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Use of QR code technology in eastern Thailand: entrepreneur perspective

Uso de la tecnología del código QR en el este de Tailandia: perspectiva empresarial

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ABSTRACT:

Thailand has stepped into the era of digital and knowledge economy. The objectives of this research include 1) to compare the different intentions of using QR code technology among industrial entrepreneurs, classified by business operation factors, and 2) to study the factors affecting the intention of using QR code technology among entrepreneurs in eastern Thailand. The results indicated that the respondents with different business operation duration, monthly business income, and the amount of capital investment had the indifferent intention of using QR code technology with a statistical significance level of 0.05.

KEYWORDS: UTAUT2, Intention to Use, QR Code Technology, Anxiety.

RESUMEN:

Tailandia ha entrado en la era de la economía digital y del conocimiento. Los objetivos de esta investigación incluyen 1) comparar las diferentes intenciones de utilizar la tecnología de códigos QR entre empresarios industriales, clasificados por factores de operación comercial, y 2) estudiar los factores que afectan la intención de utilizar la tecnología de códigos QR entre empresarios del este de Tailandia. Los resultados indicaron que los encuestados con diferente duración de operación comercial, ingresos comerciales mensuales y monto de inversión de capital tenían la intención indiferente de utilizar tecnología de código QR con un nivel de significación estadística de 0.05.

PALABRAS CLAVE: UTAUT2, intención de uso, tecnología de código QR, ansiedad.

INTRODUCTION

Currently, Thailand has stepped into society under the digital and knowledge-based economy. Digital and knowledge-based economy is an era in which technology is introduced to help in enhancing the economy or using technology in various activities in terms of living and business perspectives. The government has set up the policy to modify the payment systems by establishing a National e-payment program for Thai people. Moreover, the government tries to promote and make a change in how to support the use of technology. Also, the Bank of Thailand helps people to know how to use it and the setup security standards that all citizens can enable at any commercial bank. The concept of a cashless society is one of the government's priorities who wants to act as soon as possible by the National Electronic Payment System Development Strategy Plan. (National e-payment master plan) (Arvidsson: 2019, p. 96)

Government, financial institutions, the development of technology agencies, and the payment system operators help to build awareness and push for the payment services using mobile phones increased dramatically. Especially, QR Code is one of technology assisting the benefit of payment transactions. The government has strategically planned and developed the infrastructure for making QR code transactions, as the QR Code is the most popular payment system used around the world. It is widely used, convenient, safe, reliable, and provides internationally recognized standards. The QR Code is, therefore, the turning point of increasing the Thailand payment standard. Entrepreneurs who may not have much technical expertise can easily create and deploy QR code technology to support customer payments on many mobile application platforms, such as accepting payments for food, clothing, etc. In addition, entrepreneurs will enjoy peace of mind in doing business because QR code technology is an essential tool that helps operators to manage their stores with ease. For example, restaurant operators, retail outlets, startups, SMEs, MNCs are using QR codes for receiving payments from their customers. Grocery stores are using QR codes to manage inventory. These could make inventory management and sales management more efficient. It helps operators reduce errors and improve the accuracy of the work. It also solves the problem of managing cash in the pocket because the sale's income goes directly into the account immediately. The owners do not have to take some money to the bank at the risk of loss or theft. The account balance has been automatically monitored by owners anytime and anywhere with the desired reports generated in terms of sales revenue. Therefore, managing a business with the QR code payment is much more convenient than dealing with cash (Laxman & Lee: 2020, pp. 4615- 4635).

Mobile technology has become quite popular in recent years, offering a wide variety of services ranging from the internet, streaming movies, playing games, and making payments online (Chokkannan: 2020, pp. 32-43; Dam et al.: 2020, pp. 439-456; Luna et al. 2019, pp. 931-944; Kurtulmuşoğlu et al.: 2018, pp. 10821-10836; Khalilzadeh et al.: 2017, pp. 460-474) Similarly, online payments for our purchases has drastically changed over a period of time heading towards cashless societies (Raza et al.: 2019, pp. 1-5; Internet & Beokhaimook: 2018, pp. 167-75; Chyou et al.: 2012, p. 12). The advantage of the QR Code is not only limited to provide more convenient payment channels but also has been witnessed in the eLearning (Rabu et al.: 2019, pp. 359-384), Contact Tracing Apps during the COVID-19 pandemics (Kukuk: 2020, pp. 230-252). It can also reduce costs for users and store merchants. Transactions provided by QR code payment can be checked more accurately than cash transactions. Moreover, QR Code increases payment security and privacy because the user does not have to tell the account number, and no credit/debit card is required to present. The user is not also required to mention the mobile number while paying but using the QR Code to scan. From this, the use of QR codes is beneficial for merchants, especially for small and medium-sized stores. Payment transactions' information on the QR code systems can be used as a reference for requesting loaning financial support. Business owners do not have to use assets as collateral for the loan.

