

Intention of Personal Information Disclosure in Mobile Payment Apps

Mai Thi Thu Le, National Economics University, Vietnam*

 <https://orcid.org/0000-0001-7250-8311>

Hien Thu Pham, National Economics University, Vietnam

Minh Thi Nguyet Tran, National Economics University, Vietnam

Thao Phuong Le, National Economics University, Vietnam

ABSTRACT

This paper employs the regulatory focus and risk-taking perspectives to integrate constructs related to the intention to disclose personal information in mobile payment apps among young people in an emerging country: Vietnam. Data were collected from a survey among young Vietnamese people and analyzed with statistical software of SPSS and AMOS. Findings reveal that promotion regulatory focus leads to risk propensity which will be positively correlated to intention to disclose personal information in mobile payment apps among young people. In contrast, prevention regulatory focus is correlated to risk perception which will be negatively related to intention to disclose personal information in mobile payment apps. Furthermore, the positive moderating role of perceived trust in the relationship between risk propensity and intention to disclose personal information in mobile payment apps is confirmed while perceived trust has been found to negatively moderate the impact of risk perception on intention to disclose personal information in mobile payment apps.

KEYWORDS

Mobile Payment, Perceived Trust, Personal Information Disclosure, Regulatory Focus, Risk Perception, Risk Propensity

INTRODUCTION

With new technologies and digitalization, this digital era has shaped new ways of business and changed consumer behaviors. One of the most prominent technological applications ever launched is mobile payment, providing consumers with a convenient way of completing their transactions digitally through their mobile devices (OECD, 2012). In emerging countries, thanks to government initiatives, high rate of Internet access, widespread smartphone usage and other cultural factors, mobile payment has become main drivers for a cashless economy (Enberg, 2019). However, major barriers inhibiting consumers from disclosing their personal information in mobile payment apps include privacy and information security (Nguyen *et al.*, 2016; Humbani & Wiese, 2019); mobile payment system quality, information quality (Zhou, 2013); lack of trust (Grabner-Kräuter & Kaluscha, 2003)

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*Corresponding Author

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or risks of fraud (Humbani & Wiese, 2019). Accordingly, it is judicious to investigate what affects consumers' intention to disclose personal information in mobile payment services.

Abundant existing literature has examined factors that influence the intention to disclose personal information in mobile payment apps (Pham & Ho, 2015; Wang et al., 2016). The majority of these studies are common in the use of Theory of Technology Adoption (TAM), Technology Readiness Index (TRI), Theory of Planned Behavior (TPB). Recently, more academic attention has been paid to the intention of adopting informational technologies (Mouakket & Bettayeb, 2015), including mobile payments apps (Dennis & Jayawardhena, 2010; Kim et al., 2010; Schierz et al. 2010). Nevertheless, factors determining the intention of consumers to disclose their personal information in mobile payment apps have been reported to be inconclusive in the negative effects of perceived risk on the intention to use mobile apps (Tan *et al.*, 2014; Kapoor et al., 2015; Muñoz-Leiva et al., 2017). Despite these inconsistent findings, it is agreed that consumers should be encouraged to be willing to disclose their personal information to use mobile payment apps because of its benefits and convenience (Arvidsson, 2014). Hence, our research aims at supplementing empirical studies on this topic and to provide a more integrated approach to retest antecedents for the intention to disclose personal information in mobile payment apps from the standpoint of the Regulatory Focus Theory which has been confirmed to be better at explaining factors influencing the intention to disclose personal information (Chang *et al.*, 2019).

This research has three main objectives. First, we aim at providing a further insight into factors leading consumers to have an intention of disclosing their personal information in mobile payment apps. Second, we develop and test a theoretical model to predict consumers' behavioral intention from a combination of Regulatory Focus Theory and risk-related constructs. Third, we test the interaction between risk-related constructs with perceived trust in the relationship with intention to disclose personal information in mobile payment apps.

