

## Go digital: can the money-gift function promote the use of e-wallet apps?

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### Abstract

**Purpose:** One of the impacts of the COVID-19 pandemic is that using an e-wallet—a contactless process—rather than a payment terminal is an intuitively safer option. This study is grounded in cognitive absorption theory and investigates how the use of the money-gift function influences the intention to continue using an e-wallet app.

**Design/methodology/approach:** Using a cross-sectional approach, a structured questionnaire was designed and distributed to the target respondents in Malaysia through social media platforms. The data were collected with purposive sampling and a total of 350 eligible responses were analyzed with partial least square–structural equation modeling (PLS–SEM).

**Findings:** Cognitive absorption significantly influenced the perceptions of e-wallet apps (perceived ease of use and perceived usefulness). The intention to continue using an e-wallet app was positively predicted by attitude and subjective well-being. Furthermore, this study found that the path between attitude and the intention to continue use was mediated by subjective well-being, whereas perceived security moderated the path between cognitive absorption and perceptions of an e-wallet app.

**Practical Implications:** The results offer much-needed broad guidance for e-wallet service providers. In particular, the findings reveal how implementing money-gift functions promotes various positive outcomes that influence the intention to continue using an e-wallet app.

**Originality/value:** Previous research on e-wallets considered only the basic characteristics of an e-wallet app when studying continuous usage. Few studies have empirically examined the innovative function of money gifts. Therefore, this study is among the first to offer empirical insights into how immersion and cognitive interaction with the money-gift function can influence user perceptions and behavior toward e-wallet apps.

**Keywords:** Cognitive absorption, perceived ease of use, perceived usefulness, perceived security, subjective well-being, continuance use intention, mobile payment, Malaysia

**Paper type:** Research paper

### 1. Introduction

The coronavirus pandemic has indirectly accelerated the transformation of service models in many industries. In the banking sector, for example, the introduction of a mobile wallet or electronic wallet application (hereafter referred to as an e-wallet app) has driven people to make contactless money transactions, such as for purchases. An e-wallet app uses a smartphone as a wallet in financial transactions (Mallat, 2007). Such apps may support credit

card payments and rely on near-field communication technology (“tap to pay”) and they often include incentives for users such as loyalty programs and coupons (Ooi and Tan, 2016; Teo *et al.*, 2015). Globally, e-wallet spending is expected to increase to USD 10 trillion in 2025 from USD 5.5 trillion in 2020 (Juniper Research, 2021).

During the pandemic and with the support of the government of Malaysia, the use of e-wallet apps began to gain momentum. Some of the leading e-wallet apps that are available include Touch 'n Go, Grab Pay, and Boost (Business Wire, 2020). The use of e-wallet apps among Malaysians is still relatively low compared with other developed countries. In China, for instance, over 60% of the population are active users (CB-Insights, 2021). As yStats.com (2020) reports, only two-fifths (40%) of the population in Malaysia are interested in adopting e-wallets for purchases, payments, and remittances. To facilitate e-wallet penetration, many service providers have integrated money gifts as an innovative feature to make their apps more entertaining and enjoyable (Wong *et al.*, 2021). The money-gift function is an important digital gift-giving app because it can minimize a person’s psychological and health risks during the pandemic while allowing users to exchange virtual blessings and preserve the spirit of celebration (The Straits Times, 2021). In addition, the money-gift features seem to have transcended conventional barriers to the use of modern payment technology (The Asean Post, 2021). Despite the popularity of this feature in many e-wallet apps, empirical studies investigating how this function could be ingeniously exploited to encourage the continued use of e-wallets remain scarce. Therefore, this study primarily aims to examine the effectiveness of the money-gift function in influencing users’ intentions to continue using an e-wallet app.

Most research in this area has considered only the basic characteristics of e-wallet apps when studying users’ intention to continue using them. These studies are grounded in two dominant theories in the information systems (IS) field: the technology acceptance model (TAM) and the unified theory of acceptance and use of technology (UTAUT). Studies tend to classify the factors influencing e-wallet use as either system characteristics or user-centric factors. For instance, the perceived ease of use, perceived usefulness, compatibility, mobility, and convenience of an e-wallet app are some of the system characteristics that would affect user acceptance (Kim *et al.*, 2010; Lew *et al.*, 2020; Liébana-Cabanillas *et al.*, 2014). Conversely, user-centric factors include personal innovativeness, self-efficacy, knowledge, uncertainty avoidance, and social influence (Schierz *et al.*, 2010; Liu and Tai, 2016).

To fill this gap in the literature, this study aims to provide new insights by examining how the immersion and cognitive interaction of the money-gift function can affect several facets of users' perceptions and behavior toward e-wallet apps. Motivated by the need to understand and incorporate holistic experiences with technology, this study employed cognitive absorption theory (CAT), which postulates that highly engaging and engrossing experiences in using technology will influence users' beliefs and continuity of use (Agarwal and Karahanna, 2000; Guo and Ro, 2008). The literature in the IT sphere has placed considerable emphasis on the necessity of users' involvement, concentration, and intrinsic interest to create favorable perceptions of a technological device (Jumaan *et al.*, 2020; Barnes *et al.*, 2019). In doing so, this research contributes to the literature in three ways.

First, we draw on CAT to identify the effectiveness of the money-gift function. By adopting Wong *et al.*'s explanation (2021), we postulated that the money-gift function allows users to exchange gifts of money with others. Given the increasing importance of using e-wallet apps, understanding how money-gift functions can be implemented more effectively during the COVID-19 pandemic is crucial. To outline how technological belief is shaped, Agarwal and Karahanna (2000, p. 666) proposed the term "cognitive absorption" (CA) to explain individuals' involvement in software. Many studies have identified CA as an intrinsic motivator that could significantly affect emotional assessments, future decisions, and behaviors when interacting with contemporary technologies that offer a variety of interfaces (Drengner *et al.*, 2018; Balakrishnan and Dwivedi, 2021). Additionally, intrinsic motivators have been found to more strongly explain individual perceptions and intentions to continue using technology (Barnes *et al.*, 2019; Davis *et al.*, 1992). It is, therefore, reasonable to explore CA as an important factor in understanding the perceived ease of use (PEOU) and perceived usefulness (PU) of an e-wallet app.

Second, we seek to unravel the use of subjective well-being (SWB) as a key mechanism to motivate the continued use of an e-wallet app. This corresponds to recent studies' findings that technological efficiency plays a vital role in empowering users to achieve better well-being (Lin and Windasari, 2019; Aboelmaged *et al.*, 2021). Several studies have consistently shown that when users adopt technology (e.g., mobile apps, virtual reality, or augmented reality technologies), they are expecting to experience a degree of SWB (e.g., being content or satisfied) that significantly affects their intention to continue using the technology (Kim and Hall, 2019; Kim *et al.*, 2020). It is interesting to develop an extensive understanding of how

the perception of SWB while using e-wallet apps can reinforce the link between users' attitudes and the intention to continue using the technology.

