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Consumer's Perception towards Quick Response (QR) Payment in Kathmandu Valley

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Abstract

This study examines the consumer's perception towards Quick Response (QR) payment in Kathmandu Valley. Behavioral intentions to use QR is selected as dependent variable. The selected independent variables are perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy and service quality. The study is based on primary data of 196 respondents. To achieve the purpose of the study, structured questionnaire is prepared. The correlation coefficients and regression model are estimated to test the significance and importance of different factors that affect user's perception towards Quick Response (QR) payment in Kathmandu Valley.

The study showed that perceived ease of use has a positive effect on behavioral intention to use QR. It indicates that more user-friendly QR technology leads to increase in the level of user acceptance to use QR. Similarly, perceived usefulness has a positive effect on behavioral intention to use QR. It indicates that greater benefits of utilizing the QR code technology leads to increase in the level of user acceptance to use QR. Likewise, perceived security has a positive effect on behavioral intention to use QR. It indicates that safer the technology for QR payment technology, higher would be the level of user acceptance to use QR payment technology. Further, perceived trust has a positive effect on behavioral intention to use QR payment technology. It indicates that higher the reliability of QR payment, higher would be the level of user acceptance to use QR payment technology. In addition, self-efficacy has a positive effect on behavioral intention to use QR. It indicates that higher the beliefs of users' towards QR payment, higher would be the level of user acceptance to use QR payment technology. Moreover, service quality has a positive effect on behavioral intention. It indicates that better service quality of QR payment technology leads to increase in the level of user acceptance to use QR payment technology.

Keywords: perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, service quality, behavioral intention to use QR

1. Introduction

Technological advancements have spurred a significant shift towards a cashless culture and society in many countries worldwide. This transition has

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been characterized by the increasing adoption of digital payment platforms, which facilitate transactions without the need for physical cash (Hau *et al.,* 2013). QR (Quick Response) payment has become increasingly important in today's business market due to its convenience, speed, and efficiency. QR payments allow customers to make transactions quickly using their smartphones or other devices without the need for physical cash or cards. This convenience enhances the overall customer experience, especially in fast-paced environments like retail stores, restaurants, and public transportation (Hussain *et al.,* 2018). QR payment systems typically have lower transaction fees compared to traditional payment methods such as credit cards or bank transfers. This can be advantageous for businesses, especially small businesses, as it reduces the cost of processing payments. QR payments can reach a wider audience, including individuals who may not have access to traditional banking services. As long as someone has a smartphone with a camera and internet connectivity, they can participate in QR payment transactions. With the rise of concerns over hygiene and safety, especially during the COVID-19 pandemic, contactless payment methods like QR codes have gained even more popularity. They minimize physical contact between customers and cashiers, reducing the risk of spreading germs (Tu et al., 2022).

Singha *et al.* (2021) stated that there is a positive relationship between perceived usefulness and behavioral intention to use QR. This relationship is often described in models such as the Technology Acceptance Model (TAM) or the Unified Theory of Acceptance and Use of Technology (UTAUT). When users perceive a technology such as QR codes as useful, they are more likely to intend to use it. This relationship suggests that if individuals perceive QR codes as helpful in completing tasks or achieving their goals, they are more inclined to engage with them. This positive association between perceived usefulness and behavioral intention to use QR codes underscores the importance of emphasizing the practical benefits of QR technology in promoting its adoption and usage (Momani, 2020). Further, Chang *et al.* (2021) examined the customers' intention to use QR codes in mobile payments. The study showed that perceived usefulness, perceived benefits, and subjective norms have significant impact on the QR code as a payment tool. The growth of mobile and smartphone technology that occurs globally affects the increase in mobile services, one of which is banking services.

According to Balakrishnan and Shuib (2021), the adoption of QR payments is indeed influenced by both the perceived risk associated with this payment method and the motivation of users to adopt it. Users may perceive

QR payments as less secure compared to traditional methods like cash or credit cards. Concerns about data breaches, unauthorized access to financial information, or fraud could deter adoption. Users may worry about technical glitches, such as payment failures or errors in scanning QR codes, which could affect their confidence in using QR payments. There might be concerns about the privacy implications of QR payments, especially regarding the collection and use of personal data by payment service providers. However, Liebana-Cabanillas *et al*. (2015) stated that QR payments offer convenience, allowing users to make payments quickly using their smartphones without the need for physical cards or cash. This convenience factor can be a significant motivator for adoption. Users may be motivated to adopt QR payments if they are offered incentives such as discounts, cashback, or loyalty rewards for using this payment method. Users who are early adopters of technology or who value innovation may be more motivated to use QR payments as a way to showcase their familiarity with new payment methods.