Moreover, using QR Code payment is not required any card reader for making any transaction, however resulting in significant cost savings. Although the QR Code system has been promoted as the primary payment standard in the future, it has been found that the use of the QR Code payment system of most operators is still limited. Moreover, mostly, small and medium-sized businesses were more likely to use a QR code system to receive payments than small businesses. Small companies always get involved with many transactions by using cash. This may be because those businesses are small-scale entrepreneurs who are familiar with accepting cash payments. Some entrepreneurial operators are also concerned with tax disclosure and the cost of devices, as well as fees applied when using the QR code system.

Therefore, the research paper is designed to fill the gap of studying the factors affecting the intention of using QR Code technology of entrepreneurs in eastern Thailand based on applying UTAUT2 and technology anxiety as the theoretical framework. This study is to examine entrepreneurs' perspectives on using QR codes for their business operations. The results obtained from this research can be used to improve

and develop the QR Code system to increase the acceptance of the QR Code payment system, and this could enable entrepreneurs to gain business advantage and lead the business for efficient management.

LITERATURE REVIEW

The intention of use means determining behavior to perform specific actions without exertion, with external stimuli to motivate the intend to perform behaviors until the goal is achieved. Intention and possibility would induce users who will accept and choose to use new technologies in the future. Intentions for making decisions are based on information, knowledge, attitudes, and beliefs. The intention of the action is part of a theory of reason action (TRA), whereby intent to act depends on two elements: 1) attitude or feelings towards the actions or behavior of an individual in recognition and decision-making related to their behavior; 2) social norms or recognition related to the actions or non-actions that depend on the social situation. Their intention depends on those who were closely and related, such as parents, siblings, relatives, friends, etc. These individuals incentivize whether they should perform the behavior. The motivation to follow the people he is close to and individual relationships.

Venkatesh et al. (2012) developed the UTAUT2 model based on UTAUT, focusing even more on the context of consumer technology applications. In theory, UTAUT2 shows that there are seven main factors affecting behavioral intention, which are performance expectation, effort expectation, social influence, facilitating conditions, passion incentive, price value, and habit. There are also additional variables: gender, age, and experience. Therefore, each construct and related operationalizations can be summarized in the UTAUT2 model as follows (Venkatesh et al.: 2012, pp. 157-178).

1) Performance expectation is the degree to which a belief of the person that using the system will help them achieve their goals and work effectively (Venkatesh et al.: 2012, pp. 157-178). The construct of performance expectancy is comprised of different models includes 1. perceived usefulness (TAM/TAM2 and C-TAM-TPB), 2. extrinsic motivation (MM), 3. job-fit (MPCU), 4. relative advantage (IDT), and 5. outcome expectations (SCT). Despite the fact, the performance expectancy constructs derived from a combine of different theories, several authors have contended and acknowledged the similarities in its literature, such as the variable of usefulness and extrinsic motivation (Davis et al.: 1989, pp. 319-340), variable of usefulness and job-fit (Thompson et al.: 1991, pp. 125-143), variable of usefulness and relative advantage (Davis et al.: 1989, pp. 319-340; Moore & Benbasat: 1991, pp. 192-222), variable of usefulness and outcome expectations (Compeau & Higgins: 1995, pp. 189-211; Davis et al.: 1989, pp. 319-340), and job-fit and outcome expectations (Compeau & Higgins: 1995, pp. 189-211).

2) Effort expectation is the degree to which ease of use is associated with the system use (Venkatesh et al.: 2012, pp. 157-178). This variable has been derived from the combination of theories, which includes 1. Perceived ease of use, 2. Complexity, 3. Ease of use. Similarities have been noted in previous research (Davis et al.: 1989, pp. 319-340; Moore & Benbasat: 1991, pp. 192-222; Thompson et al.: 1991, pp. 125-143).

3) Social influence is the degree to which a person perceives as important others believe he or she must use the system (Venkatesh et al.: 2012, pp. 157-178). This variable is also referred to as subjective norm in the theory of TRA, TAM2, TPB/DTPB, and C-TAM-TPB, Social factors in MPCU, and Image in IDT. The variable of the subjective norm (Ajzen: 1991, pp. 179-211; Davis et al. 1989; Fishbein & Ajzen: 1977, pp. 100-124; Methiseon 1991); Social factors (Thompson et al.: 1991, pp. 125-143); Image (Moore & Benbasat: 1991, pp. 192-222). It has also been observed that the role of social influence towards technology acceptance is crucial and subject to a wide variety of contingent influences.

4) Facilitating conditions is the degree to which a person believes that an organization or technical infrastructure is available in support of system use (Venkatesh et al.: 2012, pp. 157-178). The construct of facilitating conditions is comprised of perceived behavioral control (TPB/DTPB, C-TAM-TPB) Ajzen 1991, facilitating conditions (MPCU) Thompson et al. 1991, and compatibility (IDT) (Moore & Benbasat:

1991, pp. 192-222; Thompson et al.: 1991, pp. 125-143; Ajzen: 1991, pp. 179–211). Literature suggests the effect of support infrastructure is largely captured within the construct of effort expectancy; however, having its presence would provide the researchers with comprehensive insight about its impact in general and specific nature.

