Factors Affecting Consumers' Perception on Electronic Payments in the Kathmandu Valley

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Abstract

This study examines the factors affecting consumers' perception on electronic payments in the Kathmandu Valley. Consumers' perception is the dependent variable. The independent variables are ease of use, security, trust, self- efficacy and reliability. The study is based on primary data with 130 respondents. To achieve the purpose of the study structured questionnaire is prepared. The correlation coefficients and regression models are estimated to test the significance and factors affecting consumers' perception on electronic payments in the Kathmandu Valley.

The study showed that ease of use has a positive impact on consumers' perception. It indicates that increase in ease of use leads to better consumers' perception. Similarly, security has a positive impact on consumers' perception. It means that increase in security on electronic payments leads to increase in the better consumers' perception. Moreover, trust has a positive impact on consumers' perception. It indicates that better the trust, better would-be consumers' perception. In addition, self-efficacy has a positive impact in consumers' perception. It reveals that higher the self-efficacy, better would be the consumers' perception. Likewise, reliability also has a positive impact in consumers' perception. It reveals that higher the reliability, better would be the consumers' perception.

Keywords: electronic payment, ease of use, security, trust, self- efficacy and reliability, consumers' perception

1. Introduction

Widayat *et al.* (2020) stated that any payment without a paper cheque in cash is called an e-payments. Santos (2003) defined e-service quality as overall customer assessment and judgment of e-service delivery in the virtual marketplace Widayat *et al.* (2020) stated that percentage of check and cash transactions will fall as they increase, improve and offer ever more secure online payment transactions. E- payment is one of the key features of e-banking since it concerns the financial exchange. In 1990, the advent of e-commerce introduced a unique way of doing business commerce for the consumer and business world. Since then, E-commerce has grown and changed dramatically with creating extraordinary benefits for customers and businesses worldwide (Bezovski, 2016). Since consumers' awareness about e-wallet payment is growing very quickly, their changing perception about e-wallet needs to be concerned. Otherwise, it may lead to a problem where e-wallet companies don't constantly improve their products and no longer emerging in the market. Therefore, it is important for company and many parties to evaluate factors underlying the reason to use e-wallet service from the point of view of consumers (Singh *et al*., 2017).

Moghavvemi *et al.* (2012) stated that an entrepreneur's perception on information technology innovation adoption revealed that it has the tendency to act as a moderator between

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social influence and behavioral intention. Similarly, Yu (2012) revealed that social influence is the main factor in the study of people's intention to use mobile banking. Furthermore, Yuen (2013) stated that performance expectancy has a greater impact on the intention to use technology in cultures with higher power remoteness, lower individualism, and higher uncertainty avoidance. In addition, Alkhowaiter (2020) stated that Internet development has helped to make this payment tool more popular.

Kim *et al.* (2015) investigated that corporate brand trust as a mediator in the relationship between consumer perception of CSR, corporate hypocrisy and corporate reputation. Similarly, Lu *et al.* (2011) investigated dynamics between the trust transfer process and intention to use mobile payment services: a cross-environment perspective. The results indicated that trust indeed has a substantial impact on the cross-environment relationship and, further, that trust in combination with the positive and negative valence determinants directly and indirectly influenced behavioral intention. Furthermore, Liebana *et al.* (2014) examined an antecedent of the adoption of the new mobile payment systems: the moderating effect of age. The results found that the proposed behavioral model was appropriately adjusted. Likewise, Wijoseno *et al.* (2017) examined Perceived factors influencing consumer trust and its impact on online purchase intention in Indonesia. This study confirmed that Indonesian consumers trust has significant effect on their online purchase intention.

Sokhaei and Afshari (2014) stated that to access any service supplied by an online source, the user must first ensure that the source is safe and accountable and that their data is handled secretly. Similarly, Cho *et al.* (2015) investigated factors that affect usefulness, ease of use, trust and purchase intention in the online environment. This study found that proposed factors affecting perceived usefulness and ease of use are significant. The study also found that consumers' perceived ease of use of online stores is positively related to their intention to shop online. Furthermore, Sigar (2016) examined the influence of perceived usefulness, perceived ease of use and perceived enjoyment to intention to use electronic money in Mandao. The study found that there is a significant positive influence between perceived usefulness, perceived ease of use and perceived enjoyment to intention to use electronic money. In addition, Sabaawi *et al.* (2023) investigated user trends of electronic payment systems adoption in developing countries. The study indicated that performance expectancy, effort expectancy, social influence, facilitating conditions. This study also stated that price saving orientation influence Intention to accept the e-payment system.