Handri and Winny (2021) found that there is a positive relationship between perceived usefulness and intention to use mobile payment services such as Go-Pay during the Covid-19 pandemic period. Similarly, Min-Hueih *et al.* (2021) argued that the adoption of mobile payments among young generations showed that social influence has a positive significant impact on the intention to adopt the technology. Likewise, Mahabub *et al.* (2022) stated that demographic factors such as locality, city, education level etc. have significant impact on the behavioral intention to use QR. In addition, Patria *et al.* (2022) showed that trust, perceived usefulness, perceived ease of use, perceived risk, and perceived security have a significant impact on consumer attitude towards mobile payment usage. Likewise, Aithal *et al*. (2022) found that customers demand for payment apps, convenience and cost savings for procurement apps have highest impact on usages of QR technology. Further, Teoh *et al.* (2013) explored the factors influencing Malaysian customers' perception towards electronic payment. The results showed that e-payment is broadly used which reflects the growth of such services in Malaysia. The findings also showed that the three factors i.e. benefits, self-efficacy, and ease of use are significantly associated with consumer's perception toward electronic payment. Moreover, security and trust were not significantly associated with consumers' perception toward electronic payment.

The introduction of information technology in the financial sector has given banking services a new dimension in the 21st century. Changes in technological interfaces have made it possible for the financial industry to

delight its customers with instant solutions to their problems through the use of self-service technologies (Tam and Oliveira, 2017). Inevitably, the banking sector has transformed to offer prompt and effective customer care through modern technology-based financial services including internet banking, ATMs, and mobile banking. Mobile banking has emerged as a game-changer in the financial industry and it has great impact on the world, particularly in terms of convenience, accessibility, speed, security, cost-effectiveness, financial management tools, eco-friendliness and economic growth (Manjula, 2019). Do *et al.* (2020) examined the effects of factors influencing on user behavior intention to use mobile payment in the context of Cambodia. The study concluded that social influence has a significant impact on the behavioral intention to use mobile payment platforms. Similarly, Yong *et al.* (2021) investigated the acceptance of mobile payment and sustainable usage intention in Malaysia based on unified theory of acceptance and use of technology. The study found that social influence plays a significant role in consumer usage intention of mobile payment platforms. However, Tikku and Singh (2023) analyzed the role of mobile banking in financial inclusion of India. The study found that social influence has no significant impact on mobile banking adoption. According to Cham *et al.* (2022), elderly consumers who are not technologically savvy face significant barriers to using mobile payment services. These barriers include functional factors such as perceived complexity, incompatibility and cost, psychological factors such as lack of trust, inertia and technological anxiety, and risk factors such as privacy risk, security risk, financial risk and operational risk. In addition, Liebana-Cabanillas *et al*. (2015) explored the user behavior in QR mobile payment system using QR payment acceptance model. The study showed that attitude, innovation and subjective norms are the determinants of the intention to use the QR mobile payment technology.

Mahalakshmi *et al.* (2018) examined the consumer perception towards digital payment and towards digital sovereign currency in India. The study revealed that superiority, efficiency, security and protection of digital payment, convenience, time and cost saving, ease of use, ease of use and privacy protection have positive impact on the adoption rate of digital payment by consumers. In addition, Rosli *et al.* (2020) investigated the factors affecting consumer intention to use mobile payment based on QR code technology. The study showed that performance expectancy, effort expectancy, hedonic motivation, habit, and trust significantly affect consumer intention to use QR code-based payment. Similarly, Amarullah *et al.* (2021)

determined the factors that influence the intention and behavior of using QR code technology by applying the UTAUT2 model. The study revealed that performance expectations, habits, and beliefs significantly influence consumers' intentions to use QR code-based payments. Likewise, Kosim and Legowo (2021) analyzed the factors influencing user interest by using a modified UTAUT model. The study revealed that business expectations, social influence, perceived trust, perceived risk, perceptions of regulatory support, promotion benefits, age-moderated performance expectations, and age-moderate effort expectations have a significant impact on behavioral intentions, while performance expectations, facilitation conditions, business expectations are moderated by experience and social influence.