MOBILE PAYMENT APPS

Mobile payment has offered numerous social and economic benefits because it incurs lower costs than cash-based services and other card payment systems (Arvidsson, 2014). Therefore, consumers are encouraged to use mobile payment services. Many studies have been conducted to examine factors affecting the intention of using mobile payment services in developed countries (e.g.: Ondrus & Pigneur, 2006; Schierz et al., 2010). However, in an emerging market like Vietnam, few studies related to mobile payment have been conducted. Although Vietnamese merchants do offer a wide range of payment options, the most favorable payment options are bank transfer (88%), cash on delivery (82%), credit cards (60%) and offline POS (47%) (Austrade, 2019). Therefore, a key question that needs to be answered is "What are barriers towards the adoption of mobile payment in Vietnam?".

Main mobile payment services in Vietnam include MoMo, Moca, VNPay, ZaloPay, ViettelPay, AirPay, WePay, BankPlus, which have official partnerships with major banks in Vietnam, international credit organizations and network providers in Vietnam. Users can make transactions related to money transfer, mobile top up, payment for utility bills, education fees, transportation, entertainment activities, online shopping or even payment at stores. According to a report conducted by Q&Me (2019), mobile payment users have enjoyed numerous benefits of mobile payment. Some of these include easiness of payment (chosen by 73% of respondents), quick transaction (68%), easy money transfer (62%), good discounts and promotions (62%), easy store payment (46%), low transfer cost (36%) and good security (26%).

However, many consumers now are still confused about whether or not to adopt mobile payment apps. Among main reasons for not using mobile payment reported by Q&Me (2019), concerns on the security rank the top, chosen by 32% of respondents. In order to use mobile payment services, consumers need to first download mobile apps and sign up an account. They are asked to provide personal information such as name, mobile number, email address, credit card number, or bank

account information. Many are hesitant to disclose this personal information because they are afraid that this will be hacked or transferred to other organizations. Therefore, it is essential to explore factors that may determine consumers' intention to disclose personal information in mobile payment apps.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Intention to Disclose Personal Information in Mobile Payment Apps

Previous research has revealed crucial predictors of intention to adopt mobile payment apps and disclose personal information there. Perceived usefulness, compatibility, trialability, additional values, innovativeness and absorptive capacity are found to be positively correlated to intention to adopt mobile payments apps and disclose personal information while perceived risks and attractiveness of alternatives are reported to negatively influence consumers' intention to do so (Pham & Ho, 2015; Wang et al., 2016). Similarly, perceived benefits and perceived risks of information disclosure were found to be crucial determinants of perceived value and psychological comfort of information disclosure which will further strengthen consumers' intention of personal information disclosure in mobile payments apps (Yang *et al.*, 2020). Gong *et al.* (2019) postulated that consumers are less willing to have a sense of privacy concerns and more willing to disclose their personal information on mobile payments apps when they are assured that their information privacy is protected.

These studies have largely adopted the Technology Readiness Index (TRI) (Parasuraman & Colby, 2015; Humbani & Wiese, 2019); Technology Acceptance Model (TAM) (Shaw, 2014; Nguyen *et al.*, 2016); Theory of Planned Behavior (TPB) (Nguyen *et al.*, 2016), Privacy Calculus Theory (Wang et al. 2016; Yang *et al.*, 2020) or the combination of these theories. However, these models have been criticized to overlook significant concepts that may influence the intention of personal information disclosure (Pavlou & Fygenson, 2006; Hansen et al. 2018). To predict behavioral intentions in mobile payment which involves risks of personal information disclosure, Regulatory Focus Theory (RFT) tends to be a better theoretical framework (Chang *et al.*, 2019). Therefore, this research is a response to call for further research to broaden the understanding of determinants of the intention of disclosing personal information in mobile payment apps from the lens of regulatory focus and risk-related constructs.

Regulatory Focus Theory

RFT (Higgins & Crowe, 1997) has been applied to explain people's motivation to approach positive targets and avoid negative ones. Regulatory focus and risk-taking are crucial implications for decision-making and problem-solving strategies. RFT has also gained prominence in consumer research (e.g.: Pham & Avnet, 2004; Pham & Higgins, 2005), especially in risky decision-making (Bryant & Dunford, 2008), risky information processing style (Förster et al., 2003) or outcome categorization under uncertain conditions (Molden & Higgins, 2004). These empirical studies have supported the important roles of regulatory focus in processes related to persuasion, self-regulation and choice of behaviors. Furthermore, antecedents of risk propensity and risk perception are mainly shown to be one general construct of regulatory focus (Bryant & Dunford, 2008). In addition, there remains limited understanding on how risk propensity and risk perception interact with perceived trust to predict behavioral intention in the context of mobile payment.

