How e-wallets encourage excessive spending behavior among young adult consumers?

Hendy Mustiko Aji and Wiwiek Rabiatul Adawiyah

Hendy Mustiko Aji is based at the Department of Management, Faculty of Business and Economics, Universitas Islam Indonesia, Yogyakarta, Indonesia. Wiwiek Rabiatul Adawiyah is based at the Department of Management, Faculty of Economics and Business, Universitas Jenderal Soedirman, Purwokerto, Indonesia.

Abstract

Purpose – *As it gains more popularity, e-wallets drive its users to spend more. Therefore, the purpose of this paper is to explore how and why e-wallets may encourage excessive spending behavior among young adult consumers.*

Design/methodology/approach – *An exploratory sequential or QUAL-QUANT design, combining qualitative and quantitative, is used in this study. It is a type of mixed-method design consisting of both the core and supplementary methods. The qualitative method is conducted in Study 1 using online focus group discussion to answer "why" and "how" questions, whereas the quantitative method is used in Study 2 to test or examine the hypothetical model. The questionnaires are extracted from focus group discussion in Study 1, which is further tested for validity and reliability and model estimation in Study 2. The model is evaluated using structural equation modeling.*

Findings – *Study 1 extracted four keywords to affect young adults spending behavior, easiness, promotions, self-control and perception of having more money (the illusion of liquidity). In Study 2, it is found that those four variables significantly affect spending behavior. Interestingly, it is also found in Study 2 that the illusion of liquidity mediates the relationship between self-control and spending behavior.*

Research limitations/implications – *During the COVID-19 pandemic, where a physical meeting is not encouraged, focus group discussion is conducted online via Zoom. Perhaps, this condition can be one limitation this study faced.*

Originality/value – *This study offers a theoretical contribution to the literature by exploring how and why e-wallet payment is connected to excessive spending behavior among young adult consumers. This study also provides a model that further explains the relationship between young adults' spending behavior by adding the illusion of liquidity as the mediating variable.*

Keywords *Mixed method, Young consumer, Digital wallet, Exploratory sequential, Illusion of liquidity, Spending behavior, E-wallets, The illusion of liquidity, Spending, Young adults*

Paper type *Research paper*

Introduction

"Cashless" has become the most prominent disbursement genre among consumers in the retail industry (Vojvodic and Matic, 2016), as it offers more efficient and secure payment modes. Some forms of cashless payment include mobile payments, smart cards (Khan and Craig-Less, 2009) and digital/electronic wallets.

E-wallet might generate the illusion of liquidity, a false assumption that triggers customers to underestimate the price of goods and ignoring the total amount spent (Soman, 1999). Raghubir and Srivastava (2008) said that cashless payment is a less transparent mode of payment, thus the consumer is relatively not experiencing the pain of paying. Therefore, they will easily spend it like "monopoly money." Despite e-wallets' countless benefits, previous studies reported several drawbacks such as impulsive buying behavior, especially

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in e-retailing (Vojvodic and Matic, 2016). Such behavior is a ubiquitous component of consumer studies and a focal point for significant marketing efforts (Tee and Ong, 2016).

Although riddled with challenges, the association between e-wallets and excessive spending has sparked great study interest among scholars (Khan and Craig-Less, 2009; Raghubir and Srivastava, 2008; Runnemark *et al.*, 2015; Tee and Ong, 2016; Vojvodic and Matic, 2016). Existing literature supports the view that the payment instruments did affect spending behavior (Soman, 2001; Raghubir and Srivastava, 2008; Runnemark *et al.*, 2015), challenging the standard economic theory assumption, which states that product valuation and payment instruments are independent (Runnemark *et al.*, 2015). However, prior research on mobile payment has been strongly criticized, as it had only focused on a few topics, with a limited accumulation of new knowledge and similar findings (Dahlberg *et al.*, 2015).

Most previous studies on the topic of mobile or digital wallet payment had focused on the customers' readiness, adoption (Sahut, 2008; Matemba and Li, 2018; Singh *et al.*, 2020; Singh and Sinha, 2020) and diffusion (Sahut, 2008; Liébana-Cabanillas *et al.*, 2014; Humbani and Wiese, 2018; Matemba and Li, 2018), acceptance to new technology (Lai, 2012; Trivedi, 2016; Sharma *et al.*, 2018), crime-related activities including theft, account take over fraudulent transactions and data breaches (Marria, 2018), tax evasion (Immordino and Russo, 2018) and ethical or religious consequences such as *riba* or usury (Aji *et al.*, 2020a, 2020b).