In the context of Nepal, Sethi and Mehta (2020) examined the factors affecting customer satisfaction in online banking in Nepal. The study showed that service quality, system availability, security and ease to use have positive impact on customer satisfaction in online banking. Similarly, Likewise, Aryal (2021) analyzed the 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. Further, Dangol and Kautish (2019) investigated the IT security related issues and challenges in electronic payment system in Nepal from customer's perspective. The study revealed that customer's perception towards the electronic payment system is negatively influenced by the lack of enough security protocols. Consequently, the more information on or the more experience with cyber-fraud incidents customers have, the more likely they will not commit transactions in e-commerce.

The above discussion shows that empirical evidences vary greatly across the studies on the consumer's perception towards Quick Response (QR) 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 major objective of the study is to examine the consumer's perception towards Quick Response (QR) payment in Kathmandu Valley. Specifically, it examines the relationship of perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, and service quality with behavioral intentions to use QR in 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 196 respondents through questionnaire. The study employed convenience sampling method. The respondents' views were collected on perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, service quality, and behavioral intentions to use QR. The study is based on descriptive and causal comparative research designs.

The model

The model estimated in this study assumes that behavioral intentions to use QR depends on perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, and service quality. Therefore, the model takes the following form:

$$BI = \beta_0 + \beta_1 PEU + \beta_2 PU + \beta_3 PS + \beta_4 PT + \beta_5 SE + \beta_6 SQ + \varepsilon$$

Where,

BI = Behavioral intentions to use QR

PEU = Perceived ease of use

PU = Perceived usefulness

PS = Perceived security

PT = Perceived trust

SE = Self-efficacy

SQ = Service quality

Behavioral intentions to use QR were 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 were 5 items and sample items include "If I have the access to QR, it is likely that I will use it", "I favor the idea of paying through QR" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.887$).

Perceived ease of use were 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 were 5 items and sample items include "I think learning to operate QR payment is easy for me", "It is easy for me to adopt to QR for Merchant Payment" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.780$).

Perceived usefulness were 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 were 5 items and sample items include "I believe using QR payment can make me productive", "I use QR payment when available in shops or store" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.854$).

Perceived security were 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 were 5 items and sample items include "By using QR code, I believe my transactions are secured", "I feel assured that those legal structures adequately protect me from problems associated with using QR payment" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.892$).

Perceived trust were 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 were 5 items and sample items include "I trust my service provider to provide secured QR payment service", "I believe that things do not go wrong while I Pay using QR code" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.862$).

Self-efficacy were measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly agree and 5 for strongly disagree. There were 5 items and sample items include "I think QR payment is easily available in mobile banking/ digital wallet", "I feel confident paying by using QR" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.834$).

Service quality were 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 were 5 items and sample items include "QR service takes care of problem promptly", "I got services from QR what I expect" and so on. The reliability of the items was measured by computing the Cronbach's alpha ($\alpha = 0.862$).

The following section describes the independent variables used in this

study along with the hypothesis formulation:

Perceived usefulness

Ricardianto *et al.* (2023) examined the behavioral intention to use QR code technology on Indonesian commuter lines. The study found that perceived compatibility and enjoyment significantly affected the perceived ease of use and usefulness in the consumer's behavioral intention to use QR code technology. When users perceive QR codes as useful, they are more likely to develop positive attitudes toward using them and to form intentions to use them in the future. Similarly, Djayapranata and Setyawan (2021) revealed that perceived usefulness has a direct positive impact on behavioral intention to use QR code. Users are more likely to adopt a technology if they perceive it as useful for achieving their goals. Likewise, Rabu *et al.* (2023) showed that there is a positive relationship of perceived usefulness and behavioral intention to use QR. Further, Suebtimrat and Vonguai (2021) analyzed the behavioral intention towards QR code payment in Bangkok, Thailand. The study revealed that perceived usefulness has a positive and significant impact on behavioral intention to use QR. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship between perceived usefulness and behavioral intentions to use QR.