5) Hedonic Motivation can be understood as the degree of fun, entertainment, or pleasure obtained from technology use (Venkatesh et al.: 2012, pp. 157-178). It is to be noted that hedonic motivation is the strong influencing factor for technology acceptance and actual use from consumer's perspective (Van: 2004, pp. 695- 704; Thong et al.: 2006, pp. 799-810; Childers et al.: 2001, pp. 511-535); however, this study aims to focus on the business perspective which deemed as not primarily influencing factor fostering towards any technology acceptance and actual use.

6) Price Value is the degree to which important differences exist between a consumer use setting and the organizational use setting (Venkatesh et al.: 2012, pp. 157-178). This can be understood as the knowledge and comparative skills of a person concerned with the costs of the utilization of information technology. The price factor is important to consumers. It can be used as a predictor of intention to show consumer behavior and technology usage. Several authors have advocated in its support, which can be witnessed by the research study of (Chan et al.: 2008, pp. 23-36; Dodds et al.: 1991, pp. 307-319; Zeithaml: 1988, pp. 2-22)

7) Habit is that people tend to behave or act as an automatic consequence of what they have learned from past experiences that have been consistently practiced to become habitual (Venkatesh et al.: 2012, pp. 157-178) while Kim et al. 2005 relates habit with automaticity (Hu: 1988, pp. 2-22; Kim et al.: 2005, pp. 418- 432).

Anxiety is a feeling of anxiety in using technology. People are concerned that the technology can meet the requirements or not, including concerns about the level of safety of the use of technology. Prior studies have shown that anxiety affects the use of technology, which can lead to less technology usage or avoidance of technology. Therefore, the researcher realized that the anxiety construct was a factor that should be studied in this research. Because it is a study from a group of small entrepreneurs and studies on QR Code technology, which is classified as modern technology. The concern of technology is one of the factors that researchers are interested in. This is because small operators may have concerns with technology, including fear of the complexity of technology, lack of open learning, and lack of user experience (Hsieh et al.: 2014, pp. 3084-3090).

Cognition-based Trust Antecedents and perceptions of consumers related to the properties and characteristics of online sellers from three key parameters: Information Quality, Perceived Privacy, and Perceived Security Protection. 1) Information Quality is the general perception of consumers regarding the accuracy and completeness of the information. The quality of data on the internet offers a variety of information that is accurate and incorrect. Information Builders, which are intended to be understood in the wrong way. It makes it difficult for consumers to distinguish that the information they receive is reliable or unreliable. 2) Perceived Privacy is the recognition of the user about the efforts of service providers endeavors to protect the confidential information of users. The data is generated from the use of various types of technology applications and is collected during use. In general, unauthorized users' personal information is not disclosed. Users of technology are extremely concerned about the loss of privacy and trying to find a way to protect data on the use of technology. 3) Perceived Security Protection is the perception of users in response to security needs. When users recognize technology's security features, it affects the perception and intent of the user. To meet the safety needs during the use of technology, such as security policy, liability for damage, and ensuring safety in the use of technology. Technology's security feature, including encryption, electronic certificate, protecting user information, is safe and accurate.

In conclusion, Cognition-based Trust is users' awareness and confidence in using QR Code technology, which is caused by three factors: Information Quality, Perceived Privacy, and Perceived Security Protection. QR Code (QR Code) is a two-dimensional barcode that has a rapid response. It was invented

in 1994 by Denso-Wave in Japan. It was initially designed for industrial use. In automotive manufacturing, a QR Code is used to display the part number of spare parts. Later, QR codes began to be used in various applications. Even more, this is because QR codes can be scanned and can contain more information than other types of barcodes several times when compared with the capacity of one-dimension barcodes. QR codes have been widely used in product publicity events. Nowadays, mobile phones come with a camera, making it easy to read QR codes, use the camera on a mobile phone to take pictures of the QR code. The software will then decrypt and show the result on the phone screen immediately.

In Thailand, approximately 770,000 medium and large stores are equipped with EDCs, but it was still not much compared to the actual number of small and medium stores today. The Bank of Thailand, therefore, cooperates with world-class card service providers, financial institutions, and payment service providers in Thailand to develop the Thai standard QR Code to be consistent with international standards. To provide citizens and retail shops with electronic payment channels or e-Payment with convenient, secure, low-cost, and enable merchants to accept payments from every bank's mobile banking applications. Customers could choose to pay from a variety of ways, such as choosing from an e-Wallet account or a debit/credit card. Therefore, using QR codes will definitely benefit people, service users, and merchants. Finally, a conceptual framework is proposed in figure 1.

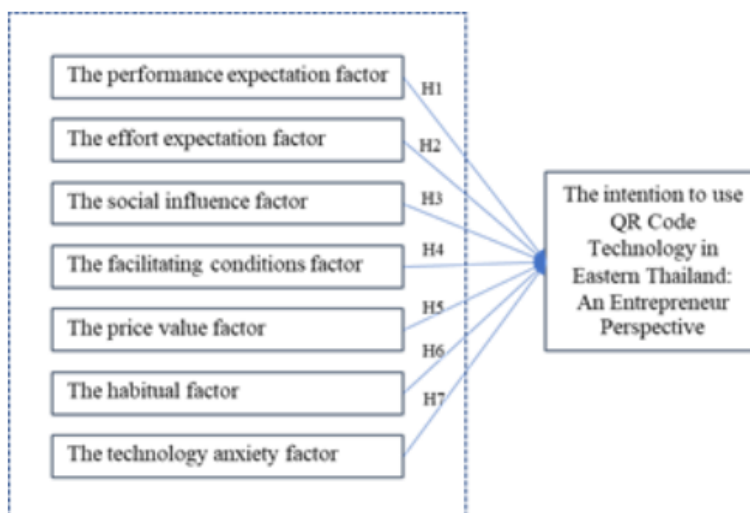


Figure 1. A Conceptual Framework

METHODOLOGY

In this study, factors affecting the intention to use QR Code Technology of Entrepreneurs in The Eastern Region is a quantitative research which the researcher has defined procedures and methods of conducting it as follow:

Population and sampling method

The population in this study were small entrepreneurs engaged in wholesale and retail businesses in the eastern region of 7 provinces, namely Chanthaburi, Chachoengsao, Chonburi, Trat, Prachinburi, Rayong, and Sa Kaeo. The exact number of populations is unknown. The researcher then determined the sample size by calculating from the Cochran at the confidence level of 95%, and the minimum sample size was 385 samples. However, to increase the integrity of the study, the researcher then collected 15 additional questionnaires, a total of 400 samples. In collecting the data process, the researcher used a purposive sampling method by distributing questionnaires to small entrepreneurs in the eastern region of 4 out of 7 provinces,

by selecting from the top 4 provinces with the highest economic value, which are Rayong, Chonburi, Chachoengsao, and Prachinburi.

Research Instrument

The research instrument was a questionnaire that was divided into three parts. Part 1: Questions about the basic information about each business. Part 2: The technology acceptance factor: 1) efficient expectation, 2) effort expectation, 3) social influence, 4) facilitating condition, 5) price value, 6) habit, and 7) technology anxiety factor, which in terms of tax, law and government policies. Part 3 questions about the intention to use QR Code technology of entrepreneurs in the eastern region

Data analysis method

In this study, the researcher analyzed the data by using a statistical computer program to process various statistics such as descriptive statistics: frequency, percentage, mean and standard deviation. The inferential statistics: One-way ANOVA and multiple regression analysis.

RESULTS

Analysis of the basic business operation information found that most of the respondents were retail businesses (62.00 percent). They operate a business for 1 - 5 years (44.00 percent), monthly business income below 20,000 baht (39.75 percent). Most entrepreneurs do not have employees (69.50 percent), monthly capital of more than 50,000 baht (44.00 percent), and most of them receive money by cash payments (92.75 percent).

The technology acceptance factor: 1) Performance Expectation, 2) Effort Expectation, 3) Social Influence, Facilitating conditions, 5) price value, 6) habit, and 7) technology anxiety factor which in terms of tax, law, and government policies.

The results of the analysis of the data on the technology acceptance factor consisted of 7 factors: 1) performance expectation, 2) effort expectation, 3) social influence, 4) facilitating conditions, 5) price value, 6) habit and 7) technology anxiety factor which in terms of tax, law and government policies.

It was found that most of the small entrepreneurs gave the highest opinion on the price factor. There is a high level of opinion with a mean of 3.76. The second factor is social influence, which has a high level of opinion with a mean of 3.75. Followed by the facilitating condition, has a high level of opinion with a mean of 3.73, the effort expectation, has a high level of opinion with a mean of 3.68, the habit, has a high level of opinion with a mean of 3.59, the performance expectation, has a high level of opinion with mean of 3.53, and the technology anxiety factor has a high level of opinion with mean of 3.27.

The performance expectation factor found that the entrepreneurs gave the level of expectation that QR Code technology would provide greater security than keeping cash (3.55). Followed by the expectation of a support system of QR Code technology will help in summarizing sales and making accurate reports (3.53) and the expectation of QR Code technology to be useful to increase business efficiency (3.52), respectively. The study of Intarot & Beokhaimook, 2018 reveals that eWallet users expect to have higher security measures such as finger or retina scans to foster its use. The study of Luna 2019 also found significant positive results on the attitude towards the payment systems (Intarot & Beokhaimook: 2018, pp. 167-75; Luna et al. 2019, pp. 931-944).

The effort expectation factor found that small entrepreneurs provided a high level of expectation that they could learn and understand QR Code technology on their own (3.82). The second was expected that they would easily install and use the QR Code technology (3.80). Next, they expected that they would use QR Code technology without pressure (3.58), and they expected the QR Code technology to have a straightforward process (3.50). Similar results have been observed by Dam et al. 2020, wherein convenience and satisfaction were found significant due to factors such as faster transaction speed, lower prices, and higher

security level. Furthermore, the study of Luna 2019 also revealed that using a particular system is easy to handle and requires less effort to use (Dam et al.: 2020, pp. 439-456; Luna et al. 2019, pp. 931-944).

The social influence factor: It was found that small entrepreneurs gave the highest level of their family members think that they should use the QR Code technology in running business operations (3.94). They were followed by the opinion that the QR Code technology should be used because business competitors use it. The support from government agencies has made them interested in QR Code technology in the future; friends or peers recommend using QR Code technology and believe that QR Code technology should be used because it is becoming popular. The mean values were 3.83, 3.77, 3.68, and 3.54, respectively. Conversely, the results of Chokkannan (2020) revealed that social influence has little impact on the continuance intention of mobile payments concerning security-related factors for NFC-based mobile payment in the restaurant industry (Chokkannan: 2020, pp. 32-43).