Studies that explore why and how digital wallet payment might affect spending behavior are rarely found. While in fact, e-wallets are gaining more popularity in Indonesia, especially in the COVID-19 pandemic (Aji *et al.*, 2020a, 2020b). If summarized, research on the topic of mobile or digital wallet payment can be divided into three main streams: first, those that examine the technological readiness, second, the determinant of success, third, the acceptance and use (Slade *et al.*, 2013).

In closer studies, consumer spending behavior has been examined but in the context of credit cards (Soman, 2001; Teoh *et al.*, 2013; Runnemark *et al.*, 2015; Trinh *et al.*, 2020). To the authors' knowledge, there is no specific investigation of how e-wallets might affect excessive spending behavior among young adults. Therefore, as a theoretical contribution, this study aims to explore and scrutinize how e-wallet's payment encourages excessive spending among young adult consumers. A sequential exploratory mixed-method design is conducted by dividing the analysis into QUAL in Study 1 and QUANT in Study 2. In Study 1, the paper explores young adult netizens' opinions on why and how e-wallets drive excessive spending behavior. Exploratory research is required to generate first insights and to steer any subsequent study (Malhotra, 1996; Parasuraman, 1991). Thus, Study 1 is critical in defining the problem more accurately and identifying any specific objectives or data requirements to be addressed in the following stage. The constructs obtained from Study 1, were then used to develop the research framework to be tested in Study 2. The underpinning theories used in the study framework are the theory of planned behavior (TPB) and the theory of acceptance model (TAM).

There are two novelties offered by this study. First, this study explores the factors that influence excessive spending behavior among young adults. Second, this study explains inconclusive findings on the antecedents of excessive spending behavior by putting the *illusion of liquidity*, which is generated from Study 1, as a mediating variable.

Review of literature and research questions

E-wallets and spending behavior

Tee and Ong (2016) defined cashless payment as the payment made by eliminating the use of physical money. Without the use of cash, the payment is made using the internet,

vending machine, mobile phone device Personal Digital Assistance (PDA), debit and credit cards (Khan and Craig-Less, 2009). Mobile payment is one of the cashless payment forms. It was introduced in 1977 when Coca-Cola launched a limited number of vending machines allowing customers to make mobile purchases (Humbani and Wiese, 2018). Mobile payment research has attracted researchers' attention (Dahlberg *et al.*, 2015). Mobile payment is distinguished from any other cashless form of payments, in its process and the medium used. Liébana-Cabanillas *et al.* (2014) defined mobile payment as an individual or business activity involving an electronic device connected to a mobile network, enabling the completion of an economic transaction. It is a form of payment conducted using a mobile device, where the money is transferred to the receiver with or without an intermediary (Mallat, 2007).

A global survey by PWC (2019) reported a consistently increasing trend, from 11% in 2015 to 24% in 2019, of customers engaging in mobile phone payments. Similarly, more than 51% of the respondents paid their bills and invoice online. In 2019, the use of mobile phone payments was ubiquitous in some developing countries such as China (86%), Thailand (67%), slightly increased by 19% since 2018, Vietnam (24%) and Middle East (20%). Therefore, it is reasonable to assume that future customers would prefer to use mobile phone payments instead of others.

One of the prevalent forms of mobile payment today is e-money or e-wallet. Several researchers have their definition of e-money. It is mentioned by Geva and Kianieff (2002) that e-money denotes value paid in various electronic retail payment mechanisms or described as "stored-value products." E-money and e-wallet are digitalized system of payment only differ in the way they store the users' data. In the context of e-money, the nominal value topped up by users is stored in a chip. Based on the Central Bank of Indonesia Regulation (PBI) No. 20/6/PBI/2018, e-money is defined as the payment instrument issued based on the value topped up by the provider and stored electronically in a server or chip. The value cannot be treated as a deposit. Therefore, based on that definition, an e-wallet is also part of e-money.