Perceived ease-of-use

Ngo and Nguyen (2021) examined the intention to use QR code payment in an emerging market. The study revealed that there is a positive relationship between perceived ease of use and behavioral intention to use QR. Similarly, Ibrahim *et al.* (2019) analyzed the factors influencing Malaysian consumers' intention to use Quick Response (QR) mobile payment. The study found that perceived ease of use has a positive and significant impact on behavioral intention to use QR technology. Likewise, Pontoh *et al.* (2022) investigated the influence of perceived ease of use, perceived risk and consumer trust towards merchant intention. The study stated that perceived ease of use has a positive and significant impact on behavioral intention to use QR. Further, Syah *et al.* (2022) observed the understanding the technology acceptance model in the QR usage in Indonesia. The study concluded that perceived usefulness, perceived ease of use, and reward have a direct impact toward intention to use E-wallet. Based on it, this study develops the following hypothesis:

H_2: There is a positive relationship between perceived ease of use and

behavioral intentions to use QR.

Perceived security

Chang *et al.* (2021) examined the customers' intention to use QR codes in mobile payments. The study showed that there is a positive and significant relationship between perceived security and behavioral intentions to use QR. Similarly, Lonardi and Legowo (2021) observed the factors affecting use behavior of QRIS payment system in DKI Jakarta. The study concluded that perceived security has a positive impact on behavioral intentions to use QR. Likewise, Musyaffi *et al.* (2021) investigated the digital payment during pandemic using extension of the unified model of QR code. The study revealed that security as a reference is fundamental for users to increase their intention to use QR codes. Further, Kosim and Legowo (2021) analyzed the factors affecting consumer intention on QR payment of mobile banking: A case study in Indonesia. The study found that perceived security has a positive impact on behavioral intentions to use QR. Based on it, this study develops the following hypothesis:

H_3. There is a positive relationship between perceived security and behavioral intentions to use QR.

Perceived trust

Perceived trust can also play a significant role in influencing behavioral intentions to use QR codes. When users perceive QR code systems as trustworthy, they are more likely to feel comfortable engaging with them and, consequently, more inclined to use them (Madan and Yadav, 2016). Amarullah *et al.* (2021) examined the consumers' intention to use mobile payment based on QR code. The study showed that there is a positive relationship between perceived trust and behavioral intentions to use QR. Assurance of secure transactions and data protection measures can enhance perceived trust. Similarly, Rosli *et al.* (2020) analyzed the Consumers' intention to use mobile payment in the context of quick response (QR) code applications. The study revealed that perceived trust has a positive impact on behavioral intentions to use QR. Likewise, Almaiah *et al.* (2022) investigated the effect of perceived security, perceived trust, and information quality on mobile payment usage through Near-Field Communication (NFC) in Saudi Arabia. The study revealed that perceived trust has a positive impact on behavioral intentions to use QR. Based on it, this study develops the following hypothesis:

H_4: There is a positive relationship between perceived trust and behavioral

intentions to use QR.

Perceived self-efficacy

Yang *et al.* (2020) showed that perceived self-efficacy has a positive and significant impact on behavioral intentions to use QR. QR code systems that are designed to be user-friendly and intuitive can enhance users' perceived self-efficacy. Similarly, Kurnianingsih (2022) revealed that there is a positive relationship between perceived self-efficacy and behavioral intentions to use QR. Likewise, Al-Emran *et al.* (2023) concluded that perceived self-efficacy has a positive and significant impact on behavioral intentions to use QR. Likewise, Rochelle and Ngo and Nguyen (2023) examined the behavioral intention towards organ donation in Hong Kong. The study showed that perceived self-efficacy has a positive impact on behavioral intentions to use QR. Based on it, this study develops the following hypothesis:

H_5: There is a positive relationship between perceived self-efficacy and behavioral intentions to use QR.

Service quality

Kurdi and Apriliyanto (2022) examined the implementation of quick response code in Indonesian restaurants with integration of protection motivation theory and theory of planned behavior. The study showed that service quality has a positive impact on behavioral intentions to use QR. Similarly, Sinha and Singh (2023) analyzed the moderating and mediating effect of perceived experience on merchant's behavioral intention to use mobile payments services. The study concluded that service quality has a positive impact on behavioral intentions to use QR. Likewise, Sultana *et al.* (2023) revealed that there is a positive relationship between service quality and behavioral intentions to use QR. Further, Tavitiyaman *et al.* (2022) concluded that service quality has a positive impact on behavioral intentions to use QR. Based on it, this study develops the following hypothesis:

H_6: There is a positive relationship between service quality and behavioral intentions to use QR.