Types of Regulatory Focuses

There are two types of self-regulatory focuses which motivate people to behave: promotion regulatory focus and prevention regulatory focus.

With a *promotion regulatory focus*, human behaviors are regulated through aspirations and accomplishments they would like to achieve. They favor approach strategies and pursue their goals because of gains and non-gains. Therefore, promotion regulatory focus is associated with the

importance of potential gains and means to achieve them. People with promotion focus tend to be eager, risky and oriented towards attaining gains as positive outcomes of their behaviors, and therefore are more inclined to act and encourage more intense risk-seeking behaviors (Bryant & Dunford, 2008).

With a *prevention regulatory focus*, human behaviors, are regulated through duties and responsibilities to avoid undesired self-states. They tend to pursue their goals because of losses and non-losses. Therefore, prevention regulatory focus is associated with the avoidance of potential losses. Prevention regulatory focused people tend to be more cautious and oriented towards avoiding losses as negative outcomes of their behaviors, and therefore are more inclined not to act (Bryant & Dunford, 2008).

Higgins & Crowe (1997) have stated that regulatory focus plays important roles in risky decision making by influencing the effect of outcome history on risk propensity from the perspective of promotion regulatory focus and the effect of problem framing on risk perception from the perspective of prevention regulatory focus. Accordingly, promotion focus oriented people would produce a propensity to take risks whereas prevention focus oriented ones would produce a propensity not to take risks. Empirically, Bryant & Dunford (2008) confirmed that in promotion-focused individuals, the commission of risk provokes intense risk-seeking behaviors while among prevention-focused individuals, commission of risk results in risk-avoidance behaviors. Thus, we argue there could be a relationship between promotion regulatory focus and risk propensity and between prevention regulatory focus and risk perception. In mobile payment apps, consumers need to evaluate benefits and risks when they are asked to disclose personal information. We expect that consumers with promotion orientation tend to focus greater attention on positive signals (Pham & Higgins, 2005). This might produce an exploratory risk-seeking bias and thus fosters risk-taking behavior (Bryant & Dunford, 2008). In contrast, consumers with prevention orientation tend to be concerned with insuring “correct rejections” (Higgins & Crowe, 1997). This might produce a risk avoidance bias and thus fosters risk-averse behavior (Bryant & Dunford, 2008). Hence, we hypothesize that:

Hypothesis One: Promotion regulatory focus are positively related to risk propensity.

Hypothesis Two: Prevention regulatory focus are positively related to risk perception.

Risk Propensity

Risk is often referred to as one overall dimension and recently categorized into risk propensity and risk perception. Sitkin and Pablo (1992) define risk propensity as the tendency to take risks and theorize that risk propensity has a direct influence on risk related behaviors. This significant correlation between risk propensity and risky decision making has been tested in many empirical studies. For example, according to Maccrimmon & Wehrung (2020), risk propensity is likely to influence the intention of taking risk. In another research, individuals’ propensity to take or avoid risks is proposed to influence their decision making under conditions of risk and uncertainty (Hamid *et al.*, 2013). Similarly, risk propensity refers to the tendency to take risky actions and affects self-disclosure in the context of social networking sites (Nicolaou & McKnight, 2006). In mobile payment context, personal information disclosure is assumed to be risky. Therefore, the willingness to disclose personal information might be affected by consumers’ risk propensity. Hence, we hypothesize that:

Hypothesis Three: Risk propensity is positively related to intention of disclosing personal information in mobile payment apps.

Risk Perception

Risk perception originates from feeling of uncertainty or anxiety about or fear for negative consequences of behaviors (Slade *et al.*, 2015). Those who perceive higher risk levels in a risky situation associate risks with negative consequences. Hence, they tend to make fewer risky decisions.