Previous research has shown that payment modes are associated with spending behavior (Gafeeva *et al.*, 2017), including household spending (Deb *et al.*, 2020). The degree of transparency of payment modes can be distinguished from the physical form and the amount spend (Soman, 2003). Payment made through credit cards is perceived as less transparent than physical cash because it does not resemble banknotes (Gafeeva *et al.*, 2017). Therefore it is creating a sense of payment using "monopoly money" in which the pain of paying is not felt (Raghubir and Srivastava, 2008). Liu and Dewitte (2021) mentioned that the effect of payment methods and spending behavior is focused on two things, namely, willingness to pay and basket value (number of items spent). Previous studies on payment modes and spending behavior were mostly conducted in the context of credit cards (Thomas *et al.*, 2011). It has also been found that credit card payment lenience encourages customer willingness to spend more (Soman, 2001; Raghubir and Srivastava, 2008; Teoh *et al.*, 2013; Runnemark *et al.*, 2015). It was also found to affect the spending amounts in the shopping context (Thomas *et al.*, 2011; Soman, 2003).

Credit card payments create a lower recall accuracy than cash (Gafeeva *et al.*, 2017). According to Soman (1999), credit card holders suffer from the "illusion of liquidity," a false assumption of having liquid money that encourages excessive spending. In the literature, this can also be called as "decoupling effect," an effect where electronic payment is perceived as less transparent, thus the actual cost of transaction is blurred (Khan *et al.*, 2015). Both "Illusion of liquidity" and "decoupling effects" to some extent are connected with Zellermayer's (1996) pain of paying. According to Zellermayer (1996), the pain of paying is "the direct displeasure or pain from the act of making a payment." Consumers may feel the pain of paying when the contexts are taken into consideration. It may include the tangibility of the cash and modes of payment. As a credit card is one of the cashless payment mechanisms, the context can be changed to another mode of payment such as

mobile payment. Mobile payment and credit card payment are similar in terms of the sense of convenience and efficiency because the transaction can be made using a smartphone. In the lab study, Liu and Dewitte (2021) found that there is a significant difference between payment mode (cash vs mobile payment) and spending amount. Khan *et al.* (2015) revealed that consumer's emotions also play an important role relating to cash vs card-based payment modes. Boden *et al.* (2020) found that convenience mediates the effect of mobile payment and willingness to pay.

Consumer behavior relating to electronic spending can also be explained by the TPB (Ajzen, 1991) and the TAM (Davis, 1989). TPB and TAM have been applied in wide consumer behavior research settings, including explaining behavioral intention to use e-money (Aji *et al.*, 2020a, 2020b). Based on TAM, several factors might affect a consumer's technological usage, namely, perceived ease of use, usefulness and attitude. Spending behavior, especially related to electronic mode of payment may include emotions (Khan *et al.*, 2015) and pain of paying (Zellermayer, 1996) as well. These two are connected with how easy the technology is used. In the context of e-wallets, the perceived easiness of using e-wallets' system makes consumers emotionally not "tuned in" to the actual amount of money paid (Khan *et al.*, 2015). However, consumers' self-control might also significantly affect spending behavior. TPB explains that self-control or perceived behavioral control determines the probability of an individual performing a behavior.

The current study focuses to study how an e-wallet's mode of payment encourages spending behavior. E-wallets are characterized by a modern, comfortable and secure payment mechanism (Matemba and Li, 2018) that might stimulate more spending. This study focuses on e-wallet's mode of payment, as it emerges as an alternative mode of payment in Indonesia, especially during COVID-19.

Generational cohorts and spending behavior

The correlations between spending preferences and age could be interpreted as cohort effects (Sørensen, 2013). People can be categorized into the generation when they shared different particular habits and lifestyles through time. As defined by Turner (1998, p. 302), generation is a "cohort of persons passing through time who come to share a common *habitus* and *lifestyle* [. . .] [and] has a strategic temporal location to a set of resources as a consequence of the historical accident and the exclusionary practices of social closure."

There are three generation cohorts that most probably still live today, which are *Generation X, Y and Z*. *Generation X (Gen X)* were born between 1966 and the late 1980s and also termed as *Baby Blusters* (Chaney *et al.*, 2017). According to Solomon (2014), this generation lived under the threat of nuclear war, economic crisis and the high unemployment rate. They are harder to be influenced (Chaney *et al.*, 2017) because they are skeptical and resistant to marketing stimuli (O'Donohoe and Tynan, 1998). According to Sørensen (2013) and Kingman (2012), these cohorts spend more money than the younger ones because they have a more altruistic perspective on public spending than youngsters. The elderly spend more on health care and pension but the lesser amount on education. *Gen X* did not grow up with the advancement of technology. Consequently, those who are still living today, encounter difficulty in responding to marketing-technology stimuli. Technology innovation in payment creates a more straightforward mechanism that, in the end, inducing consumers to spend more.