In terms of the facilitating conditions factor, it was found that small entrepreneurs believed that using QR Code technology does not have to open a new bank account. Second, the device is ready for using QR Code technology such as mobile phones, tablets, etc. They believed that the wireless connection and the wireless internet signal are stable for the use of QR Code technology, with the mean values were 3.89, 3.75, 3.69, and 3.60, respectively. The study of Raza et al. 2019 revealed that the QR code as a new payment system predicts a new technology being used by many stakeholders due to significant relationships observed with facilitation conditions and user behavior (Raza et al.: 2019, pp. 1-5).

The price value factor found that entrepreneurs believed gave the highest level at the charging cost of using QR Code technology more reasonable costs than other payment systems. Followed by the benefits of using QR Code technology is its cost-effectiveness compared to the money spent; QR Code technology helps save money on cash management. The use of QR Code technology has a suitable price for their budget. The mean values were 3.94, 3.88, 3.64, and 3.57, respectively. A research study by Chyou, 2012 revealed that the price level not only affects the individual's attitude towards using mobile internet service but also influences the user's intention (Chyou et al.: 2012, p. 12).

The habitual factor found that the small entrepreneurs gave the highest level at that they had experience in using PromptPay for making business transactions. They were followed by those who had experience in using the Internet Banking system, having expertise in using QR codes to purchase products and services. Lastly, they had experience in using Rabbit Line Pay for buying goods and services; the mean values were 3.88, 3.69, 3.53, and 3.27, respectively. Similarly, the research of Raza et al. 2019 reveals that the consumers' adoption of QR codes for use in routine, frequent, and repetitive habits will influence the behavioral intention and actual use (Raza et al.: 2019, pp. 1-5).

Among the concerns about the technology anxiety factor, which in terms of tax, law, and government policies, was found that small entrepreneurs rated their opinion about using QR codes would put you at the most significant risk of personal information. Using QR code technology poses a financial risk to their bank account, and using QR code could being audited the financial transactions by the government. The mean values of 3.27 and 3.21, respectively. The study of Kukuk 2020 has observed similar results, which deems anxiety as the determinant factor for the adoption of contact tracing apps (Kukuk: 2020, pp. 230-252).

The results of the intention to use the QR code technology of small entrepreneurs showed that they intend to use QR code technology for running their business whenever the opportunity arises. Followed by the intention of using QR code technology for business operations soon, they intend to study and compare in-depth information about QR code technology. Next, they expect to continue to use QR code technology in business operations in the future and intend to choose the QR code technology for business operations as the first method. The mean values of 3.74, 3.72, 3.69, 3.60, and 3.55, respectively.

The testing of the first hypothesis found that entrepreneurs with different business dynamics factors have different levels of intention to use QR Code technology. The result showed that the different types of businesses, number of employees, and payment channels have a difference in the intention of using QR Code

technology with a significant level at 0.05. Apart from the age of business operation, business income per month, and the different amount of capital used in doing business, there are no different degrees of intention to use QR Code technology.

The second hypothesis testing found that factors that affected the intention to use QR Code technology of entrepreneurs in the Eastern region were effort expectation, price value factor, social influence, technology anxiety, and chronic factor, respectively. The performance expectation and facilitating conditions did not influence the intention of using QR code technology among entrepreneurs in the eastern region. The results showed that the adjusted R Square was equal to 0.53, indicating that the factors affecting the intention to use the QR code technology of entrepreneurs in the eastern region were 53.0 percent, and 47.0 percent were the other factors that have not been studied in this research. Similarly, significant results have been found by FooH-Wah Lim 2019 in relation to behavioral intention predictors towards using the electronic wallet in Malaysia to overcome the concerns and fears of e-wallet non-adopters. Finally, the result, as shown in Figure 2 and the result of multiple linear regression, is shown in table 1.

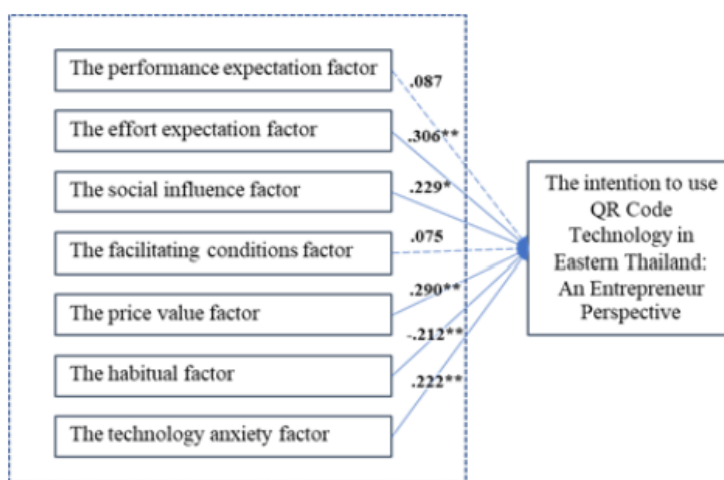


Figure 2. The results of the intention to use QR code technology in eastern Thailand: an entrepreneur perspective