In contrast, those who perceive lower risk levels are more likely to make more risky decisions. In line with this, extant literature has extensively studied risk perception as a factor influencing consumer behavioral intention. On the one hand, perceived risks are found to be negatively associated with customers' intentions, for example consumers' resistance to mobile services related to finance (Yang *et al.*, 2012). Besides, perceived risks have been concluded to negatively influence consumers' intention of adopting e-commerce (Herrero & San Martín, 2012), remote or mobile payment systems (Slade *et al.*, 2015). Similarly, numerous studies have indicated that constructs related to risk perception negatively affect consumers' intention toward the adoption of mobile payment, for example, probability of loss (Pham & Ho, 2015); or discomfort and insecurity (Parasuraman, 2000). On the other hand, the negative relationship between perceived risk and customers' intention is rejected in some other studies. For instance, perceived risk does not negatively influence customers' intention to use mobile payment (Tan *et al.*, 2014; Kapoor *et al.*, 2015). Additionally, empirical evidence of Muñoz-Leiva *et al.* (2017) cannot confirm the negative effect of perceived risk on the intention to use the m-banking application. However, disclosing personal information is assumed to be a risky in terms of credit card fraud, privacy concern or lack of guarantees (Van Noort *et al.*, 2008). Due to this inconsistency in existing literature between these two constructs, there is a clear need to examine if there exists a negative relationship between risk perception and intention to disclose personal information in mobile payment apps. Therefore, we hypothesize that:

Hypothesis Four: Risk perception is negatively related to intention of disclosing personal information in mobile payment apps.

Perceived Trust

Trust is often defined as a subjective belief that a party will fulfil their obligations (Lu *et al.*, 2011), and service providers perform a particular action that is important to their customers (Fang *et al.*, 2011). Wang and Lin (2017) proposed that a tacit relationship between customers and service providers will incur trust. They argued that customers will develop trust if service providers perform actions for customers' benefits. In mobile payment, perceived trust of consumers results from having personal information protected.

Existing literature has confirmed the important roles that perceived trust plays in behavioral intention, especially in uncertain financial transactions (Lu *et al.*, 2011; Zhou, 2013). Similarly, Slade *et al.* (2015) also supported this view by demonstrating the positive influence of trust in providers on consumers' intention to use mobile payment. Besides the direct effect, empirically, perceived trust has been found to interact with different types of regulatory fit (promotion focus or prevention focus) to enhance the influences of these regulatory focus on consumer purchase intention in the setting of social media (Chang *et al.*, 2019). Therefore, it is reasonable for us to argue that perceived trust may play a moderating role in the relationship between two risk-related constructs and the intention to disclose personal information in mobile payment apps because these two settings have similar levels of risks and uncertainty.

As previously discussed, individuals with high levels of risk propensity are more susceptible to risk taking (Mccarthy, 2003). They are more prone to adventurous ideas and are more motivated for specific risk taking such as financial or career risk taking (Nicholson *et al.*, 2005). How about consumers who have high levels of both risk propensity and perceived trust? Compared to those who only have a high level of perceived trust, these people are open to more novel experiences and new ideas. They are more likely to take risk to achieve the gains they desire than those who only have a high level of perceived trust. The logic of this argument is that these promotion-focus oriented consumers are motivated by self-standards based on wishes and aspirations of how they tend to advance and create circumstances (Bryant & Dunford, 2008). Under this condition, they are motivated to bring themselves aligned with their ideal selves to attain their desired self-states. Accordingly, they tend

to appreciate the importance of potential gains and will use eagerness approach to achieve their desired goal. Thus, if consumers aim at using mobile payments apps for easy, convenient and secure transactions, it will motivate them to attend to potential gains of doing so. This will strengthen the relationship between promotion regulatory focus and the intention of personal information disclosure.

Therefore, we hypothesize:

Hypothesis Five: Perceived trust positively moderates the impact of risk propensity on the intention to disclose personal information in mobile payment apps.