Generation Y (Gen Y) or also called *millennials,* were born after *Gen X* between 1981 and 1995 (Brosdahl and Carpenter, 2011). Even though the start and endpoints for *Gen Y* are still debatable, however, Bolton *et al.* (2013) argued that the ending born of *Gen Y* members was in 1999. Unlike *Gen X*, this generation is already exposed to technology which later shaped their behavior (Bolton *et al.*, 2013). Hence, *Gen Y* is more active in social media compare with the preceding generations. Research shows that narcissism is highly found in

Gen Y (Twenge and Campbell, 2008). Such a social lifestyle will likely endure (Bolton *et al.*, 2013) and be followed by the next generations.

Following *Gen Y (millennials)* is *Generation Z (Gen Z)* or mostly termed as *post-millennials* or some used the term of *Gen Next*. This generational cohort of consumers was born between 1995 and the late 2000s (Posnick-Goodwin, 2010). Another literature suggests that *Gen Y* ends in 2010 (Nagy and Kölcsey, 2017). Nevertheless, the borderline between *Gen Y* and *Z* are blurred (Nagy and Kölcsey, 2017). *Gen Z* members are better educated (Babin and Harris, 2016), more technologically driven, hence actively use the internet and smartphones (Bolton *et al.*, 2013). *Gen Z's* main communication channel is not email but social media (Nagy and Kölcsey, 2017), allowing rapid access to information (Kardes *et al.*, 2014). Unlike the previous generational cohort, members of *Gen Z* vigorously consuming digital content and created it. Most of them prefer to be Youtube content creators and dream to be social influencers. *Gen Y* and *Z* are more tech-savvy in any activities, including payment transactions. As e-wallets technology is more advanced, the payment lifestyle will adjust accordingly. *Gen Y and Z* are more inclined to accept and adopt cashless payment compared to preceding generations. Relatively to the current year, those who are categorized as *Gen Y* and *Gen Z* can be also classified as young adults. Therefore, they are more suitable to be set as the sample in this study context.

The younger generation spends less than, the older one (Sørensen, 2013; Kingman, 2012) because it possessed more money and assets (Kingman, 2012) in the context of an individualistic culture such as the USA and the UK. In these typical countries, the youngsters are more economically independent compared to those with collective cultural backgrounds such as Indonesia. Young adults, especially university students in Indonesia are still relying on their parents' supports for education and individual consumption. Parents with financial ability supply funds to their children, enabling the young generations to spend more.

Research questions

Based on the specific literature review aforementioned, this study formulates the following research questions:

RQ1. Why do e-wallets encourage young adults to spend more?

RQ2. How do e-wallets encourage young adults to spend more?

RQ3. What factors contribute to excessive spending behavior in young adults when using e-wallets as payment alternatives?

Research methods

An exploratory sequential or QUAL-QUANT design, combining qualitative and quantitative, is used in this study. It is a mixed-method design consisting of both the core and supplementary methods (Morse and Niehaus, 2009, p. 9). It begins with collecting and analyzing qualitative and quantitative data in two consecutive phases within a single study (Creswell, 2014). The qualitative method is conducted in Study 1 to answer "why" and "how" questions, whereas the quantitative method is used in Study 2 to examine the hypothetical model generated from Study 1.

Study 1: Qualitative method

Study 1 combines a preliminary survey using an open-ended question and focuses group discussion (FGD) technique. The open-ended questionnaire is prepared by using Microsoft Form and distributed online to young adults respondents. Young adults are purposively chosen because their generation is more welcome to digital technology, more specifically, e-wallets. The aim is to explore young adults netizens' opinions on why and how e-wallets drive excessive spending behavior. Afterward, a separate FGD is conducted to discuss similar questions as

aforementioned. The preliminary survey and FGD are separately conducted as the mean for data triangulation. FGD is a tool commonly used for qualitative analysis (Maxwell, 2005). It is designed for open discussion between researchers and selected participants (Walden, 2006). The steps needed in conducting FGDs are planning (Chambers and Munoz, 2009), recruiting participants (Maxwell, 2005), conducting discussion sessions, analyzing and reporting (Yin, 2011), as well as validity (Prince and Davies, 2001). At the end of Study 1, all responses are extracted, coded and grouped based on similar themes. Therefore, a hypothetical model can be formed and tested in Study 2.