Finally, we delineate perceived security as a moderator to provide a more nuanced understanding of the boundary conditions embedded in the relationship between CA and perceptions of e-wallet apps. This is driven mainly by the inherent risk of sending money via an e-wallet app, as in any online transaction (Moghavvemi *et al.*, 2021; Khanra *et al.*, 2021). Prior research has shown that a concern for security often depends on an individual's emotional state, whether positive or negative (Dinev *et al.*, 2015; Alashoor *et al.*, 2018). Positive emotional states result in overestimating benefits and underestimating risks as they diminish the influence of information sensitivity when using technology. Therefore, our study considers how perceived security on e-wallet apps simultaneously and differentially moderates the positive impact of CA on PEOU and PU.

By synthesizing the preceding findings, this study aims to provide e-wallet service providers with many implications, particularly about designing an engaging app that can motivate continued use. The next section of this paper focuses on the theoretical model and research hypotheses. Next, the methodology and results are presented. Then, we provide a discussion and implications. The conclusion and future research directions end this paper.

## **2. Theoretical Model and Hypotheses**

### **2.1 Cognitive Absorption Theory**

The theoretical base of CAT was derived from three closely interrelated streams of research. First, the *absorption trait* represents a personality trait that measures the state of deep attention a person experiences when engaged with an object (Tellegen and Atkinson, 1974). Second, Webster and Ho (1997) introduced the term *cognitive engagement*, extending the concept of the absorption trait to encompass curiosity, playfulness, and intrinsic interest when immersed in technology. Third, *the state of flow* was described as "the state in which people are so involved in an activity that nothing else seems to matter because the experience itself is so enjoyable" (Csikszentmihalyi, 1990, p. 4). Flow is associated with specific characteristics of software and technology use. This term is thus recognized as an important element when understanding the interaction between humans and technology (Hsu, 2020).

Agarwal and Karahanna (2000) combined these ideas to suggest that using CAT enables researchers to comprehend individuals' holistic experiences with technology. CAT particularly seeks to describe the degree of pleasure and immersion a person feels while

interacting with technology as well as how time is perceived while using it (Saadé and Bahli, 2005). This theory is centered on the fact that intrinsic factors are the salient belief that leverage an individual motivation to use or learn a particular technology (Agarwal and Karahanna, 2000; Reychav and Wu, 2015). For instance, IS scholars have employed this theory to understand internet gaming addictions (Barnes and Pressey, 2014), smartphone addictions (Barnes *et al.*, 2019), the use of recommendation agents (Ghasemaghaei, 2020), Facebook (Rouis *et al.*, 2011), mobile collaborative learning (Reychav and Wu, 2015), and artificial intelligence chatbots (Balakrishnan and Dwivedi, 2021). Building upon this evidence, this study presumed that users who experience high CA when using a money-gift function will positively perceive the overall functions of an e-wallet app, which, in turn, results in positive perceptions, feelings, or behavioral outcomes. Individual cognitive processes and the intensification of a particular experience influence the intention to continue using technology, supporting this assumption. Hence, users who enjoy and become involved in a system will exhibit high CA that may result in a framing effect that makes users perceive the system more favorably than non-users (Turel *et al.*, 2011; Barnes *et al.*, 2019). Essentially, examining the interrelationship between CA and continuous use allows us to understand which routes drive individuals to harbor certain beliefs about the use of technology. This would help scholars understand why some users are more deeply involved with a particular technology. In the next sections, seven hypotheses are presented according to the research model (see Figure 1).

[Insert Figure 1 here]

## 2.2 Cognitive Absorption

Motivated by a desire to better understand the impact of holistic experiences on behavior, this research considered CA as an intrinsic motivation variable to investigate how it influences users' perceptions when using e-wallet apps. As conceptualized by Agarwal and Karahanna (2000), CA manifests through five core dimensions:

- (i) *Temporal dissociation* refers to an individual's lack of engagement with time, including the inability to perceive the passage of time accurately due to deep engagement with technology.
- (ii) *Focused immersion* refers to an intensive experience in which an individual engages fully with the technology and ignores other things.
- (iii) *Joy* refers to the pleasurable aspects of engaging with using technology.
- (iv) *Control* refers to the perception that an individual is fully in charge of the interaction by using technology.

- (v) *Curiosity* refers to the extent to which the experience of engaging with technology triggers an individual's sensory and cognitive inquisitiveness.

Several prominent studies have provided evidence that CA can contribute to both PEOU and PU. Venkatesh (1999) posits that a state of intrinsic motivation would increase perceptions of the ease of use. Similarly, Jumaan *et al.* (2020) have shown that CA helps users reduce their cognitive burden while using technology as a feeling of pleasure leads to an unconscious increase in effort. Conversely, the connection between CA and PU stems from self-perception theory, which asserts that people try to justify their behaviors to avoid cognitive dissonance (Festinger, 1976). In this case, CA indicates a delightful experience that continues to affect a user's perceptions of usefulness, makes them feel content with the technology, and inspires them to re-experience it as frequently as possible (Hausman and Siekpe, 2009). By adopting a similar stance, our study anticipates that users in CA will feel a lower cognitive burden when using the money-gift function, which will translate into a satisfactory mental state. Therefore, the positive experience of CA will improve users' perception (i.e., the PEOU and PU) of an e-wallet app. The hypotheses proposed are:

*H1a: CA is positively related to the PEOU.*

*H1b: CA is positively related to the PU.*

### 2.3 Perceived Ease of Use and Perceived Usefulness

In the IS field, the TAM was recognized as a robust and parsimonious framework that provides a strong understanding of the interrelationships between factors that trigger attitudes toward new technology (Davis, 1989). This theory showed that "belief" is the core factor that influences individual decisions emotionally or cognitively at a given moment (Wu and Wang, 2005). This postulation can be justified because beliefs shape an individual's thinking, which ultimately translates into certain behaviors. As most studies indicate, both PEOU and PU are evidence of the strongest and most persistent beliefs that influence the users' attitudes toward mobile apps (Ozturk *et al.*, 2016; Vahdat *et al.*, 2021).

Generally, PEOU refers to the extent to which the operation of a technological system is smooth, simple, and effortless, while PU refers to the extent to which the adoption of technology increases the efficiency of an individual's work and performance (Davis, 1989). In reviewing previous electronic banking literature, both PEOU and PU were found to favorably influence users' intentions to use mobile banking apps consistently (Yan *et al.*, 2021; Yoon *et al.*, 2020). This is particularly true for e-wallet services, which must be designed with simple and easy-to-manipulate functions to stimulate users' interest in adopting them for daily

transactions to replace a physical wallet. Similarly, when users are aware that using an e-wallet app is beneficial and responsive to their needs, they are more likely to have a positive attitude toward it. In Malaysia, Tan *et al.* (2014) also emphasized that users tended to favorably perceive mobile payment services if the learning process was worry-free. Similar findings have been reported for PU; users have positive attitudes toward smartphone credit cards if they make the payment process more efficient and convenient (Ooi and Tan, 2016). Building on the paradigm of TAM and these findings, this study suggests that users are more likely to use an e-wallet app if it requires less effort to manipulate and can deliver several benefits. Hence, the hypotheses are:

*H2: PEOU is positively related to attitude.*

*H3: PU is positively related to attitude.*

#### 2.4 Attitude

According to Baek (2013), attitude is part of a cognitive reaction that indicates a willingness to continue using a particular object. In the IS field, attitude is a multifaceted construct with cognitive and emotional components that indicates the positive or negative beliefs about a technological device formed by previous experience (Shih, 2011; de Luna *et al.*, 2019). As attitude is an assessment of system experience users with a favorable attitude toward a system are expected to continue using it (Hsu and Lin, 2016). For example, studies have revealed attitude as a prerequisite for predicting the intention to use e-banking channels (Inegbedion *et al.*, 2019), QR code payments (Liébana-Cabanillas *et al.*, 2014), and mobile payments (Fan *et al.*, 2018).