On the other hand, individuals who have high levels of risk perception are more uncertain about negative consequences of their behaviors. Thus, when their risk perception is high, they are less willing to take risks to avoid mistakes or consequences (Herrero & San Martín, 2012; Yang *et al.*, 2012). On the other hand, what if consumers have high levels of risk perception but low perceived trust?

Normally, it is believed that the effect of risk perception on behavioral intention is different when the level of perceived trust is low versus when the level of perceived trust is high. For example, in the social media context, Chang *et al.* (2019) suggest that different types of perceived trust have moderating effects on the link between promotion/prevention regulatory fit and purchase intention in the social media context. Similarly, according to Grazioli *et al.* (2001), perceived trust was hypothesized to be a moderator in the link between risk perceptions and attitudes about the economic commercial website. They argued that when trust is high, risk perceptions have less of an impact on the formation of attitudes about the economic commercial website. However, this hypothesis was not supported with empirical evidence. Starting from these mixed findings, we argue that it is necessary to investigate the moderating effect of perceived trust in the risk perception – intention relationship in the context of mobile payment. As shown in many previous studies, individuals with low levels of perceived trust are less likely to have an intention for their consumer behaviors. The logic embedded in this argument is that under the interaction between high levels of risk perception and low level of perceived trust, consumers will be more unlikely to intend to do what they are considering in uncertain or risky contexts and vice versa. Therefore, we posit the following hypothesis:

Hypothesis Six: Perceived trust negatively moderates the impact of risk perception on intention to disclose personal information in mobile payment apps

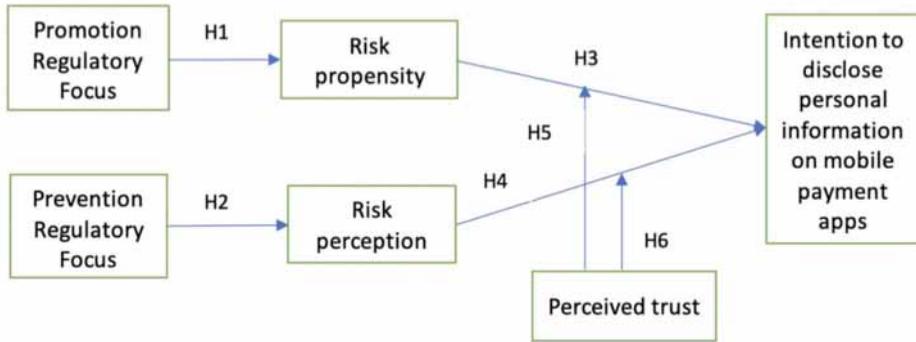
This research proposes that risk propensity is a key facilitator of personal information disclosure intention while risk perception is a major inhibitor of this intention. Additionally, risk propensity is determined by promotion regulatory focus while prevention regulatory focus is a predictor of risk perception. Furthermore, perceived trust plays the moderating role in the relationship between risk related constructs and intention to disclose personal information. Figure 1 presents the proposed theoretical framework.

METHOD

Research Design

This research employed a self-administered survey to empirically test the hypotheses proposed. Measurement scales were adapted from existing ones from prior studies. Measures of promotion regulatory focus and prevention regulatory focus were modified from Haws *et al.* (2010) with 5 items. Items to measure risk propensity, risk perception and perceived trust were adapted from Hansen *et al.* (2018). Finally, measurement items developed by Nguyen & Huynh (2018) were employed to

Figure 1. Proposed conceptual framework



measure the intention to disclose personal information in mobile payment apps. These scales were in five-point Likert type. First, fifteen students who are part of the target respondents were invited to participate in the pilot study to assess the length and the layout of the survey, the face validity of the scales and the clarity of the questions. Then, feedback from the pilot study were used to modify some of the questions to improve clarity and readability of the instrument.