Table (1). The results of multiple linear regression analysis of factors affecting the intention to use QR code technology of entrepreneurs in the eastern region

Factors	B	Std. Error	Beta	t-value	Sig.
Constant	-.069	.208		-.330	.741
The performance expectation factor	.087	.072	.078	1.215	.225
The effort expectation factor	.306	.074	.250	4.142	.000**
The social influence factor	.229	.094	.167	2.423	.016*
The facilitating conditions factor	.075	.070	.057	1.062	.289
The price value factor	.290	.099	.223	2.922	.004**
The habitual factor	-.212	.071	-.168	-2.970	.003**
The technology anxiety factor	.222	.052	.229	4.289	.000**

R = 0.73 R Square = 0.54 Adjusted R Square = 0.53

DISCUSSION

The samples in the research were 400 small entrepreneurs in the eastern region of Thailand. Most respondents were retail business owners, operates a business for 1 - 5 years with business income below 20,000 baht per month; most of the entrepreneurs do not have employees and receive money by cash payment.

Initial findings show that entrepreneurs in the eastern region of Thailand with different types of businesses have different intentions of using QR Code technology. The product manufacturing business has less intention to use QR Code technology than wholesale, retail, and service businesses. This is because the entrepreneurs who produce products are focused on mass production. The number of times receiving payments is lower than in other businesses. It is commonly used for accepting payments by cash, payment of checks, and accepting payments by bank transfer. Since most merchandise entrepreneurs are family-owned businesses, they are more familiar with accepting cash payments than other methods. The intention to use social media for business operation, it was found that entrepreneurs with different types of businesses have different intentions of using social media for their business operations (Kurniawan & Waisarayutt: 2019, pp. 130-148). The number of employees, entrepreneurs in the Eastern region with different numbers of employees, have different intentions of using QR Code technology. Entrepreneurs without employees because they are small scale, so they could work alone, and some are family businesses. This group intends to use QR Code technology differently than entrepreneurs with one or more employees. Entrepreneurs employing employees are at high risk of using cash in their business operations. Therefore, if QR Code technology is used, it will be able to trust employees to accept QR code payments. The owners could recognize the balance without checking cash; it could be checked from electronic systems at any time. Using the QR code payment system thus contributes to entrepreneurs' more trust in their employees. The intention to use social media for business. It was found that entrepreneurs with different numbers of employees have different intentions of using social media for their business (Kurniawan & Waisarayutt: 2019, pp. 130-148).

Payment channels, Entrepreneurs who are offering different payment channels have different intentions of using QR Code technology. Businesses accepting payments via internet banking have different intentions of using QR Code technology than accepting only cash payments. Considering the average of the intention of using QR Code technology level, entrepreneurs who use cash as the main payments channel have the highest degree of intention to use QR Code technology. Receiving cash or banknotes, making more business's costs, such as time, cash management, risk of thefts, or fraud of employees, etc. If entrepreneurs adopt QR Code technology in their business operations, they will not have to waste time depositing money at the bank. It was found that different payment models resulted in different using QR code systems.

The results of hypothesis 2 can be seen that the factors such as social influence, Facilitating conditions, value, prices, and concerns about the technology in terms of taxes, laws, and governments affect operators' intentions of using QR Code technology in the Eastern region of Thailand; however, the factors of performance expectancy effort expectancy and habit It does not affect the intention to use the QR Code technology of the entrepreneurs in the eastern region of Thailand.

Social influence affects the intention to use QR Code technology of entrepreneurs in the eastern region of Thailand. Due to social influence, especially family, Including friends, can change their behavior, feelings and make compliant Until changing their behavior to meet the standard Or beliefs that are inherited from those close to you. As a result, there has been an incentive to use QR Code technology. Retail in Bangkok Found that the influence of society. This affects the intention of using the cloud amongst Bangkok retailers.

Facilitating Conditions affect the intention to use QR Code technology of entrepreneurs in the eastern region of Thailand. This is due to the fact there are adequate facilities for use both in terms of supporting devices that are already available, such as mobile phones, tablets, which can be used at all. Having a mobile banking application including a wireless network signal system that covers an area of use and stability and the creation of a QR Code can be simple and easy, which can be done from your own bank account without

opening a new account. And everyone can find ways to use them through the website. Use of technology and consumer behavior affecting people's intentions to use the Thai government's Promptpay financial services, it was found that the use of facilities affects the people's intention to use. Financial transaction services through the Thai government's PromptPay system.

CONCLUSION

Price value affects the intention of using QR Code technology of entrepreneurs in the Eastern region of Thailand. Because entrepreneurs tend to focus on the cost of running the business, determining which forms of payment in the original form, such as credit cards, there is a fee for using a card reader or using the form to transfer money into the account. Customers will feel inconvenience due to having to type in the account number, which is a waste of time and there is a chance for a mistake in the account transfer, while QR Code technology is very convenient, no need to remember account numbers, do not cause payment errors, in addition, the study found that Price value factor was a negative influence on the willingness to use QR Code technology of entrepreneurs in the eastern region. It shows that if entrepreneurs in the eastern region have an opinion on factors of value, price increases, they will have less intention to use QR Code technology.