Furthermore, researchers have begun to study how the use of technology can predict SWB to achieve sustainable development goals. Although attitude is often used as a measure of users' satisfaction in studies of technology use, recent research has indicated that using the notion of SWB may create a more extensive picture of how individual lives are improved by technology (Gerson *et al.*, 2016; Stead and Bibby, 2017). Prebensen and Xie (2017) have shown that positive feelings about using a product increase the degree of SWB. Similarly, a mobile app that is perceived as functional and pleasurable would positively affect users' SWB (Lee *et al.*, 2014). By synthesizing prior research, this study assumes that a favorable attitude toward an e-wallet app will significantly influence SWB and the intention to continue using the e-wallet app. Thus, the following hypotheses are proposed:

*H4a: Attitude is positively related to SWB.*

*H4b: Attitude is positively related to the continuance use intention.*



## 2.5 Subjective Well-Being

Diener (1984) defined SWB as the experience of happiness, including high satisfaction and positive affect, that can be acquired when a goal or need is achieved. Individuals with a high SWB score are “blessed with a positive temperament, tend to look on the positive side, and have sufficient resources to advance the goals” (Diener *et al.*, 1999, p. 295). Recently, this concept has proven a significant factor driving the continued use of technology. As Yoon (2014) stressed, when individuals have an opportunity to use a technology they prefer, they are more likely to experience SWB, which ultimately improves their life.

From the domain of IS, several studies have examined the consequences of SWB. For example, Li *et al.* (2011) investigated how SWB increased the motivation to play virtual reality games. Comparably, the SWB derived from the use of technology such as mobile health apps and social media apps is expected to motivate users to use apps continuously (Aboelmaged *et al.*, 2021; Yoon, 2014). Additionally, research has also thoroughly documented positive emotions (i.e., attitude) while using technology will increase perceived SWB (Singh *et al.*, 2017). For example, the advantages of using an e-wallet app include storing debit and credit card information, making the payment process more convenient and secure, and allowing users to shop online on the go, all of which will maximize the users’ pleasure in using the app. Such use could also improve users’ lives and intention to continue using the technology. We continue from this foundation by exploring whether SWB mediates the interaction between attitude and the intention to continue using e-wallet apps. Thus, the following hypotheses are proposed:

*H5: SWB is positively related to the intention to continue use.*

*H6: SWB mediates the relationship between attitude and the continuance use intention.*

## 2.6 Perceived Security

Preliminary work by Kolsaker and Payne (2002) showed that security reflects consumers’ subjective perceptions that their private and monetary information will not be divulged or manipulated by other parties when trading online. Concerns about online security can be divided into two main categories: the security intrusion involving companies seeking to obtain and use personal information for marketing purposes as well as the security intrusion by spammers, pirates, and viruses (Pagani and Malacarne, 2017).

In examining the use of electronic banking tools, users’ concerns for information security were found to significantly influence their behavior (Lim *et al.*, 2019; Singh and Srivastava, 2020). Any online transaction tool with a high level of security was perceived as

preventing its users from suffering financial losses (e.g., leaking personal information or credit cards) and safeguarding its users from potential security threats. Users feel more comfortable continuing to use a mobile banking system only if the level of safety perception is high (Lim *et al.*, 2019; Khan *et al.*, 2017). Most of the time, the features or applications of technology are obscured with so many terms and conditions that users fear that all information deposited in the app could be abused or accessed by others, resulting in considerable loss (Keith *et al.*, 2015). It seems reasonable to assume that perceived security would significantly strengthen the link between CA and the perception (i.e., the PEOU and PU) of e-wallet apps. Thus, this study speculates that perceived security moderates the relationships between CA and PEOU as well as CA and PU. The following hypotheses are proposed:

*H6a: The positive relationship between CA and PEOU is stronger when perceived security is high.*

*H6b: The positive relationship between CA and PU is stronger when perceived security is high.*

## 2.7 Control Variables

To avoid spurious explanations of the proposed hypotheses, several control variables were included in the model. In the IS literature, usage experience is widely known to play a crucial role in influencing usage behavior (Cao *et al.*, 2018; Liébana-Cabanillas *et al.*, 2014). Prior research has also indicated significant gender and age differences in using technology (Lim *et al.*, 2021a). Thus, our study includes age, gender, and e-wallet experience as control variables.

## 3. Methodology

### 3.1 Data Collection

The data were collected in Malaysia using an online survey developed using Survey Legend (<https://www.surveylegend.com/>). The survey link was delivered to target respondents through social media platforms such as Facebook, Instagram, and WhatsApp between February and May 2021. Using a purposive sampling technique, people who experienced transferring or sending money gifts using an e-wallet app were considered eligible to participate in this survey.

Two screening questions were presented on the first page of the survey: “Have you used any e-wallet app?” and “Do you have any experience in sending money to family/friends through an e-wallet app, especially during the pandemic?”. Respondents who did not meet the selection criteria were not asked to complete the subsequent sections. We also provided a brief explanation of the money-gift function and e-wallet app to obtain more accurate answers from the respondents. A total of 400 responses were obtained, but 50 responses were eliminated with

the case-wise deletion approach, as respondents had given “straight-line” answers (i.e., chosen the same option for all items). This left a sample of 350 responses for analysis. Most of the respondents were female (55.43%), single (53.43%), between 24 and 29 years old (58%), employed in the private sector (45.14%), and had a usage experience of 1 to 2 years on e-wallet apps (41.14%). Most respondents used the money-gift function to send birthday gifts (38%) and preferred to use Touch 'n Go (34.57%). Their motivation for using e-wallet apps included faster and convenient (28.91%), reducing physical contact (22.68%), portability (making payments digitally without needing to carry a wallet) (20.29%), safety purpose (15.31%), and greater acceptance in more locations (12.81%) (see Table I).

[Insert Table I here]

### 3.2 Measures and Instrument Development

All items used in this survey were adapted from validated scales reported in prestigious journals. To ensure the quality of the instrument, the contents were pretested with a panel of experts comprising four professors in the IS field and six people from the target group. The questionnaire was then revised based on the target group's comments to ensure that the questions were clear. A pilot study was conducted with 30 respondents, most of whom reported that the instructions and language used were very clear and understandable. After the pilot study, Cronbach's alpha was computed to determine the reliability of the constructs. The results showed that the scores for all the constructs were above 0.70 (0.760 to 0.867), signifying satisfactory internal consistency (Nunnally, 1978).

Five dimensions of CA were measured: temporal dissociation, focused immersion, joy, control, and curiosity, based on a scale modified from Lowry *et al.* (2012). The scales for the PEOU and PU were taken from Wong *et al.* (2021). Attitudes toward mobile payment apps were measured with the scale developed by Ajzen (1991) and the intention to continue use was measured with the scale established by Bhattacharjee (2001). The scale suggested by Kim and Hall (2019) was used to measure SWB and the items measuring perceived security were obtained from Cheng *et al.* (2006). The items on the questionnaire used a 7-point Likert scale where the lowest score was “strongly disagree” and the highest score was “strongly agree.” The measurement items are presented in Appendix A.