Data Collection and Analysis

Target respondents for this present research were young people aged between 18 and 29 years old in Hanoi. Respondents of this age group were chosen in a convenience sampling approach in a self-administered online survey questionnaire through Google Docs because they were the most likely to use mobile payment apps and therefore will disclose their personal information there. According to a recent report of Q&Me (2019), 63% of young people aged between 18 and 29 years old in Hanoi and Hochiminh (281 out of 383 respondents in their 2019 survey) are using mobile payment apps. Therefore, respondents from this age group were properly representative for this present research. A pilot survey aimed was conducted first with about 10-15 respondents in the sample to objectively measure validity and reliability questionnaire. Then based on suggestions and comments from the pilot study, changes in wording of the questions can be made to ensure the clarity and conciseness of the questionnaire. The questionnaires then are delivered to collect data. After that, the data were analyzed with the statistical software of SPSS22 and AMOS to test the research model and hypotheses proposed. The sample demographics is represented in Table 1.

Table 1. Demographic profile of respondents

| Variable | Categories | Percentage |
|--------------------|------------------------|------------|
| Gender | Male | 24.6 |
| | Female | 75.4 |
| Age | Under 20 | 66.5 |
| | 21-30 | 28.4 |
| | Above 31 | 5.1 |
| Place of residence | Hanoi | 86.6 |
| | Other cities/provinces | 14.3 |

RESULTS

Reliability and Validity of Measurement Scales

First of all, exploratory factor analysis (EFA) was conducted with SPSS 22.0 on all items to identify underlying factors and assess the degree of unidimensionality of measures. to ensure the acceptable reliabilities and validities of the measures. After that, a confirmatory factor analysis (CFA) was performed for the overall measurement model. Table 2 presents the measurement items used and the results of the reliability and convergent tests from CFA.

As can be seen from Table 2, standardized factor loadings (λ) of all items are higher than 0.6, the average variance extracted (AVE) of all constructs is higher than 0.5 and composite reliability (CR) of all constructs is also higher than 0.8. Therefore, the measures have adequate convergent validities and reliabilities (Hair et al., 2010).

The discriminant validity tests of the constructs are illustrated in Table 3.

Table 3 shows that the AVEs are greater than the correlation squared between variables as estimated in the measurement model. Thus, the discriminant validity of the measures are adequate (Fornell & Larcker, 1981).

Hypotheses Testing Results

After the reliabilities and validities of the measures used were assessed, we conducted a structural equation modelling to test the proposed research hypotheses. The overall fit measures of the structural model indicate the adequate fit (Chi-square = 309.781; DF = 196; Chi-square/DF = 1.581; CFI = .967; TLI = .962; GFI = .923; RMSEA = .043) (Hair et al., 2010). Table 4 is a summary of the hypothesis testing results.

It is clear from Table 4 that regulatory promotion focus and regulatory prevention focus are positively and significantly related to risk propensity and risk perception, respectively (β 0.406 =, p-value < 0.001 and β = 0.322, p-value < 0.001). Thus, H1 and H2 were supported. Next, the estimates showed that the paths from risk propensity to intention to disclose personal information in mobile payment apps are also significant and positive (β = 0.447, p-value < 0.001), supporting H3. Meanwhile, the paths from risk perception to intention to disclose personal information in mobile payment apps are significant and negative (β = -0.328, p-value < 0.001). Thus, H4 was supported. Regarding the moderating role of perceived trust, the paths from perceived trust to the relationship between risk propensity and intention to disclose personal information on mobile payment apps were significant and positive (β = 0.126, p-value < 0.05). On the other hand, the paths from perceived trust to the relationship between risk perception and intention to disclose personal information on mobile payment apps were, significant and negative (β = -0.157, p-value < 0.05). Therefore, H5 and H6 were supported, confirming the moderating role of perceived trust as proposed in the model.

DISCUSSION AND CONTRIBUTION

In general, the provided results collected from our research has confirmed our hypotheses regarding Vietnamese customers' willingness to disclose personal information in mobile payment apps. To be more specific, Vietnamese customers within the age of 18 and 29 who are identified to be more motivated by promotion regulatory focus are also measured to possess high level of risk propensity, which are also positively correlated with perceived trust, and thus are more willing to disclose personal information in mobile payments apps. In contrast, targeted customers who are identified to be more prevention oriented are reported to display more behaviors of risk perception, whose impacts are negatively correlated with perceived trust, and thus are more likely to avoid disclosing personal information in mobile payment apps. Our findings using the regulatory focus theory are in line with previous research on similar topics which are mainly based on the Technology Readiness