Yuwono and Sari (2021) examined analysis of the variables driving the e-payment intensity among college students. The study indicated that the variable performance expectancy, benefits, and self-efficacy showed a significant relationship to the e-payment intention in Batam City. Similarly, Amalia *et al.* (2023) examined the effect of financial literacy and financial self-efficacy on decision to use Shopee pay digital payment services. The study found that financial literacy has a positive and significant effect on the decision to use, the financial self-efficacy variable has a negative and significant effect on the decision to use. In addition, Sharma *et al.* (2019) examined a study of consumer perception toward m-wallets. The study indicated that convenience was the utmost useful factor in m-wallet usage acceptance, followed by trust and then mobility. Similarly, Oney *et al.* (2017) examined the determinants of electronic payments systems usage from consumers' perspective. The study found that both perceived security and trust have significant influence on EPS use.

Jha *et al*. (2021) investigated UPI- an innovative step for making digital payment

effective and factors affecting consumer perception on the use of UPI. The study found that performance expectancy, effort expectancy, facilitating conditions and Cashbacks and Rewards have all been found to have a major effect on customer behavior in leading them towards digital payments (UPI). Similarly, Tahar *et al.* (2020) examined perceived ease of use, perceived usefulness, perceived security and intention to use e-filing. The results indicated that perceived ease-of-use and perceived security had a positive effect on the use of e-Filing, while perceived usefulness has no effect on the use of e-Filing. Furthermore, Kim and Mirusmonov (2010) examined an empirical examination of factors influencing the intention to use mobile payment. The study indicated that early adopters value ease of use, confidently relying on their own m-payment knowledge. The study also indicated late adopters respond very positively to the usefulness of m-payment, most notably reachability and convenience of usage. In addition, Liu *et al.* (2013) examined the website attributes in urging online impulse purchase: an empirical investigation on consumer perceptions. The study showed that personality factors of instant gratification, normative evaluation and impulsiveness are key determinants of urge to buy impulsively, while perceived website cues of visual appeal, website ease of use and product availability are important precursors.

Guven and Rizv (2017) examined the determinants of electronic payment systems usage from consumers' perspective. The study showed that both perceived security and perceived trust has a positive and significant effect on EPS use. Furthermore, Barkhordari *et al.* (2017) examined factors influencing adoption of e-payment systems: an empirical study on Iranian customers. The study showed that technical and22 transaction procedures, and access to security guidelines are significant factors for improving consumers' perceived security. The study indicated that the most important factors influencing trust are access to security guidelines and security. In addition, Tran and Nguyen (2020) examined customer perception toward electronic commerce systems in Vietnam. The study showed that easy to use systems, interface of systems, reliability of systems and safety and security have positive impacts on customer perception towards e-commerce systems.

In the context of Nepal, Timilsina (2020) examined user perception on electronic payment services in Kathmandu valley. The study found that there are low average mean scores for security and trust when compared to perceived usefulness and ease of use. Respondents have cited accessibility of EPS as one of the major issues behind such a low usage. Similarly, Aryal (2021) examined factors affecting consumers perception on electronic payment system. The study found that benefit, ease of use, security and self-essence influence Nepal consumers' perception of e-payment systems, while trust is not significantly associated with consumers' perception of e-payment. In addition, Thakuri *et al.* (2023) examined factor affecting customer satisfaction of mobile banking services of commercial bank in Kathmandu valley. The study found that security, responsiveness, and convenience have significant impact on customer satisfaction, while cost and relative advantage have negligible impact.

The above discussion reveals that the empirical evidences vary greatly across the studies concerning the factors affecting consumers' perception of the electronic payment. Though there are above mentioned empirical evidences 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 and examine the factors affecting consumers' perception of electronic payment in the Kathmandu Valley. Specifically, it

examines the impact of ease of use, security, trust, self-efficacy and reliability with the consumers' perception of electronic payment in the Kathmandu Valley.