## 4. Results

The data were first analyzed with statistical software SPSS version 28 for data cleaning, assessing the demographics, and testing for common method bias. Subsequently, partial least

squares–structural equation modeling (PLS–SEM) using SmartPLS version 3.3.7 was employed to examine the hypothesized relationships (Sarstedt and Cheah, 2019). PLS–SEM is a non-parametric approach that has become a quasi-standard in the IS field (Hair, 2020). This is especially true when simultaneously evaluating complex relationships between latent variables without distributional constraints (i.e., mediation or moderation) and handling reflective-formative higher-order constructs (HOCs) (Cheah *et al.*, 2019; Sarstedt *et al.*, 2019). Another reason to choose PLS–SEM is the causal-predictive nature of the technique (Chin *et al.*, 2020; Hair *et al.*, 2020). This allows our study to balance explanation and prediction (Hwang *et al.*, 2020; Shmueli *et al.*, 2019). That is, while our hypotheses and the ensuing path model are grounded in causal explanations, we also expect our model to have high predictive accuracy and yield meaningful implications for practitioners (i.e., app developers or e-wallet stakeholders).

#### 4.1 Common Method Bias (CMB)

As the study design featured a cross-sectional approach, two types of CMB assessments were analyzed. First, the results of Harman’s single-factor test showed that the variance explained by the first factor was 35.50% (<40%), indicating that CMB is not a concern in this study (Babin *et al.*, 2016). Second, a full collinearity (FC) test showed that the variance inflation factor (VIF) values were between 1.548 and 3.311 (below 3.33; see Table II) (Kock and Lynn, 2012). This suggests that CMB does not present a severe issue in this study.

#### 4.2 Measurement Model

To evaluate the measurement model, this study used a confirmatory composite analysis (CCA) procedure suggested by Hair *et al.* (2020). The reflective measurements were assessed for their reliability and convergent validity. As presented in Table II, all metrics for the internal consistency reliability (CA, rho\_A, and CR) were above the critical value of 0.7. Thus, the reliability of the measurements presented no issues (Hair *et al.*, 2019). After removing items (i.e., FI4 and TD2) that showed low loading (less than 0.40), the loading values of all constructs were higher than the threshold of 0.708 and they were significant at  $p < 0.01$  (see Table II) (Hair *et al.*, 2019). Moreover, we provided the results for the indicator reliability by squaring the related loading value. The loading values and their squared values (presented in brackets) suggest that all indicators were adequately reliable (see Benitez *et al.*, 2020). All the constructs had average variance extracted (AVE) values above 0.5 (Hair *et al.*, 2019), establishing the convergent validity of all the measurements.

[Insert Table II here]

The discriminant validity was assessed with the heterotrait-monotrait ratio of correlations (HTMT). As exhibited in Table III, all the HTMT values were lower than the conservative threshold value of 0.85 (Henseler *et al.*, 2015). This established discriminant validity among all the constructs used in this study.

[Insert Table III here]

Next, a disjoint two-stage approach was employed to assess CA, which incorporated five lower-order constructs (LOCs): control, curiosity, focused immersion, joy, and temporal dissociation (see Sarstedt *et al.*, 2019). Using redundancy analysis (Cheah *et al.*, 2018), the global single-item measure of CA had a path coefficient of 0.710, suggesting that those five LOCs explained more than 50% of the criterion construct's variance (Table IV). Next, the VIF values of the LOCs were between 1.488 and 2.499 ( $<3.33$ ) (Becker *et al.*, 2015). Thus, the collinearity issue was not significant. Finally, Table IV shows that all LOCs achieved statistically significant results (similar to the confidence interval results) with the weight values between 0.145 and 0.863. Therefore, consistent with the operationalization of the construct, the CA was found to be formed by the five dimensions.

[Insert Table IV here]

#### 4.3 Structural Model

The assessment of the structural model started by evaluating the collinearity between the predictors. Table V shows that the VIF values—ranging from 1.000 to 2.315—of all the combination paths are below the threshold of 3.33 (Becker *et al.*, 2015). Hence, the collinearity between the predictors is not an issue in these data.

Next, the significance of the relationships between the constructs was assessed with a bootstrapping technique with 5,000 subsamples (Hair *et al.*, 2019). As Table V shows, CA had a positive relationship with both the PEOU ( $\beta=0.565$ ;  $p < 0.01$ ) and the PU ( $\beta=0.524$ ;  $p < 0.01$ ). This supported H1a and H1b. Furthermore, the relationships of the PEOU ( $\beta=0.689$ ;  $p < 0.01$ ) and the PU ( $\beta=0.128$ ;  $p < 0.05$ ) to attitude were positive and significant, supporting both H2 and H3. Moreover, the results showed that attitude had a positive relationship with SWB ( $\beta=0.717$ ;  $p < 0.01$ ) and the continuance use intention ( $\beta=0.358$ ;  $p < 0.01$ ), supporting H4a and H4b. Finally, SWB ( $\beta=0.533$ ;  $p < 0.01$ ) positively affected the intention to continue using e-wallet apps, especially after controlling for gender, age, and experience with e-wallets, which were not significant. This supported H5 (see Table V). In the findings for all these hypotheses,

the  $R^2$  for H1a was about 32.0%. For H1b, it was about 27.5%. Both H2 and H3 had  $R^2$  values of 62.4% while H4a and H4b were about 51.5% and 68.5%, respectively.

To assess the significance of each path, the findings of effect size ( $f^2$ ) were reported. Based on Table V, only the hypothesized path in H3 carried a small but meaningful effect ( $f^2 = 0.020$ ) (Cohen, 2003). The hypothesized paths of H2 and H5 had large effects ( $f^2=0.545$  and  $f^2=0.438$ ) while the hypothesized path of H4b had a medium effect ( $f^2=0.197$ ).

The predictive relevance of the model was evaluated with the blindfolding procedure (Chin *et al.*, 2020). The  $Q^2$  values for all endogenous constructs in Table V were greater than 0, indicating the model's predictive relevance. Based on this result, we extended our prediction technique using PLSpredict (Shmueli *et al.*, 2019). As Table VI shows, the key endogenous items for the PEOU had a strong predictive relevance and the endogenous items for the PU had a medium predictive relevance. In addition, the endogenous items for attitude exhibited a medium predictive power and SWB showed a strong predictive power. Furthermore, the key target endogenous construct of the continuance use intention had a strong predictive power. This suggests that the proposed model can predict users' intention to continue using an e-wallet app.

[Insert Table V and VI here]

#### 4.4 Analysis of Mediating and Moderating Effects

To account for mediating effects, we used the method suggested by Nitzl *et al.* (2016). As shown in Table V, SWB ( $\beta=0.382$ ;  $p < 0.01$ ) significantly mediated the paths between attitude and the intention to continue using technology by “complementary partial mediation” (Nitzl *et al.*, 2016). This supported H6. In addition, to measure the specific indirect effects of the mediation paths, we calculated the respective standardized  $v$  effects (Lachowicz *et al.*, 2018) and interpreted the results using benchmarks of 0.01 (small), 0.09 (medium), and 0.25 (large) (see Cohen, 2003). Thus, we concluded that this mediation path had a medium effect ( $v=0.150$ ). This indicates SWB's important role in promoting the intention to continue using an e-wallet app (see Table V).

