), R (Reliability), EU (Ease of use), S (Security and privacy), TS (Time saving) and PB (Perceived benefits).

Variables	Mean	S.D.	CS	С	R	EU	S	TS	PB
CS	2.208	0.509	1						
С	2.269	0.523	0.347**	1					
R	2.327	0.519	0.286**	0.455**	1				
EU	2.257	0.543	0.361**	0.392**	0.405**	1			
S	2.175	0.532	0.316**	0.450**	0.412**	0.334**	1		
TS	2.033	0.537	0.328**	0.370**	0.348**	0.342**	0.395**	1	
PB	2.031	0.508	0.402**	0.238**	0.227**	0.342**	0.253**	0.559**	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 1 shows the Kendall's Tau correlation coefficients of dependent and independent variables. The study indicates that convenience is positively correlated to customer satisfaction. This indicates that increase in convenience leads to increase the customer satisfaction of E-banking services in Nepalese commercial banks. Likewise, reliability is positively correlated to customer satisfaction. This indicates that increase in reliability leads to increase the customer satisfaction of E-banking services in Nepalese commercial banks. Similarly, the result shows that ease of use is positively correlated to customer satisfaction. This indicates that betterment in ease of use leads to increase the customer satisfaction of E-banking services in Nepalese commercial banks. Similarly, security and privacy is positively correlated to customer satisfaction. This indicates that increase in security leads to increase the customer satisfaction of E-banking services in Nepalese commercial banks. Similarly, the study shows that time saving is positively correlated to customer satisfaction. This indicates that increase in time saving leads to increase the customer satisfaction of E-banking services in Nepalese commercial banks. Likewise, the result shows that perceived benefits is positively correlated to customer satisfaction. This indicates that increase in perceived benefits leads to increase the customer satisfaction of E-banking services in Nepalese commercial banks.

Regression analysis

Having indicated the Kendall's Tau correlation coefficients, the regression analysis has been carried out and the results are presented in Table 2. More specifically, it presents the regression results of convenience, reliability, ease of use, security and privacy, time saving and perceived benefits on customer satisfaction in Nepalese commercial banks.

Estimated regression results of convenience, reliability, ease of use, security and privacy, time saving and perceived benefits on customer satisfaction in Nepalese commercial banks

The results are based on 121 observations by using linear regression model. The model is $CS = \beta_0 + \beta_1 C + \beta_2 R + \beta_3 EU + \beta_4 S + \beta_5 TS + \beta_6 PB + e$ where the dependent variable is CS (Customer Satisfaction). The independent variables are C (Convenience), R (Reliability), EU (Ease of use), S (Security and privacy), TS (Time saving) and PB (Perceived benefits).

Model		Regression coefficients of							SEE	E
		C	R	EU	S	TS	PB	R_bar ²	SEE	F-value
1	0.867 (4.905)**	0.511 (6.734)**						0.270	.43532	45.351
2	1.067 (5.481)**	, ,	.413 (5.060)**					.718	.46409	25.603
3	1.025 (5.837)**			0.444 (5.876)**				0.218	.45040	34.529
4	1.195 (6.636)*				0.383 (6.24)**			0.242	0.4711	38.934
5	0.717 (5.401)**				. ,	0.674 (4.759)**		0.159	0.46891	22.644
6	1.242 (7.446)**					, , ,	0. 453 (5.533)**	0.198	0.45626	30.611
7	0.705 (3.745) **	0.414 (4.421)**	0.164 (1.737)					0.282	0.43167	24.568
8	0.745 (3.745) **	, ,		0.264 (2.778) **	0.229 (2.749) **			0.259	0.43848	21.993
9	1.007 (5.583) **					0.176 (1.676)	0.326 (2.932) **	0.210	0.45283	16.943
10	0.579 (2.781) **				0.311 (3.632) **	-0.015 (-0.132)	0.396 (3.678) **	0.284	0.43110	16.861
11	0.570 (2.860) **	0.373 (4.032) **	0.007 (0.067)	0.264 (2.778) **				0.321	0.41989	19.884

Note:

- i. Figures in parenthesis are t-values.
- ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
- iii. Customer satisfaction (CS) is a dependent variable.

Table 2 shows that the beta coefficients for convenience are positive with customer satisfaction. It indicates that the convenience has a positive impact on customer satisfaction. This finding is similar to the findings of Moon and Kim (2001). Similarly, the beta coefficients for reliability are positive with customer satisfaction. It indicates that reliability has a positive impact on customer satisfaction. This finding is consistent with the findings of Yang and Jun (2002). Likewise, the beta coefficients of ease of use are positive with customer satisfaction. It indicates that ease of use has positive impact on customer satisfaction. This finding is similar to the findings of Raza and Hassan (2015). Likewise, the beta coefficients for security and privacy are positive with customer satisfaction. It indicates that security and privacy has a positive impact on customer satisfaction. It indicates that security and privacy has a positive impact on customer satisfaction. This finding is consistent to the findings of

Kumbhar (2011). However, the beta coefficients for perceived benefits are positive with customer satisfaction. It indicates that perceived benefits has positive impact on customer satisfaction. This finding is consistent to the findings of Al Khasawneh (2015). Similarly, the beta coefficients for time saving are positive with customer satisfaction. It indicates that time saving has a positive impact on customer satisfaction. This finding is consistent with the findings of Das and Ravi's (2021).

4. Summary and conclusion

Technology has succeeded in making various aspects of life easier for the societies of today. More importantly, it has become a fundamental element in improving the quality of services in general and E-banking services in particular. E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. Consumer satisfaction is a phenomenon of particular importance in the evaluation process of a shopping, consumption, or product or service user experience and is therefore vital in long-term consumer responses.

This study attempts to examine the impact of E-banking practices on customer satisfaction in Nepalese Commercial Banks. The study is based on primary data with 121 observations.

The study also showed that convenience, reliability, ease of use, security and privacy, time saving and perceived benefits has positive relationship with consumer satisfaction. The study concluded that higher the convenience, reliability, ease of use, security and privacy, time saving and perceived benefits, higher would be the customer satisfaction in Nepalese commercial banks. The study also concluded that the most influencing factor is reliability followed by convenience and security and privacy that explains the level of customer satisfaction on Nepalese commercial banks.

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