Table 2. Reliability and convergent validity of the measurement scales

| Construct | Measurement items | λ | AVE | CR |
|---|---|-----------|-------|-------|
| Regulatory promotion focus | 1. When it comes to achieving things that are important to me, I find that I perform as well as I would ideally like to do. | 0.781 | 0.519 | 0.843 |
| | 2. I feel like I have made progress toward being successful in my life. | 0.728 | | |
| | 3. When I see an opportunity for something I like, I get excited right away. | 0.690 | | |
| | 4. I frequently imagine how I will achieve my hopes and aspirations. | 0.699 | | |
| | 5. I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill my hopes, wishes, and aspirations. | 0.700 | | |
| Regulatory prevention focus | 1. I usually obeyed rules and regulations that were established by my parents. | 0.706 | 0.528 | 0.848 |
| | 2. Being careful prevents me from getting into trouble. | 0.793 | | |
| | 3. I worry about making mistakes. | 0.685 | | |
| | 4. I frequently think about how I can prevent failures in my life. | 0.740 | | |
| | 5. I see myself as someone who is primarily striving to become the self I “ought” to be—fulfill my duties, responsibilities and obligations. | 0.703 | | |
| Risk propensity | 1. I am willing to take substantial risks to disclose personal information in mobile payment apps. | 0.845 | 0.677 | 0.862 |
| | 2. I am willing to accept some risk of losing money if personal information disclosure is likely to involve an insignificant amount of risk. | 0.861 | | |
| | 3. I am willing to accept some risk to my personal information if mobile payment apps is likely to involve an insignificant amount of risk. | 0.758 | | |
| Risk perception | 1. Mobile payment is not welcome everywhere. | 0.732 | 0.516 | 0.905 |
| | 2. It is difficult to get a refund with mobile payment. | 0.657 | | |
| | 3. It is a symbol of success. | 0.776 | | |
| | 4. I will have more time to pay my bill. | 0.674 | | |
| | 5. I may be robbed if I carry large amounts of cash. | 0.711 | | |
| | 6. My shopping habits and purchasing behaviors are tracked from mobile payment apps. | 0.662 | | |
| | 7. I am contacted by companies without my consent from mobile payment apps. | 0.727 | | |
| | 8. Personal information is accessed from mobile payment apps. | 0.801 | | |
| | 9. Credit information is accessed from mobile payment apps. | 0.710 | | |
| Perceived trust | 1. Mobile payment apps are trustworthy | 0.630 | 0.590 | 0.876 |
| | 2. I trust that mobile payment apps keeps my best interests in mind. | 0.636 | | |
| | 3. I think that mobile payment apps have sufficient technical capacity to ensure that no other organization will supplant its identity on the Internet. | 0.824 | | |
| | 4. I think that mobile payment apps have sufficient technical capacity to ensure that the data I send will not be intercepted by hackers. | 0.871 | | |
| | 5. I think that mobile payment apps have sufficient technical capacity to ensure that the data I send cannot be modified by a third party. | 0.843 | | |
| Intention to disclose personal information in mobile payment | 1. I have an intention to disclose personal data in mobile payment apps. | 0.856 | 0.722 | 0.910 |
| | 2. I have a plan to disclose personal data in mobile payment apps in the future. | 0.893 | | |
| | 3. I am willing to disclose personal data in mobile payment apps in the future. | 0.887 | | |

Index, Theory of Planned Behavior, and Privacy Calculus Theory (Pham & Ho, 2015; Wang et al., 2016; Yang et al., 2020; Gong et al. 2019). Moreover, our study has expanded the existing knowledge by providing a more complete framework incorporating various factors besides perceived risks and perceived benefits that affect each other and ultimately affect customers’ behaviors.