A two-stage approach was used for moderation analysis (Becker *et al.*, 2018). As shown in Table V, perceived security moderated the relationships between both CA and the PEOU ( $\beta=0.101$ ,  $p < 0.01$ ) and CA and the PU ( $\beta=0.092$ ,  $p < 0.05$ ). Hence, H7a and H7b were supported. To corroborate these findings, we also assessed both the effect size (see Table V) and the interaction plot (Dawson, 2014). Both H7a ( $f^2 = 0.021$ ) and H7b ( $f^2 = 0.020$ ) had a

small effect size. In the meantime, the interaction plot indicated that the line of high perceived security had a steeper gradient than low perceived security (see Figure 2, Panel A and Panel B). This indicates that when an e-wallet app is perceived as secure, the positive relationships between CA and the PEOU and CA and the PU will be stronger.

## 5. Discussion and Implications

### 5.1 Theoretical Implications

Our study was motivated by the need to understand the effectiveness of the money-gift function in predicting users' intention to continue using e-wallet apps. Using CAT as a theoretical basis, the results supported all the proposed hypotheses and suggested various fruitful implications for future research into e-wallet apps.

First, to predict the intention to continue using an e-wallet app more accurately, we embedded the money-gift function into our study. Specifically, we found that CA was a crucial factor in users' perceptions of e-wallet apps. The results showed that the users of e-wallet apps who had a high degree of CA reported positive perceptions of the ease of use and usefulness (supporting H1a and H1b). This is consistent with the understanding that when an individual is fully immersed in and appreciates technology, their beliefs will reduce the perceived cognitive burden and the difficulty associated with using the app (Agarwal and Karahanna, 2000; Lim *et al.*, 2021b). Like the use of other technologies, such as smartphones, mobile learning software, and artificial intelligence chatbots, when users are in CA, their attention is fully focused, which results in an extremely satisfactory state of mind (Balakrishnan and Dwivedi, 2021; Lin, 2009). Thus, given that innovative or novel functions (such as a money-gift function in an e-wallet) are emerging as major selling points of many technologies, our study provides a solid foundation for research to study whether CA yields positive perceptions, feelings, or intentions to continue using an e-wallet app. In other words, these findings function as a reference for the impact of CA as a motivating factor to stimulate positive belief when using a particular technology.

We also confirmed that both the PEOU and the PU are key elements in inducing a favorable attitude toward e-wallet apps (supporting H2 and H3). Users who find e-wallet apps useful and easy to use are prone to having favorable attitudes about them. These results are consistent with most IS research, which has shown that users are more likely to accept technology if the interface is easy to navigate and helps them improve their task performance (Kasilingam, 2020; Venkatesh and Davis, 2000). Our findings also implied that when users

have a positive attitude toward an e-wallet app, it is more likely to enhance both their SWB and intention to continue using the app (supporting H4a and H4b). This aligns with Wu and Chen's (2017) finding that attitude serves as an evaluative predisposition when investigating the use of technology and with Lee *et al.*'s (2014) observation that a positive feeling from using technology has a positive effect on the perceived SWB. Moreover, this study adds to the existing body of research by finding a substantial link between SWB and the intention to continue using an e-wallet app (supporting H5).

Second, we contribute to the research on e-wallets by identifying the mediating role of SWB. Although SWB has received increased attention in recent IS studies, its mediating role has not been explored in the context of e-wallets. Chan (2018) emphasized that the perception of SWB could help explain why users continued using certain devices. Our results show that users who have favorable attitudes toward an e-wallet are more likely to continue to use it, especially when it can help to improve their quality of life (supporting H6). This also extended the proposition that the role of a technological device should surpass basic features; it must also deliver different cognitive and affective gains (e.g., joy, functionality, and practicality) while encouraging continued use (Aboelmaged *et al.*, 2021).

Last, this study also contributes to the ongoing conversation by verifying the conditional variable that affects the paths of cognitive absorption with both ease of use and perceived usefulness. Drawing on the recent literature (Xu *et al.*, 2021), we proposed and tested the perceived security of e-wallets as a moderator of the proposed direct relationships. As many scholars have shown (Yoon and Steege, 2013; Bamoriya and Singh, 2012), the use of electronic banking tools is often accompanied by concerns about security that may influence users' perceptions. Further confirming this finding, our findings demonstrate that CA can significantly affect both the PU and the PEOU if users perceive the e-wallet app as secure (i.e., high perceived security; this supports H7a and H7b). Safety concerns may keep users from assessing the use of e-wallet apps. This, in turn, broadens the theoretical depth of CAT and gives new directions to IS scholars regarding the role of perceived security in establishing favorable user perceptions of e-wallet apps.

## 5.2 Practical Implications

Our results offer new guidance to e-wallet service providers. Specifically, this study reveals how implementing money-gift functions can help promote positive outcomes that influence the intention to continue using an e-wallet app. We also draw attention to the importance of SWB and perceived security in attracting users to use an e-wallet app.



First, service providers should recognize the importance of using money-gift functions to stimulate positive perceptions about continuing to use an e-wallet app. To extend the use of the money-gift function to e-wallets, the function can be gamified (Wong *et al.*, 2021). For instance, upgrading badges and giving rewards are two game-like mechanisms (Hwang and Choi, 2020) that can be embedded in the design of money-gift functions to attract users and foster an intense level of involvement. A badge upgrading mechanism allows users to unlock badges when they collect enough points by sending money gifts to their loved ones. The rewards mechanism can be reflected in tangible rewards (e.g., cashback) and intangible rewards (e.g., more points). An engaging money-gift function can help reduce the cognitive burden and increase the PEOU and the PU of using the e-wallet app, which eventually cultivates a favorable attitude toward e-wallet apps. When app service providers can offer a smooth, simple, and convenient experience in an e-wallet app, overcoming usage-related barriers will be easier. The maturity of the e-wallet ecosystem must also be increased by ensuring that the app is widely accepted by merchants and helping users to integrate its functionality into various platforms.

Second, e-wallet service providers should pay attention to users' functional needs by offering them palpable benefits that can facilitate their continued use. For example, they can employ voice commands, i.e., artificial intelligence assistants, to make the payment process faster and more streamlined (Retail Dive, 2021). This would allow users to employ smart speakers to send money gifts or make direct payments. In addition, service providers must make an e-wallet app the ideal payment solution. They should allow users to connect directly to merchants for any utility payment through a single endpoint. Moreover, as SWB is an important psychological substrate to increase continued use, service providers should offer a versatile payment option on their e-wallets free of charge for debit or credit card transactions. This would enhance user acceptance and pleasure.

Meanwhile, as noted in the results about moderation, the effect of CA on users' perceptions of an e-wallet app is contingent upon its perceived security. Users will generally avoid the use of e-wallet apps if they are concerned about the apps' security vulnerability. For instance, apps may have malicious codes that can track users' identities and steal personal data (Ragnhildur, 2021). To ameliorate these issues, service providers should make their e-wallet systems more reputable through transparency about integrated information. Practically, the security system of an e-wallet can be enhanced by leveraging a biometric authentication function. This has been recognized as the ultimate solution to the long-standing problem of

identity theft and fraud associated with e-wallet payments. Users could access their e-wallet app using fingerprints or facial biometrics, making the process simpler and increasing their protection against mobile fraud. This will eventually improve users' perceptions of the app.