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 coefficient matrix

This table presents Kendall's Tau correlation coefficients between dependent variable and independent variables. The correlation coefficients are based on 196 observations. The dependent variable is BI (Behavioral intention). The independent variables are PEU (Perceived ease of use), PU (Perceived usefulness), PS (Perceived security), PT (Perceived trust), SE (Self-efficacy) and SQ (Service quality).

Variables	Mean	S.D.	BI	PEU	PU	PS	PT	SE	SQ
BI	3.945	0.674	1						
PEU	4.053	0.695	0.450**	1					
PU	3.621	0.767	0.353**	0.354**	1				
PS	3.555	0.722	0.395**	0.393**	0.441**	1			
PT	3.806	0.664	0.430**	0.485**	0.515**	0.603**	1		
SE	3.555	0.722	0.395**	0.393**	0.441**	0.689**	0.603**	1	
SQ	3.879	0.701	0.438**	0.526**	0.512**	0.501**	0.866**	0.501**	1

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

Table 1 shows that perceived ease of use is positively correlated to behavioral intention to use QR. It indicates that more user-friendly QR technology leads to increase in the level of user acceptance to use QR. Similarly, perceived usefulness is positively correlated to behavioral intention to use QR. It indicates that greater benefits of utilizing the QR code technology leads to increase in the level of user acceptance to use QR. Likewise, perceived security is positively correlated to behavioral intention to use QR. It indicates that safer the technology for QR payment technology, higher would be the level of user acceptance to use QR payment technology. Further, perceived trust is positively correlated to behavioral intention to use QR payment technology. It indicates that higher the reliability of QR payment, higher would be the level of user acceptance to use QR payment technology. In addition, self-efficacy is positively correlated to behavioral intention to use QR. It indicates that higher the beliefs of users' towards QR payment, higher would be the level of user acceptance to use QR payment technology. Moreover, service quality is positively correlated to behavioral intention. It indicates that better service quality of QR payment technology leads to increase in the level of user acceptance to use QR payment technology.

Regression analysis

Having analyzed the Kendall's Tau correlation coefficients matrix, the regression analysis has been carried out and the results are presented in Table 2. More specifically, it presents the regression results of perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, and service quality on behavioral intention to use QR.

Table 2

Estimated regression results of perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, and service quality with behavioral intention to use QR

The results are based on 196 observations using linear regression model. The model is $BI = \beta_0 + \beta_1 PEU + \beta_2 PU + \beta_3 PS + \beta_4 PT + \beta_5 SE + \beta_6 SQ + \varepsilon$, where the dependent variable is BI (Behavioral intention). The independent variables are PEU (Perceived ease of use), PU (Perceived usefulness), PS (Perceived security), PT (Perceived trust), SE (Self-efficacy) and SQ (Service quality).

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		PEU	PU	PS	PT	SE	SQ			
1	1.385 (5.848)**	0.632 (10.676)**						0.367	0.558	113.99
2	0.891 (4.386)**		0.737 (14.909)**					0.532	0.479	222.28
3	1.606 (9.103)**			0.627 (13.161)**				0.469	0.637	173.21
4	1.559 (8.332)**				0.652 (12.647)**			0.449	0.521	159.95
5	0.005 (0.711)					1.018 (5.586)**		0.929	0.186	258.21
6	1.559 (8.332)**						0.652 (12.647)**	0.449	0.529	159.91
7	0.542 (2.502)*	0.246 (3.841)**	0.584 (9.369)**					0.563	0.463	126.32
8	0.262 (1.351)	0.133 (2.279)**	0.447 (7.770)**	0.353 (7.618)**				0.662	0.407	128.49
9	0.091 (1.210)		0.124 (5.095)**	0.017 (0.800)	0.164 (6.458)**	1.051 (0.573)		0.945	0.163	85.11
10	0.122 (1.553)	0.031 (1.283)	0.108 (4.247)**	0.151 (0.664)		1.048 (0.340)	0.169 (6.588)**	0.941	0.162	686.71
11	0.091 (1.218)		0.128 (5.095)**	0.171 (0.897)	1.051 (30.574)**	0.164 (0.980)	0.413 (6.458)**	0.940	0.163	855.11

Notes:

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. Behavioral intention to use QR is the dependent variable.