The factors affecting the intention and use of the QR code payment system of the people of Bangkok, finding that the value of the price affects the intention and the use of the payment system. QR code of citizens in Bangkok, concerns over the technology in matters of taxes, laws, and governments affect operators' willingness to use QR Code technology in the eastern region because the operator has a bad perception or experience from using technology. Anxious to be monitored by the government. By some entrepreneurs who do not have knowledge of the tax laws may be uncertain how to get them right. The willingness to accept the use of electronic payment systems in Nigeria. Anxiety was found to influence the willingness to accept the use of electronic payment systems in Nigeria.

The authors have the following recommendations based on the identified factors which affect the user's intentions of using QR Code technology of entrepreneurs in the eastern region of Thailand. The research results can be adapted as follows.

1. **Bringing Awareness:** The banking sector or other competent bodies should encourage business entrepreneurs by providing sufficient knowledge about QR Code technology and also provide the efficient adaptability of using QR Code technology. For businesses, such as wholesale, retail, and service industry.
2. **Shifting to QR Payment** The banking sector or other competent bodies should promote or perform activities related to the use of QR Code technology that can be treated with all organizations in the same format, either new and old businesses.
3. **Monthly Business Income:** The banking sector or other competent bodies can promote entrepreneurs regardless of their business income. It shows that the use of QR Code technology has a lower cost of accepting electronic payments than other payment methods.
4. **Lower Operational Costs:** The number of employees in the banking sector or other competent bodies should incentivize entrepreneurs in the eastern region of Thailand with one or more employees to realize the importance of using QR Code technology, which will help reduce operational costs. It will be fast and convenient.
5. **Paid-up Capital:** The banking sector or other competent bodies should educate all types of entrepreneurs, regardless of the size of the business. Note that using QR Code technology is going to less costly than the merchant service charges for accepting credit cards or debit cards.
6. **Alternative Payment methods** the banking sector or other competent bodies should give priority to entrepreneurs who still use cash as the primary channel for receiving payments. By creating

- awareness about the benefits of using QR Code technology, operators can reduce the problem of preparing change. This can reduce the burden and hassle of making payments, etc.
7. Performance expectations: The banking sector or other competent bodies should publicize the use of QR technology by educating them about account registration services. The process of accepting payments will give deep insights into using QR Code technology that operators should be aware of it.
 8. Effort expectations: The banking sector or other competent bodies should publicize the use of QR Code technology to know the process of using the QR Code technology, such as providing knowledge about the account opening process. The process of accepting payments, etc., to create an understanding of how to use the QR Code technology that operators should be aware of it.
 9. Social influence: The banking sector or other competent bodies should be communicated to create a perception by showing that the organization's success roadmap with the utilization of QR code technology. QR Code technology is used in business management. It creates a good experience for entrepreneurs, which causes the user's behavioral intention to eventually use QR Code technology.
 10. Facilitating conditions: The banking sector or other competent bodies should have a demonstration of the use of QR Code technology, for example, a manual to provide a simple demonstration or video for entrepreneurs. It should provide correct information about the correct use of QR Code technology, such as a description of a device that needs to be compatible with QR Code technology, such as a mobile phone. Internet signal etc.
 11. Value Price The banking sector or other competent bodies should communicate information about the various fees involved with the use of QR Code technology so that the operator knows that the use of QR Code technology does not charge any subscription fees or setup costs in the application and equipment installation. In addition, the business may take advantage of utilizing QR Code technology to engage as an additional payment channel that enables to expand the customer base for creating more business opportunities.
 12. The familiarity of the banking sector or other competent bodies should encourage entrepreneurs to adopt QR Code technology by allowing entrepreneurs to register for membership to receive the latest news about QR Code technology to create a positive experience for entrepreneurs
 13. Concerns about technology in matters of taxation, laws and governments, banks, or related entities: There should be a proper introduction to the use of QR Code technology and indicate positive outcomes. The consequences of paying taxes will result in being correct and duly verified by the government.

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BIBLIOGRAPHY

AJZEN, I (1991). "The theory of planned behavior". *Organizational Behavior and Human Decision Processes*, 50, pp. 179–211.