## **6. Limitations and Prospects for Research Directions**

As in other studies, this research has limitations. First, data were collected from young consumers in Malaysia. This makes it difficult to generalize the findings, especially to understand perceptions across different generations. Future research can reexamine our proposed model by comparing e-wallet users from diverse age groups (Kim *et al.*, 2021). Second, this research merely considered one method (the cross-sectional approach) in surveying the respondents. Future studies could explore other qualitative and quantitative methods such as interviews, experimental designs, and longitudinal designs. Third, it would be interesting to examine users' perceptions of e-wallet apps in various contexts, such as paying for online gaming and online shopping as well as receiving a salary (The Asean Post, 2021).

As mobile commerce and mobile apps continue to spread worldwide, e-wallet apps have become the next frontier of payment systems. To discover their potential for sustained use, future research should explore users' intentions to accept new contactless payment technologies such as facial recognition payment, which has become popular in developing countries. For instance, Zhong *et al.* (2021) stated that this payment method is more convenient for users and overcomes the constraints of app-based payment methods. Thus, users will no longer have to adapt to those complex functions. We also propose that scholars investigate the effectiveness of incorporating gamification concepts to promote e-wallet apps. Recently, gamified loyalty programs have been recognized as a vibrant and trending strategy to promote desirable long-term behavior (e.g., user engagement and loyalty) in mobile commerce (Yu and Huang, 2021). However, this perspective is lacking in the context of e-wallet apps. Several service providers have introduced gamified loyalty programs into apps. For example, users are rewarded with special promotional codes for making transactions using an e-wallet app. Therefore, we suggest that future studies in this area use a valence framework to understand whether gamified loyalty programs (e.g., unlocking special rewards or promo codes) can significantly influence users' intentions to continue using an app.

## **7. Conclusion**

Fueled by the COVID-19 pandemic, contactless payment was one of the new norms that boomed in 2020. People began to adopt e-wallets as a safer option at the point of sale. Although studies have examined factors that encourage the adoption of e-wallet apps in a variety of ways, several gaps in the existing studies remain. This study provides new insights by examining how immersion and cognitive interaction with the money-gift function can affect several facets of user perceptions and behavior toward e-wallet apps. Supported by CAT, the results showed that users who experience high CA when using the money-gift function have positive perceptions (PU, PEOU, and attitude) toward e-wallet apps that lead to SWB and the intention to continue using the app. SWB also works to strengthen the relationship between attitude and the intention to continue using the app. The results also deepened our understanding that e-wallet systems with strong perceived security strengthen the relationships of both CA to the PEOU and CA to the PU. For researchers, this study provides a basis for further understanding the adoption of e-wallet apps using CAT as a theoretical basis. Providing innovative features like money gifts will likely enhance the ease of use and usefulness of developers' apps for current and potential e-wallet app users. Finally, to increase the adoption rate, e-wallet apps must become a versatile and secure option to pay for various kinds of merchandise.

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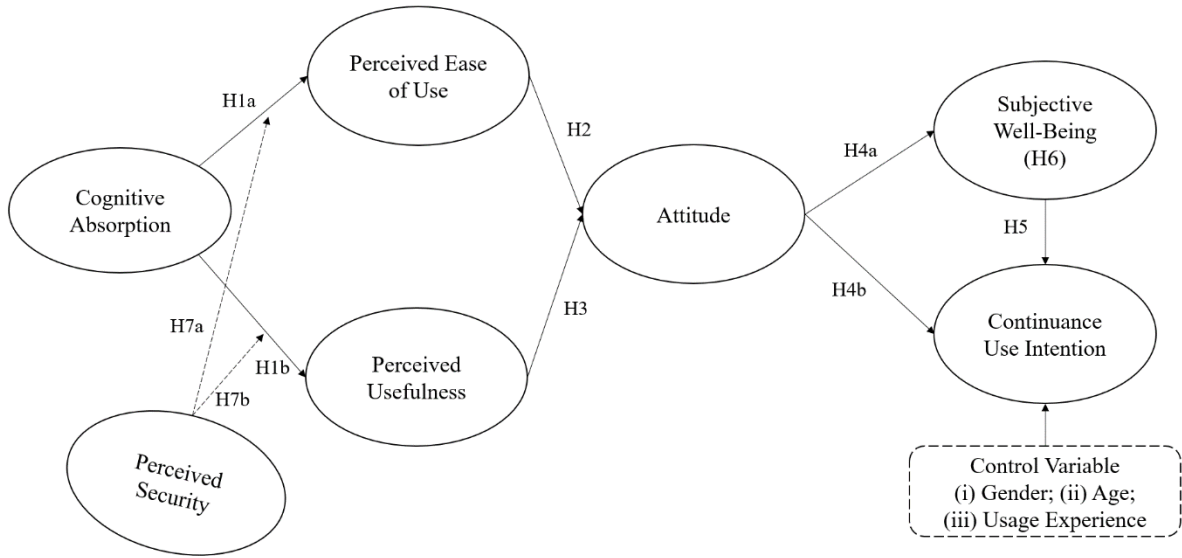


Figure 1: Research Model

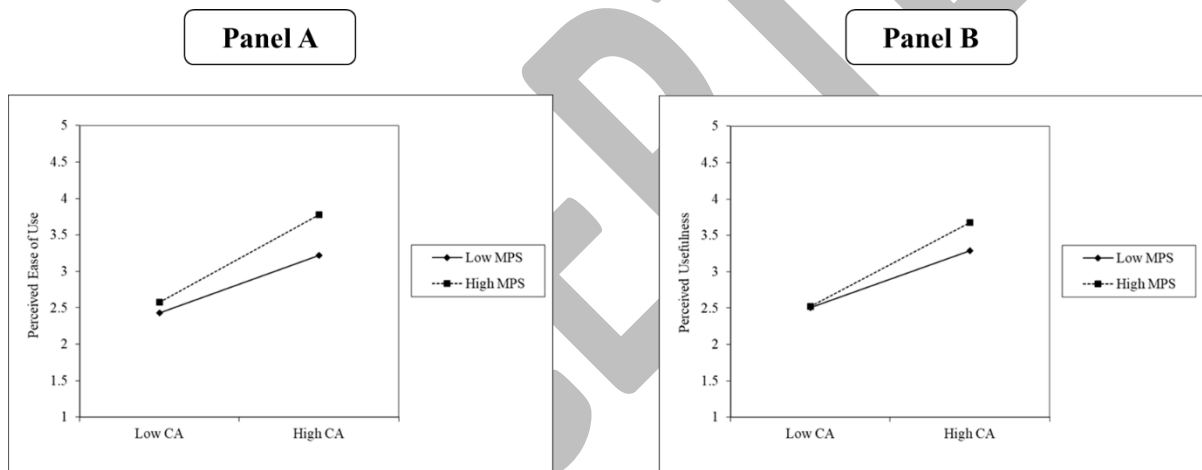


Figure 2: Panel A is interaction plot of CA\*MPS on PEOU and Panel B is interaction plot of CA\*MPS on PU