Table 2 shows that the beta coefficients for perceived ease of use are

positive with behavioral intention to use QR. It indicates that perceived ease of use has a positive impact on behavioral intention to use QR. This finding is similar to the findings of Pontoh *et al.* (2022). Similarly, the beta coefficients for perceived usefulness are positive with behavioral intention to use QR. It indicates that perceived usefulness has a positive impact on behavioral intention to use QR. This finding is consistent with the findings of Djayapranata and Setyawan (2021). Likewise, the beta coefficients for perceived security are positive with behavioral intention to use QR. It indicates that perceived security has a positive impact on behavioral intention to use QR. This finding is similar to the findings of Kosim and Legowo (2021). Further, the beta coefficients for perceived trust are positive with behavioral intention to use QR. It indicates that perceived trust has a positive impact on behavioral intention to use QR. This finding is consistent with the findings of Rosli *et al.* (2020). In addition, the beta coefficients for self-efficacy are positive with behavioral intention to use QR. It indicates that self-efficacy has a positive impact on behavioral intention to use QR. This finding is similar to the findings of Kurnianingsih (2022). Moreover, the beta coefficients for service quality are positive with behavioral intention to use QR. It indicates that service quality has a positive impact on behavioral intention to use QR. This finding is similar to the findings of Tavitiyaman *et al.* (2022).

4. Summary and conclusion

The adoption of QR payments is a complex interplay between users' perceptions of risk and their motivations for usage. Payment service providers and policymakers can promote adoption by addressing security concerns, enhancing convenience, providing incentives, and improving accessibility to QR payment systems. Additionally, efforts to educate users about the benefits and safety measures associated with QR payments can help increase adoption rates.

This study attempts to analyze the consumer's perception towards Quick Response (QR) payment in Kathmandu Valley. The study is based on primary data with 196 observations.

The major conclusion of this study is that perceived ease of use, perceived usefulness, perceived security, perceived trust, self-efficacy, and service quality have positive impact on behavioral intention to use QR. Ease of use reduces the perceived effort required to make payments, thereby increasing the intention to use QR codes for transactions. Users are more

likely to adopt QR payments if they believe that this method offers tangible benefits, such as convenience, speed, and efficiency compared to traditional payment methods. The perceived usefulness of QR payments influences users' intentions to use them regularly. Similarly, security concerns are a significant barrier to the adoption of new payment methods. If users perceive QR payments as secure, with robust encryption, authentication mechanisms, and protection against fraud, they are more likely to trust the system and intend to use it for transactions. Likewise, the study also concluded that self-efficacy followed by perceived usefulness is the most influencing factor that affects the changes in the behavioral intention to use QR.

References

Aithal, R. K., C. Vikram, M. Harshit, P. Debasis, and S. Dev Narayan, 2022. Factors influencing technology adoption amongst small retailers: insights from thematic analysis. *International Journal of Retail and Distribution Management* 12(1), 1-10.

Al-Emran, M., M. N. Al-Nuaimi, I. Arpaci, M. A. Al-Sharafi, and B. Anthony, 2023. Towards a wearable education: Understanding the determinants affecting students' adoption of wearable technologies using machine learning algorithms. *Education and Information Technologies* 28(3), 2727-2746.

Almaiah, M. A., A. Al-Rahmi, F. Alturise, L. Hassan, A. Lutfi, M. Alrawad, and T. H. Aldhyani, 2022. Investigating the effect of perceived security, perceived trust, and information quality on mobile payment usage through near-field communication (NFC) in Saudi Arabia. *Electronics* 11(23), 26-39.

Amarullah, A., C. Amaryllis, P. Kuslita, A. M. Sundjaja, 2021. Consumers' intention to use mobile payment based on QR code. *Turkish Online Journal of Qualitative Inquiry* 6(1), 6090-6100.

Aryal, S., 2021. Factors affecting consumers' perception on electronic payment system. *The Lumbini Journal of Business and Economics* 9(1-2), 86-99.

Balakrishnan, V., and N. L. M. Shuib, 2021. Drivers and inhibitors for digital payment adoption using the Cashless Society Readiness-Adoption model in Malaysia. *Technology in Society* 6(5), 10-15.