Table 3. Discriminant validity of measurement scales

| Constructs | (1) | (2) | (3) | (4) | (5) | (6) |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| 1. Intention to disclose personal information in mobile payment | 0.722 | 0.142 | 0.015 | 0.307 | 0.088 | 0.056 |
| 2. Regulatory promotion focus | | 0.519 | 0.075 | 0.066 | 0.001 | 0.099 |
| 3. Regulatory Prevention focus | | | 0.528 | 0.039 | 0.125 | 0.016 |
| 4. Risk propensity | | | | 0.677 | 0.003 | 0.164 |
| 5. Risk perception | | | | | 0.516 | 0.008 |
| 6. Perceived trust | | | | | | 0.590 |

Note(s): Numbers in the diagonal are the average variances extracted (AVEs). Other numbers are correlation squared between variables.

Table 4. Hypothesis testing results

| # | | | | Estimate | S.E. | C.R. | P | Supported |
|----|------------|------|--------------------|----------|-------|--------|--------|-----------|
| H1 | Propensity | <--- | Promotion | 0.406 | 0.093 | 4.38 | <0.001 | Yes |
| H2 | Perception | <--- | Prevention | 0.322 | 0.06 | 5.331 | <0.001 | Yes |
| H3 | Intention | <--- | Propensity | 0.447 | 0.059 | 7.608 | <0.001 | Yes |
| H4 | Intention | <--- | Perception | -0.328 | 0.07 | -4.673 | <0.001 | Yes |
| H5 | Intention | <--- | c.Trust.Propensity | 0.126 | 0.058 | 2.151 | <0.05 | Yes |
| H6 | Intention | <--- | c.Trust.Perception | -0.157 | 0.072 | -2.185 | <0.05 | Yes |

Theoretically, this study has contributed to the literature of personal information disclosure from the perspective of both regulatory focus and risk taking. The proposed research model integrated the influence of promotion regulatory focus and prevention promotion focus on risk propensity and risk perception, respectively. It is also the first study to explore the interaction between risk propensity, risk perception and perceived trust in the risk-intention relationship to develop a full mechanism under which consumers are more willing to disclose personal information in mobile payment apps, hence more motivated to use mobile payment for their transactions.

Practically, findings from the study will first help mobile payment service providers establish a clearer insight into how consumer risk propensity and risk perception are formed and how their intention to disclose personal information is enhanced in mobile payment apps. Second, we expect that perceived trust will strengthen the impact of risk propensity on consumers' intention to disclose personal information and negatively influence the impact of risk perception on consumers' intention to disclose personal information in mobile payment apps. In that case, mobile payment service providers will need to boost consumers' perceived trust to persuade them to disclose their personal information and use mobile payment apps. For instance, they might consider describing clearly how mobile technology is exploited to make sure that their information privacy and security is protected. In order to manage consumers' risk perception, regulations regarding ICT infrastructure or privacy protection must be initiated by authorities and performed by mobile payment service providers. By doing so, consumers will be assured that their private information is secured and will be more willing to disclose it if asked in mobile payment apps to ease or speed up their financial transactions.

LIMITATIONS AND CONCLUSION

However, it should be acknowledged that the generalizability of this research can be undermined first by the limited pool of target respondents, which as mentioned above are Hanoi's residents aged 18 to 29. Although respondents from this demographic were representative of this present research, there would have been variables in the data collected had the study been conducted in a different location, in multiple locations, with a different age group, or with multiple age groups. In addition, although the convenience sampling approach used in our study is sufficient in proving a relationship between regulatory focus, risk taking, and customers' behaviors, it might be lacking in displaying the bigger picture of the situation. Hence, further empirical studies are required to be carried out, preferably on a larger scale and with a different sampling method, in order to test and improve upon our proposed model.

In conclusion, our study has provided a theoretical model that incorporates regulatory focus, risk propensity and perception, perceived trust, and their interactions that ultimately affect Vietnamese young people's intention to disclose personal information on mobile payment apps. However, our model is required to be further researched and tested in future studies with a different demographic and research methods in order to increase its reliability.

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Mai Thi Thu Le, PhD student, is a senior lecturer in the Faculty of Foreign Languages for Economics, National Economics University. She received MBA in Marketing and Advertising at Solvay Brussels School Economics & Management (cooperated with National Economics University) in 2014. She has been doing her doctorate studies at National Economics University since 2018. Her research interests include marketing and management, green consumption, social science, social applied psychology.