Following this study's primary objective, the FGD participants were focused on young adult consumers which are mostly students. FGD was conducted in an online Zoom class that was designed for at least 40 undergraduate students, at the School of Management, Faculty of Business and Economics Universitas Islam Indonesia. The FGD was conducted online because in the COVID-19 pandemic the university instructed all classes to be conducted online. It was an attempt to minimize virus transmission risks. Participants' responses were analyzed, extracted and grouped based on similar keywords. To ensure data validity, a triangulation technique was implemented (Yin, 2011). In this study, triangulation was done by testing and comparing the preliminary explorative survey results and the online FGD. Both activities involving different sources of participants, as suggested by Maxwell (2009). The results were used to develop a research model that is further tested in Study 2.

Study 2: Quantitative analysis

In Study 2, a quantitative method is implemented by distributing online questionnaires to the sampled respondents via several social media platforms familiar to young adults such as Facebook, LINE and WhatsApp. All questions are assessed using a five-Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree." The data is gathered at one time (cross-section) by using a purposive sampling method. The population in this study is all customers who made payments using e-wallets in Indonesia. This study focuses on young adult users in Indonesia because they are more familiar with technology, particularly in using digital wallets. The number of sample respondents is determined following specific rules of thumb developed by previous researchers. In structural equation modeling (SEM), there is no consensus on the minimum requirements for the sample size. SEM can even run a very minimum sample size (Hoyle and Kenny, 1999, p. 391). According to Nunally (1967) and Roscoe (1975), the adequate sample size is determined based on 10 cases per indicator or 10 times the total items in a model.

The data is tested for its reliability and factor loading validity by using IBM SPSS 23. A convergence validity test is aimed at determining whether the items converge at the specific factors that are theoretically confirmed. It is measured by the average variance extracted (AVE) score, where the score must be greater or equals to 0.50 (Bagozzi and Yi, 1988). Following Fornell and Larcker's (1981) procedure, the discriminant validity is assessed by comparing the square root AVE with constructs. The constructs are valid when the square root AVE scores on the diagonal are greater than the correlation of the constructs below the diagonal. Moreover, the data is reliable if the variable Cronbach's alpha and composite reliability (CR) scores are greater than 0.70 (Nunally, 1978).

Afterward, the data is analyzed by using the SEM-AMOS approach. SEM is selected to estimate the full model for two reasons. First, SEM is more appropriate for complex model building. Second, SEM is very effective, as both direct and indirect effects can be verified (Cheung and Lee, 2008; Huh *et al.*, 2009). There are two tests in SEM, namely, measurement and structural model testing. Confirmatory factor analysis (CFA) is conducted in the measurement model. The overall goodness-of-fit model will be evaluated at this stage. The path of each hypothesis will be tested in the structural model test. In structural model testing, the hypothesis is supported when the effect or relationship is significant at p-value < 0.01 (confidence level 99%, error 1%) or < 0.05 (confidence level 95%, error 5%).

Results

Study 1: Focus group discussion

Before FGD, a preliminary explorative survey was conducted by distributing online open-ended questionnaires to selected respondents. The survey asked three main questions such as "do you think that e-wallets encourage you to spend more?" "Why do you think e-wallets make you spend more?" And "how to make e-wallets users hold their spending?" The open-ended questionnaires were distributed via Facebook from January 2020 to February 2020. Facebook was selected for two reasons. First, it is because many young adults use it. Second, unlike Instagram, Facebook allows its users to share the links regardless of the number of friends had. In total, there are 323 responses successfully collected for this stage of analysis. As mentioned in Table 1, there are many as 154 respondents admitted that they use more than one e-wallets daily. In terms of the income stream, most of them (n = 254, 78.63%) are still dependant on their parents. There are 52 (16.09%) of them who are partially dependant and only 17 (5.26%) who are entirely financially independent from their parents. From a total of 323 respondents, 182 (56.35%) believe that e-wallets encourage the users to spend more, while 141 (43.65%) believe that e-wallets do not escalate spending behavior.