Cham, T. H., J. H. Cheah, B. L. Cheng, and X. J. Lim, 2022. I am too old for this! Barriers contributing to the non-adoption of mobile payment. *International Journal of Bank Marketing* 40(5), 1017-1050.

Chang, V., W. Chen, Q. A. Xu, and C. Xiong, 2021. Towards the customers' intention to use QR codes in mobile payments. *Journal of Global Information Management* 29(6), 1-21.

Dangol, S., and S. Kautish, 2019. IT security related issues and challenges in electronic payment system in Nepal: A study from customer's perspective. *Journal of Science, Technology and Management* 1(2), 85-103.

Djayapranata, G. F., and A. Setyawan, 2021. Trust or usefulness? QR code payment among millennial in a disrupted market. *Advances in Economics, Business and Management Research* 1(8), 194-199.

Do, N. H., J. Tham, S. F. Azam, and A. A. Khatibi, 2020. The effects of factors influencing on user behaviour intention to use mobile payment; Evidence from Cambodia. *International Journal of Data and Network Science* 10(1) 213-224.

Handri, M. N., and A. Winny, 2021. The effect of perceived cost, trust, usefulness and customer value addition on intention to use of Go-Pay mobile payment services in small merchants. *Journal of Business and Management Review* 10(1), 715-732.

Hau, Y. S., G. Kim, and B. Kim. 2012. Antecedents of user satisfaction in the context of mobile data services. *International Journal of Mobile Communications* 10(6), 617-636.

Ibrahim, M. H., S. R. Hussin, and S. H. Hussin, 2019. Factors influencing Malaysian consumers' intention to use Quick Response (QR) mobile payment. *Jurnal Pengurusan* 10(3), 904-913.

Kosim, K. P., and N. Legowo, 2021. Factors affecting consumer intention on QR payment of mobile banking: A case study in Indonesia. *Journal of Asian Finance, Economics and Business 8(1),* 391-401.

Kurdi, S., and N. Apriliyanto, 2022. Implementation of quick response code in Indonesian restaurants: integration of protection motivation theory and theory of planned behavior. *Jurnal Mantik* 6(2), 1920-1928.

Kurnianingsih, W., 2022. Shopeepay mobile payment adoption analysis using the UTAUT model approach. *Indonesian Journal of Business Intelligence* 5(1), 61-69.

Liebana-Cabanillasa, F., I. R. Luna, and F. Montoro-Rios, 2015. User behaviour in QR mobile payment: The QR payment acceptance model. *Technology*

Analysis and *Strategic Management* 51(1), 1031-1049.

Lonardi, H., and N. Legowo, 2021. Analysis of factors affecting use behavior of QRIS payment system in DKI Jakarta. *Turkish Journal of Computer and Mathematics Education* 12(6), 3709-3728.

Madan, K., and R. Yadav, 2016. Behavioral intention to adopt mobile wallet: A developing country perspective. *Journal of Indian Business Research* 8(3), 227-244.

Mahabub, B., M. Kethan, and A. Rajasulochana, 2022. An empirical study on the factors influencing usage of mobile payments with reference to Bangalore city. *Journal of Corporate Finance Management and Banking System* 56(3), 23-34.

Mahalakshmi, D. R., D. M. Durgarani, M. D. Kumar, and D. R. Gokilavani, 2018. Can India move towards digital soverign currency? A study on perception of consumers towards digital payment. *International Journal of Pure and Applied Mathematic* 23(3), 2167-2175.

Manjula B. H., 2019. Mobile banking services and customer satisfaction with reference to ICICI Bank- A Study. *Shanlax International Journal of Commerce* 7(2), 7-18.

Min-Hueih, L., H. Yu-Hsin, and C. Yun-Cih, 2021. Young generation's mobile payment adoption behavior; analysis based on an extended UTAUT model. *Journal of Business and Management Review* 52(1), 618 - 637.

Momani, A. M., 2020. The unified theory of acceptance and use of technology: A new approach in technology acceptance. *International Journal of Sociotechnology and Knowledge Development*, *12*(3), 79-98.

Musyaffi, A. M., R. J. Johari, I. Rosnidah, D. A. P. Sari, M. I. Amal, I. Tasyrifania, and F. D. Sutanti, 2021. Digital payment during pandemic: an extension of the unified model of QR code. *Academic Journal of Interdisciplinary Studies* 10(6), 213-223.