**Table I: Demographic Profile**

Variable	Characteristics	n = 350	%
Age	24-29 years old	203	58.00
	30-35 years old	147	42.00
Gender	Male	156	44.57
	Female	194	55.43
Marital Status	Single	187	53.43
	Married	163	46.57
Occasion	Someone's birthday	133	38.00
	New year celebration	110	31.43
	Anniversary	30	8.57
	Any appreciation days (e.g., Mother's Day, Father's Day, etc.)	77	22.00
Occupation	Self-employed	60	17.14
	Government Sector Employee	132	37.72
	Private Sector Employee	158	45.14
Type of e-wallet app	Touch 'n Go	121	34.57
	Grab Pay	42	12.00
	Shopee Pay	91	26.00
	Boost	51	14.57
	Maybank E-wallet (MAE)	45	12.86
Usage experience on mobile payment	6-12 months	88	25.14
	1-2 years	144	41.14
	2 years and above	118	33.72
Variable	Characteristics	Number of Response	% of cases
Motivation to use e- wallet app*	To reduce physical contact	200	22.68
	Safety purpose	135	15.31
	Greater acceptance in more locations	113	12.81
	Portability	179	20.29
	Faster and Convenient	255	28.91

Note: \* Respondents were allowed to response more than one option from the list of characteristics.

*Table II: Assessment on Loading, Full Collinearity, Reliability and Convergent Validity*

Construct	Item	Loading/ (Indicator Reliability)	t-value	Confidence Interval (CI)	Full Collinearity (FC)	Cronbach's Alpha (CA)	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Attitude	A1	0.923 (0.852)	52.260**	[0.877; 0.949]	3.307	0.920	0.921	0.949	0.862
	A2	0.938 (0.880)	92.977**	[0.912; 0.952]					
	A3	0.925 (0.856)	66.097**	[0.891; 0.947]					
Continuance Use Intention	CUI1	0.908 (0.825)	66.843**	[0.876; 0.929]	3.299	0.887	0.888	0.930	0.815
	CUI2	0.905 (0.819)	57.667**	[0.866; 0.928]					
	CUI3	0.896 (0.803)	39.380**	[0.837; 0.927]					
Control	CT1	0.803 (0.645)	29.052**	[0.759; 0.874]	1.977	0.875	0.880	0.914	0.727
	CT2	0.907 (0.823)	70.265**	[0.875; 0.926]					
	CT3	0.835 (0.697)	20.036**	[0.723; 0.888]					
	CT4	0.863 (0.745)	30.607**	[0.788; 0.898]					
Curiosity	CS1	0.885 (0.783)	26.312**	[0.793; 0.920]	2.145	0.918	0.944	0.941	0.800
	CS2	0.913 (0.834)	45.097**	[0.859; 0.937]					
	CS3	0.900 (0.810)	28.700**	[0.815; 0.929]					
	CS4	0.880 (0.774)	40.546**	[0.826; 0.913]					
Focused Immersion	FI1	0.830 (0.689)	18.849**	[0.714; 0.885]	1.825	0.860	0.870	0.915	0.782
	FI2	0.916 (0.839)	67.813**	[0.891; 0.946]					
	FI3	0.905 (0.819)	38.155**	[0.849; 0.942]					
	FI4	D	D	D					
Joy	J1	0.911 (0.830)	60.006**	[0.877; 0.937]	2.700	0.936	0.940	0.954	0.838
	J2	0.930 (0.865)	70.519**	[0.899; 0.951]					
	J3	0.913 (0.834)	68.425**	[0.882; 0.936]					
	J4	0.908 (0.825)	67.553**	[0.884; 0.937]					
Perceived Ease of Use	PEOU1	0.887 (0.787)	37.165**	[0.826; 0.921]	3.052	0.894	0.895	0.934	0.825
	PEOU2	0.919 (0.845)	78.930**	[0.897; 0.944]					
	PEOU3	0.919 (0.845)	78.756**	[0.892; 0.937]					
	MPS1	0.922 (0.850)	81.416**	[0.896; 0.941]					

Perceived Security	MPS2	0.938 (0.890)	95.012**	[0.915; 0.954]					
	MPS3	0.855 (0.731)	39.271**	[0.812; 0.898]					
	MPS4	0.906 (0.821)	55.894**	[0.869; 0.934]					
Perceived Usefulness	PU1	0.885 (0.731)	28.685**	[0.810; 0.934]	2.495	0.886	0.888	0.929	0.814
	PU2	0.921 (0.848)	73.231**	[0.891; 0.942]					
	PU3	0.901 (0.812)	43.883**	[0.850; 0.932]					
Subjective Well-Being	SWB1	0.872 (0.760)	48.205**	[0.841; 0.915]	3.311	0.894	0.895	0.927	0.760
	SWB2	0.897 (0.805)	83.610**	[0.895; 0.939]					
	SWB3	0.884 (0.782)	83.323**	[0.891; 0.934]					
	SWB4	0.832 (0.692)	37.385**	[0.784; 0.871]					
Temporal Dissociation	TD1	0.893 (0.798)	7.386**	[0.697; 0.983]	1.669	0.809	0.893	0.882	0.713
	TD2	D	D	D					
	TD3	0.812 (0.659)	6.826**	[0.592; 0.928]					
	TD4	0.826 (0.682)	7.674**	[0.567; 0.938]					

Note: D =item deleted due to low loading value; CI means 95% confidence interval bias corrected; \*\* p <0.01

**Table III: Discriminant Validity Test using HTMT criterion**

Construct	1	2	3	4	5	6	7	8	9	10	11
1. Attitude											
2. Continuance Use Intention	0.818										
3. Control	0.616	0.599									
4. Curiosity	0.284	0.350	0.509								
5. Focused Immersion	0.275	0.293	0.438	0.550							
6. Joy	0.483	0.509	0.622	0.763	0.572						
7. Perceived Ease of Use	0.846	0.796	0.642	0.236	0.288	0.408					
8. Perceived Security	0.434	0.489	0.411	0.380	0.410	0.480	0.392				
9. Perceived Usefulness	0.716	0.673	0.590	0.289	0.329	0.398	0.847	0.311			
10. Subjective Well-Being	0.792	0.840	0.559	0.386	0.344	0.528	0.700	0.568	0.582		
11. Temporal Dissociation	0.206	0.276	0.356	0.555	0.694	0.537	0.140	0.338	0.139	0.344	

**Table IV: Assessment of Higher-Order Construct on Cognitive Absorption**

Higher-Order Construct	Lower-Order Construct	Outer Weights	t-value	CI	VIF	Convergent Validity
Cognitive Absorption	Control	0.863	8.514**	[0.701; 0.978]	1.488	0.710
	Curiosity	0.145	2.578*	[0.055; 0.357]	2.098	
	Focused Immersion	0.193	2.347*	[0.029; 0.316]	1.733	
	Joy	0.285	2.630*	[0.028; 0.521]	2.499	
	Temporal Dissociation	0.222	2.386*	[0.101; 0.454]	1.616	