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 130 respondents structured questionnaire. The study employed convenience sampling method. The respondents' views were collected on ease of use, security, trust, self-efficacy and reliability used to extract the information of the impact of consumers' perception of electronic payments in the Kathmandu valley. This study is based on descriptive as well as casual comparative research designs.

2.1 Model specification

The econometric models employed in this study tries to analyze. The following regression model is used in the study to factors affecting consumers' perception on electronic payments in the Kathmandu valley. Thus, the following model equation is designed to test the hypothesis. From the conceptual framework the function of dependent variables takes the following form:

CP = *f* (EOU, S, T, SE, and R)

More specifically, the given model has been segmented into following models:

Model I

In this model, the dependent variable is (CP) indicated by consumers' perception. Ease of use, security, trust, self- efficacy and reliability are independent variables which are tested on consumers' perception. The model is presented as follows:

$$CP = \beta_0 + \beta_1 EOU + \beta_2 S + \beta_3 T + \beta_4 SE + \beta_5 R + e$$

Were,

CP = Consumers' perception

EOU = Ease of use

S = Security

T = Trust

SE = Self- efficacy

R = Reliability

Ease of use was measured using a 5-point Likert scale where 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 "Using electronic payment methods is effortless for me". "I find electronic payments user-friendly and intuitive.", "The steps involved in electronic transactions are clear and uncomplicated.", "I can quickly grasp how to use different electronic payment options.", "The interface of electronic payment platforms is

easy to navigate and understand.", and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.805).

Security 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 "I trust the security measures of electronic payment systems.", "Security is a top concern when using electronic payment methods.", and so on. The reliability of the items was measured by computing the Cronbach's alpha (α =0.824).

Trust 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 "I trust the reliability of electronic payment system", "Trust is a key factor when choosing electronic payment options.", and so on. The reliability of the items was measured by computing the Cronbach's alpha (α =0.827).

Self- efficacy 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 "I am confident in my ability to use electronic payment systems.", "I believe I can easily navigate electronic payment interfaces.", and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.840).

Reliability 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 "I trust that electronic payments will go through smoothly", "Electronic payment systems are consistently reliable", and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.849).

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

Ease of use

Perceived ease of use means the consumers' perception of how simple it would be to stay connected with an e-commerce platform (Cheema *et al.,* 2013). Wulandari *et al.* (2018) stated technology has played a splendid role in improving the lifestyle of individuals and it is more useful for them when easier to use. The study demonstrated that the ease of use and intention to use e-money shared a positive relation with each other. Roy and Sinha (2017) stated that the focus of customers towards the adoption of electronic payment and clearing system will increase, when only customers believe that the services of electronic payment system are easy to use. Khaw *et al.* (2023) revealed that there is a positive relationship between ease of use and consumer perception. Nugroho (2009) revealed that there is a positive relationship between ease of use and consumers' perception. Based on it, this study develops following hypothesis:

H_1: There is a positive relationship between ease of use and consumers' perception.

Security

Security is a set of programs and procedures to guarantee privacy and integrity of information and verify the source of information (Tsiakis and Sthephanides, 2005). Flavián and Guinalíu (2006) stated that to guarantee confidentially, integrity, and authentication, basic security techniques such as digital signature, encryption, and checksum algorithms are

used. The study also found that security obstacles in online banking may affect the adoption of e-payment systems. Roy and Sinha (2017) stated that Indian customers are overly sensitive for the security concern that is why they can only adopt the electronic payment system and clearing services when they feel the channel of electronic payment system are safe and threat free. Ardiansah *et al.* (2020) revealed that there is a positive relationship between security and consumers' perception. Ranjith *et al.* (2021) revealed that there is a positive relationship between security and consumers' perception. Based on it, this study develops the following hypothesis:

H_2: There is a positive relationship between security and consumers' perception.

Trust

Trust is defined as a function of the degree of risk involved in financial transactions, and the outcome of trust is reduced perceived risk, leading to positive intentions toward e-payment adoption (Yousafzai *et al.,* 2003). Prior studies found trust to be a significant determinant influencing customers' willingness to conduct e-commerce transactions and engage in online exchanges of money (Wang *et al*., 2003). Customers' trust in an internet environment is very important as there is little guarantee that the online vendor will refrain from undesirable, unethical, and opportunistic behavior such as unfair pricing, presenting inaccurate information, distributing personal data, and purchase activity without prior permission (Gefen, 2000). Kim *et al.* (2015) revealed that there is a positive relationship between trust and consumers' perception. Poudel and Sapkota (2022) revealed that there is a positive relationship between trust and consumers' perception. Based on it, this study develops the following hypothesis:

$H_{3:}$ There is a positive relationship between trust and consumers' perception.