- ARVIDSSON, N (2019). "Building a Cashless Society: The Swedish Route to the Future of Cash Payments". *Computers in Human Behavior*, 12, p. 96.
- CHAN, K, Y, GONG, M, XU, Y, & THONG, J (2008). "Examining user acceptance of SMS: An empirical study in China and Hong Kong". *PACIS 2008 Proceedings*, 294, pp. 23-36.
- CHILDERS, T, L, CARR, C, L, PECK, J, & CARSON, S (2001). "Hedonic and utilitarian motivations for online retail shopping behavior". *Journal of retailing*, 77(4), pp. 511-535.
- CHOKKANNAN, P (2020). "Role of it mindfulness on continuance intention of mobile payment system". *International Journal of Economics and Management Studies*, 7(7), pp. 32-43.
- CHYOU, J, J, T, KANG, H, C, & CHENG, B, Y, F (2012). "Acceptance of qr code in taiwan: an extension of the technology acceptance model. In *PACIS* , p. 12.
- COMPEAU, D, R, & HIGGINS, C, A, (1995). "Computer self-efficacy: development of a measure and initial test". *MIS quarterly*, 32(1), pp.189-211.
- DAM, H, PHAN, D, VU, D, & NGUYEN, L (2020). "The determinants of customer's intention to use internationalpayment services by applying blockchain". *Uncertain Supply Chain Management*, 8(3), pp. 439-456.
- DAVIS, F, D (1989). "Perceived usefulness, perceived ease of use, and user acceptance of information technology". *MIS quarterly*, 12, pp. 319-340.
- DODDS, W, B, MONROE, K, B, & GREWAL, D (1991). "Effects of price, brand, and store information onbuyers' product evaluations". *Journal of marketing research*, 28(3), pp. 307-319.
- FISHBEIN, M, & AJZEN, I (1977). "Belief, attitude, intention, and behavior: An introduction to theory and research". *Australian Journal of Business and Management Research*, 23, pp. 100-124.
- HSIEH, C, H, WU, C, G, & HSU, C, P (2014, July). "Convergence or divergence?: A comparison of acceptance and use of technology for smart phones and tablets". In *Proceedings of PICMET'14 Conference: Portland International Center for Management of Engineering and Technology; Infrastructure and Service Integration*, 31(4), pp. 3084-3090.
- HU, ZEITHAML, V, A (1988). "Consumer perceptions of price, quality, and value: a means-end model andsynthesis of evidence". *Journal of marketing*, 52(3), pp. 2-22.,
- INTAROT, P, & BEOKHAIMOOK, C, B (2018). "Influencing factor in e-wallet acceptant and use". *International Journal of Business and Administrative Studies*, 4(4), pp. 167-75.
- KHALILZADEH, J, OZTURK, A, B, & BILGIHAN, A (2017). "Security-related factors in extended UTAUT modelfor NFC based mobile payment in the restaurant industry". *Computers in Human Behavior*, 70, pp. 460-474.
- KIM, S, S, MALHOTRA, N, K, & NARASIMHAN, S (2005). "Research note—two competing perspectives onautomatic use: A theoretical and empirical comparison". *Information systems research*, 16(4), pp. 418-432
- KUKUK, L (2020). "Analyzing adoption of contact tracing apps using UTAUT (Bachelor's thesis, University of Twente)". *Computers in Human Behavior*, 70, pp. 230-252.
- KURNIAWAN, K, I, A, & WAISARAYUTT, C (2019). "SWOT analysis for determining sustainability development strategy of the local enablers community, a social business ecosystem at universitas padjadjaran, jatiningor, indonesia". *Walailak Procedia*, 2019(1), pp. 130-148.
- KURTULMUŞOĞLU, F, B, ALGÜNER, A, & ATALAY, K, D (2019). "What are the most influential factors of consumers' intention to use NFC-enabled credit cards?". *Soft Computing*, 23(21), pp. 10821-10836.
- LAXMAN, K, & LEE, K (2020). "Exploring factors affecting academics' adoption of emerging mobile technologies- an extended UTAUT perspective". *Education and Information Technologies*, 25(5), pp. 4615- 4635.
- LUNA, I, R, LIÉBANA-CABANILLAS, F, SÁNCHEZ-FERNÁNDEZ, J, & MUÑOZ-LEIVA, F (2019). "Mobilepayment is not all the same: The adoption of mobile payment systems depending on the technology applied". *Technological Forecasting and Social Change*, 146, pp. 931-944.

- MOORE, G, C, & BENBASAT, I (1991). "Development of an instrument to measure the perceptions of adopting an information technology innovation". *Information systems research*, 2(3), pp. 192-222.
- RABU, S, N, A, HUSSIN, H, & BERVELL, B (2019). "QR code utilization in a large classroom: Higher education students' initial perceptions". *Education and Information Technologies*, 24(1), pp. 359-384.
- RAZA, A, KOONDHAR, M, Y, KHAN, M, S, SHAIKH, H, & SHAH, A (2019, December). "An integrated model for Acceptance of QR code Mobile Payment System in Pakistan". In 2019 IEEE 6th International Conference on Engineering Technologies and Applied Sciences (ICETAS), 13, pp. 1-5.
- THOMPSON, R, L, HIGGINS, C, A, & HOWELL, J, M (1991). "Personal computing: Toward a conceptual model of utilization". *MIS quarterly*, 14(2), pp. 125-143.
- THONG, J, Y, HONG, S, J, & TAM, K, Y (2006). "The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance". *International Journal of human-computer studies*, 64(9), pp. 799-810.
- VAN DER HEIJDEN, H (2004). "User acceptance of hedonic information systems". *MIS quarterly*, 31(4), pp. 695-704.
- VENKATESH, V, THONG, J, Y, & XU, X (2012). "Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology". *MIS quarterly*, 43(3), pp. 157-178.
- ZEITHAML, V, A (1988). "Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence". *Journal of marketing*, 52(3), pp. 2-22.