Note: \* p< 0.05; \*\* p< 0.01; CI means 95% confidence interval bias corrected

*Table V: Assessment of Structural Model*

Hypothesis and Relationship	Std Beta	Std Error	t-value	95% BCa CI	VIF	$f^2$	R <sup>2</sup>	Q <sup>2</sup>	$\nu$
H1a: CA -> PEOU	0.565	0.046	12.418**	[0.478; 0.631]	1.000	NA	0.320	0.258	
H1b: CA -> PU	0.524	0.043	12.316**	[0.440; 0.581]	1.000	NA	0.275	0.214	
H2: PEOU -> Attitude	0.689	0.056	12.309**	[0.596; 0.776]	2.315	0.545	0.624	0.531	
H3: PU -> Attitude	0.128	0.058	2.182*	[0.031; 0.224]	2.315	0.020		0.418	
H4a: Attitude -> SWB	0.717	0.038	18.731**	[0.648; 0.775]	1.000	NA	0.515	0.547	
H4b: Attitude -> CUI	0.358	0.055	6.477**	[0.267; 0.450]	2.060	0.197	0.685		
H5: SWB -> CUI	0.533	0.057	9.282**	[0.433; 0.622]	2.060	0.438			
H6: Attitude -> SWB -> CUI	0.382	0.035	10.791**	[0.313; 0.453]					0.150
H7a: CA*Perceived Security -> PEOU	0.101	0.048	2.104**	[0.038; 0.218]		0.021			
H7b: CA* Perceived security -> PU	0.092	0.055	1.673*	[0.036; 0.186]		0.020			
<i>Control Variable</i>									
(i) Age -> CUI	-0.038	0.034	1.127	[-0.095; 0.020]					
(ii) Gender -> CUI	0.024	0.032	0.743	[-0.028; 0.080]					
(iii) Usage Experience-> CUI	0.028	0.034	0.815	[-0.027; 0.090]					

Note: NA means not applicable for situation when a single exogenous construct is used to predicts on an endogenous construct (Hair *et al.*, 2019); \* p< 0.05; \*\* p< 0.01.



*Table VI: Assessment of PLSpredict*

Item	PLS model			Linear model (LM)			PLS-LM			Decision on Predictive Power
	RMSE	MAE	Q <sup>2</sup> predict	RMSE	MAE	Q <sup>2</sup> predict	RMSE	MAE	Q <sup>2</sup> predict	
A1	0.875	0.684	0.245	0.881	0.694	0.235	-0.006	-0.010	0.010	Medium
A2	0.864	0.660	0.232	0.865	0.666	0.231	-0.001	-0.006	0.001	
A3	0.842	0.656	0.235	0.840	0.654	0.239	0.002	0.002	-0.004	
CUI1	0.931	0.736	0.181	0.933	0.733	0.176	-0.002	0.003	0.005	Strong
CUI2	0.872	0.696	0.240	0.890	0.706	0.208	-0.018	-0.010	0.032	
CUI3	1.006	0.784	0.199	1.036	0.812	0.150	-0.030	-0.028	0.049	
PEOU1	0.928	0.749	0.239	0.931	0.750	0.234	-0.003	-0.001	0.005	Strong
PEOU2	0.864	0.679	0.256	0.867	0.685	0.249	-0.003	-0.006	0.007	
PEOU3	0.874	0.692	0.225	0.875	0.699	0.222	-0.001	-0.007	0.003	
PU1	1.033	0.771	0.175	1.039	0.779	0.166	-0.006	-0.008	0.009	Medium
PU2	0.965	0.770	0.229	0.964	0.764	0.230	0.001	0.006	-0.001	
PU3	0.988	0.765	0.198	0.993	0.763	0.190	-0.005	0.002	0.008	
SWB1	0.989	0.785	0.228	1.028	0.847	0.165	-0.039	-0.062	0.063	Strong
SWB2	0.952	0.756	0.181	0.962	0.781	0.164	-0.010	-0.025	0.017	
SWB3	1.004	0.794	0.178	1.018	0.816	0.154	-0.014	-0.022	0.024	

## Appendix

### Appendix A: Measurement Items

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#### Construct

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##### **Attitude**

A1: My overall attitude toward this e-wallet app is favorable.

A2: My overall attitude toward e-wallet app is good.

A3: My overall attitude toward e-wallet app is positive.

##### **Cognitive Absorption:**

Global Item: Overall, I could experience the cognitive absorption when sending the money gift via e-wallet app.

##### **(i) Control**

CT1: While sending the money gift using e-wallet app, I could freely choose what amount I wanted to send.

CT2: While sending the money gift using e-wallet app, I had absolute control over what I could experience with it.

CT3: While sending the money gift using e-wallet app, I felt that I had a lot of control over my experiences.

CT4: While sending the e money gift using e-wallet app, my actions determined the kind of experiences I got.

##### **(ii) Curiosity**

CS1: While sending the money gift using e-wallet app, my curiosity increased.

CS2: While sending the money gift using e-wallet app, my imagination was stimulated.

CS3: While sending the money gift using e-wallet app, I had experiences that made me curious.

CS4: While sending the money gift using e-wallet app, I had experiences that made me want to know more about the app.

##### **(iii) Focused Immersion**

FI1: While sending the money gift using e-wallet app, I was able to block out most other distractions.

FI2: While sending the money gift using e-wallet app, I was absorbed in what I was doing.

FI3: While sending the money gift using e-wallet app, I was immersed in the task.

FI4: While sending the money gift using e-wallet app, I was distracted by other attentional demands very easily.

##### **(iv) Joy**

J1: While sending the money gift using e-wallet app, I felt a lot of joy.

J2: While sending the money gift using e-wallet app, I had a lot of fun.

J3: While sending the money gift using e-wallet app, I had pleasant experiences.

J4: While sending the money gift using e-wallet app, I felt great.

##### **(v) Temporal Dissociation**

TD1: While sending the money gift via e-wallet app, time appeared to go by very quickly.

TD2: While sending the money gift via e-wallet app, I lost track of time.

TD3: While sending the money gift via e-wallet app, time flew by.

TD4: While sending the money gift via e-wallet app, I did not have a feeling for how long I had been using it.

##### **Continuance Use Intention**

CUI1: I would be willing to continuance use e-wallet app.

CUI2: I intend to use e-wallet app in future.

CUI3: I have a strong desire to interact further with e-wallet app.

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**Perceived Ease of Use**

PEOU1: It would not be time-consuming to make a payment using e-wallet app.

PEOU2: I think using e-wallet app to make payments does not require a lot of effort.

PEOU3: I think e-wallet app is easy to use.

**Perceived Security**

MPS1: I feel secure using e-wallet app.

MPS2: E-wallet app is a secure means.

MPS3: I feel totally safe providing sensitive information about myself over e-wallet app.

MPS4: Overall, the e-wallet app is a safe platform.

**Perceived Usefulness**

PU1: I think using e-wallet app would make it easier for me to conduct transactions.

PU2: I think using e-wallet app would increase my efficiency.

PU3: I think using e-wallet app would enable me to pay more quickly.

**Subjective Well-being**

SWB1: Using e-wallet app is part of my ideal life.

SWB2: The conditions of my life at using e-wallet app are excellent.

SWB3: I am satisfied with my life when I am using e-wallet app.

SWB4: So far, I am able to make transactions by using e-wallet app.

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