Self-efficacy

In the context of e-payment, self-efficacy refers to the judgment of a user's ability to use the system. It is an important determinant of consumers' perception of e-payment systems. Self-efficacy is defined as consumers' belief and understanding of their capability to complete tasks using new technology and it has a positive influence on the perceived intention to use information systems (Luarn and Lin, 2005). Self-efficacy represents the person's belief and understanding to perform a task, based on his or her own capability and skills (Dory *et al.,* 2009). Many studies found that self-efficacy has a significant positive influence on perception and behavioral intention to use information systems (IS) (Luarn and Lin, 2005). Self-efficacy clarifies the person's belief and understanding to perform a task, based on his or her own capability and skills (Dory *et al*., 2009). Users with higher levels of self-efficacy experienced different kinds of function and communication media, while users with lower self-efficacy may be limited to fewer operations (Li *et al*., 2012). In the context of e-payment, self-efficacy refers to the judgment of a user's ability to use the system. It is an important determinant of consumers' perception of e-payment systems. Self-efficacy represents a person's understanding and beliefs in his or her own skills and capability to perform a task given (Dory *et al.,* 2009). Alyabes and Alsalloum (2018) revealed that there is a positive relationship between self-efficacy and consumers' perception. Based on it, this study develops the following hypothesis:

H_4: There is a positive relationship between self-efficacy and consumers' perception.

Reliability

Reliability is the capacity to consistently and accurately fulfill an agreed-upon activity. Singh and Kaur (2013) stated that banks are recognized for their dependability and consistency in fulfilling financial operations but it is also vital to depict this dependability through web-based services. The dependability of online tasks might improve user participation in the service and persuade the user to utilize it again. According to some researchers, reliability is also a crucial factor in digital banking success. Cheng and Chan (2009) stated necessitate sharing private and confidential data. Hence the bank's website must be dependable, trustworthy, and safe. As a result, the feature is regarded as an important component in this study, which examines the impact of e-banking on customer satisfaction and loyalty. Previous research has found a link between dependability and ECS that is both positive and substantial (Hammoud *et al.,* 2018). Barua *et al.* (2018) reported that the best predictor of perceived reliability (PRe) is perceived security followed by perceived control. Surprisingly, no significant impact of perceived ease of use was found on perceived reliability. Sagib and Zapan (2014) discovered that reliability has the most beneficial effect on satisfaction as a measure of service quality in their study of mobile transactions services. Based on it, this study develops the following hypothesis:

H_5: There is a positive relationship between reliability and consumers' perception.

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 deviation have been computed and the result are presented in Table 1.

Table 1

Kendall's Tau correlation coefficients matrix

This table shows the bivariate Pearson's correlation coefficients of dependent and independent variables of 130 respondent of consumers of electronic payments in the Kathmandu valley. The dependent variable is CP (Consumer Perception). The independent variables are EOU (Ease of use), S (Security), T (Trust), SE (Self- efficacy), R(Reliability).

Variable	Mean	S.D.	EOU	S	T	SE	R	CP
EOU	3.41	0.9611	1					
S	3.21	0.9740	0.460**	1				
T	3.27	0.9909	0.449**	0.486**	1			
SE	3.49	0.9818	0.519**	0.395**	0.398**	1		
R	3.16	0.9743	0.405**	0.431**	0.475**	0.447**	1	
CP	3.43	1.0376	0.474**	0.459**	0.562**	0.478**	0.566**	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 ease of use is positively correlated to the consumer perception indicating that ease of use improves consumer perception. Likewise, security is positively correlated to the consumer perception. This implies that improvement

in security leads to the improvement in consumer perception. Similarly, trust is positively correlated to the consumer perception. It indicates that better the trust better will be the consumer perception. However, self-efficacy is also positively related to the consumers' perception that leads to the improvement of consumers perception. Moreover, reliability is positively correlated to the consumer perception that indicates that betterment in reliability leads to the betterment in consumer perception.