Ngo, T. K. T., and T. H. Nguyen, 2021. The intention to use QR code payment in an emerging market–the role of "attitude" as mediator". *Psychology and Education Journal* 58(1), 3440-3454.

Patria, L., S. Suharyanto, and F. C. Yohanes, 2022. Determining factors of continuance intention in mobile payment: Fintech industry perspective. *Asia Pacific Journal of Marketing and Logistics* 2(1), 12-23.

Pontoh, M. A. H., F. G. Worang, and F. J. Tumewu, 2022. The influence of perceived ease of use, perceived risk and consumer trust towards merchant intention in using QRIS as a digital payment method. *Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi* 10(3), 904-913.

Rabu, S. N. A., H. Hussin, and S. K. Mohamad, 2023. A technologically enhanced learning tool for large classroom settings. *Journal of Creative Practices in Language Learning and Teaching* 11(3), 1-26.

Ricardianto, P., A. Soekirman, O. Pribadi, D. Atmaja, A. Suryobuwono, I. Ikawati, and E. Endri, 2023. Perceived of ease of use and usefulness: Empirical evidence of behavioral intention to use QR code technology on Indonesian commuter lines. *International Journal of Data and Network Science* 7(4), 1815-1828.

Rosli, N. F. A., R. Ibrahim, Y. Yahya, N. M. Zainuddin, S. Yaacob, and R. C. Yusoff, 2020. Consumers' intention to use mobile payment: a case of quick response (QR) code applications. *Mathematical Sciences and Informatics Journal* 1(1), 20-34.

Sethi, H., and S. Mehta, 2020. Drivers of customer relationship management and its effect on satisfaction: an international patient's perspective of Indian hospital. *Prestige International Journal of Management and IT-Sanchayan* 9(2), 64-81.

Sinha, N., and N. Singh, 2023. Moderating and mediating effect of perceived experience on merchant's behavioral intention to use mobile payments services. *Journal of Financial Services Marketing* 28(3), 448-465.

Suebtimrat, P., and R. Vonguai, 2021. An investigation of behavioral intention towards QR code payment in Bangkok, Thailand. *The Journal of Asian Finance, Economics and Business* 8(1), 939-950.

Sultana, M. S., X. Niu, and M. S. Hossain, 2023. How dissimilarity attributes at restaurants trigger negative emotions and associated behavioral intentions: The role of attribute performance. *Journal of Hospitality and Tourism Insights* 6(5), 2199-2221.

Syah, D. H., F. R. Dongoran, E. W. Nugrahadi, and R. Aditia, 2022. Understanding the technology acceptance model in the QRIS usage: Evidence from SMEs in Indonesia. *International Journal of Research in Business and Social Science* 11(6), 12-19.

Tam, C., and T. Oliveira, 2017. Literature review of mobile banking and individual performance. *International Journal of Bank Marketing* 35(7), 1044-1067.

Tavitiyaman, P., X. Zhang, and W. Y. Tsang, 2022. How tourists perceive the usefulness of technology adoption in hotels: Interaction effect of past experience and education level. *Journal of China Tourism Research* 18(1), 64-87.

Teoh, W. M., S. C. Chong, B. Lin, and J. W. Chua, 2013. Factors affecting consumer perception of electronic payment: An empirical analysis. *Internet Research* 23(4), 466-485.

Tikku, S. R., and A. K. Singh, 2023. Role of mobile banking in financial inclusion: evidence from agro traders of India. *International Journal of Electronic Finance* 12(1), 36-54.

Tu, M., L. Wu, and Z. Ding, 2022. The adoption of QR code mobile payment technology during COVID-19: A social learning perspective. *Frontiers in Psychology* 12(1), 79-99.

Yang, R., C. Yue, J. Li, J. Zhu, H. Chen, and J. Wei, 2020. The influence of information intervention cognition on college students' energy-saving behavior intentions. *International Journal of Environmental Research and Public Health* 17(5), 1-17.

Yong, C., J. Tham, S. F. Azam, and A. Khatibi, 2021. The acceptance of mobile payment and sustainable usage intention in Malaysia: An analysis based on unified theory of acceptance and use of technology. *European Journal of Economic and Financial Research* 5(3), 69-84.