Regression Analysis

Regression analysis is a statistical process for estimating the relationships among variables. The regression results were estimated where ease of use, security, trust, self-efficacy and reliability are used as independent variables and dependent variable is consumers' perception.

Table 2 shoes the estimated regression result of consumers' perception ease of use, security, trust, self-efficacy and reliability provided by the consumers of electronic payments in the Kathmandu valley.

Table2

Estimated regression result of ease of use, security, trust, self-efficacy and reliability on consumers' perception in the Kathmandu valley

The results are based on 130 observations using linear regression model. The model is $CP= \beta_0 + \beta_1 EOU + \beta_2 S + \beta_3 T + B_4 SE + \beta_5 R + \varepsilon$ where the dependent variable is (CP) consumers' perception. The independent variables are (EOU) ease of use, (S) security, (T) trust, (SE) self-efficacy and (R) reliability.

Model	Intercept	Regression coefficients of					Adj. R_ bar2	SEE	F-value
		EOU	S	T	SE	R			
1	1.072 (4.129)**	0.694 (9.487)**					0.408	0.798	90.007
2	1.279 (5.218)**		0.673 (9.220)**				0.394	0.8075	85.007
3	1.051 (4.632)**			0.730 (11.010)**			0.482	0.7465	121.216
4	1.099 (4.196)**				0.671 (9.298)**		0.398	0.8047	86.457
5	0.909 (4.008)**					0.764 (11.635)**	0.510	0.7261	135.383
6	0.655 (2.550)**	0.438 (5.025)**	0.401 (4.664)				0.491	0.7404	63.178
7	0.655 (2.550)**	0.299 (3.500)*	0.204 (2.287)	0.419 (4.854)			0.568	0.6823	57.453
8	0.147 (0.606)**	0.130 (1.372)*	0.164 (1.900)	0.400 (4.821)	0.291 (3.497)		0.603	0.6537	49.989
9	-0.046 (-0.199)**	0.100 (1.131)**	0.108 (1.332)	0.303 (3.816)	0.179 (2.222)	0.356 (4.662)	0.659	0.6055	50.970

Notes:

i. Figures in parenthesis are t-values.
ii. The asterisk signs (**) and (*) indicate that the results are significant at 1 percent and 5 percent level respectively.
iii. Consumer perception is dependent variable.

Table 2 show that the beta coefficients for ease of use are positive with the consumer performance. It indicates that ease of use has positive impact on the consumer performance, this finding is consistent with the findings of Khaw *et al.* (2023). Likewise, the beta coefficients for security are positive with the consumers' perception. It indicates that security have positive impact with the consumers' perception. This finding is consistent with the

findings of Ranjith *et al.* (2021). In addition, the beta coefficients for trust are positive with the consumers' perception. It indicates that trust has a positive impact on the consumers' perception. This result is consistent with the findings of Poudel and Sapkota (2022). Further, the beta coefficients self-efficacy is positively related with the consumers' perception. It indicates that self-efficacy has a positive impact on the consumers' perception. This finding is consistent with the findings of Alyabes and Alsalloum (2018). Moreover, the beta coefficient for reliability is positive with the consumers' perception which indicates that safety culture has positive impact on the consumers' perception. This result is consistent with the findings of Hammoud *et al.* (2018).

4. Summary and conclusion

Electronic payment (e-payment) has become a popular means today for paying for online purchases made. Electronic payment has takeover the traditional way of payment. As the Kathmandu Valley witnesses a surge in technological advancements and digital infrastructure, there is a growing need to understand the intricacies of consumer behavior towards electronic payment systems.

This study attempts to examine the factors affecting consumers' perception on electronic payments in the Kathmandu Valley. The study is based on primary data of 130 respondents.

The major conclusion of the study shows that ease of use, security trust, self-efficacy and reliability has positive impact on consumers' perception. Since higher the ease of use, security trust, self-efficacy and reliability higher would be the consumer perception. The results shows that availability of ease of use, security trust, self-efficacy and reliability are positively correlated to the consumers' perception of Kathmandu Valley.

The study also concludes that the most influencing factor is reliability followed by trust, ease of use,self-efficacy and security that explains the consumer perception of electronic payments in the Kathmandu Valley.

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