When asked why e-wallets stipulate excessive behavior, respondents answered that e-wallets provide "easiness," "promotional program" and "illusion of having money." Respondents wrote in the following ways,

> "[. . .] it can be so because the easiness provided [by e-wallets] and tempted cashback make me more extravagant. The price is discounted, but it pushes me to purchase more, thus eventually the spending will be more."
>
> "E-wallets make payment easier as it is connected too with M-Banking [for topping up e-wallets' balance]. These days most e-wallets also have a 'Pay later' feature."
>
> ".because [I] was attracted by tempted promos, I unconsciously purchase more products without realizing if I need them. For instance, there is a 20% discount for certain foods such as

Table 1 Respondent characteristics of Study 1

Demographic variables	*Explorative survey*	*FGD*
Year of birth		
1965–1976	2	0
1977–1995	11	0
1996–2019	310	43
Income stream		
Fully dependant on parents	254	41
Partially dependant on parents	52	2
Fully independent	17	0
The number of e-wallets used		
Only one e-wallet used:		
■ Go-Pay	62	9
■ OVO	44	6
■ Dana	10	1
■ LinkAja	9	0
More than one e-wallets used	198	30
Do you think e-wallets make you spend more?		
Yes	182	26
No	141	17

pizza. Even though there are many foods in my house, I still purchase that pizza because of the promo offered by e-wallet providers."

"It is because the money [in e-wallets] is not physical, so people do not feel like spending money, do not feel like making a purchase transaction. They just look at the apps and press the screen [to purchase]."

When asked the question of "how to make e-wallets' users hold spending?" most respondents answers that self-control is the only key. Several respondents advised holding the desire to top up the e-wallet balance. In Indonesia, e-wallets balance can be topped up via mobile and internet banking. Many of the respondents also commented that e-wallet users should not purchase products that are unnecessary or essential. Overall, four keywords are extracted from the preliminary explorative survey: perceived easiness, promotional programs, perception of having money and self-control. These findings are then triangulated (Maxwell, 2009; Yin, 2011) in the online FGD session.

The online FGD was conducted to students via Zoom class in May 2020. As many as 43 students joined the 1-h duration of FGD, 26 (60.46%) are male and 17 (39.54%) are female students. All participants are from various regions in Indonesia such as Sumatera (n = 8, 18.18%), Java (n = 30, 68.18%), Kalimantan (n = 2, 4.55%), Sulawesi (n = 3, 6.82%) and Nusa Tenggara (n = 1, 2.27%). For more detailed FGD participants' profiles, please refer to Table 1.

The moderator began asking some "why" and "how" questions similar to those in the open-ended questions to trigger in-depth exploration from participants. The results of online FGD do not vary from the results found in the open-ended questionnaires. Overall, the online FGD successfully extracted four general keywords when asked, "why do you think e-wallets make you spend more?" such as perceived easiness, promotional program/discount, self-control and perception of having money.

The following answers were highlighted during the online FGD,

"E-wallets drive me to spend more because it makes a purchase so easy, without realizing that the purchase has exceeded the budget."

"The e-wallets' apps interfaces are easy and attractive; those strongly influence me to shop. Besides, there are many discounts or cashback [offerd by e-wallet providers] which are such spendthrifts!"

"It is because making payment using e-wallets is easy, thus, creating an impression of not spending [much] money."

When asked "how to make e-wallets users hold their spending?" the responses from online FGD participants were also relatively similar to the answers extracted from open-ended questionnaires. In the most notable comment, a participant said, "we should not install the apps that provide payment using e-wallets." This comment advises the self-control of e-wallet users. A participant also said that the users should set a monthly budget for online shopping using e-wallets. From the FGD, it can also be noted that the users are excessively spending more money feel like no spending money because of the feel of easiness in making payments through e-wallets, thus creating an illusion of money liquidity (Soman, 1999). This finding complies with the results of the preliminary survey.

Therefore, from the preliminary survey and the online FGD in Study 1, this study extracted four factors that might influence young adults' excessive spending behavior: perceived easiness, the illusion of liquidity, promotional programs and perceived behavioral control. These factors are also consistent with previous studies and the underpinning theories (TPB and TAM). Prior studies such as Khan *et al.* (2015), Raghubir and Srivastava (2008) mentioned "decoupling effects" as the determinant of spending behavior. When defined, it is an effect where electronic payment is perceived as less transparent, thus the actual cost of transaction is blurred (Khan *et al.*, 2015). In the preliminary survey and online FGD, some respondents and participants did mention "impression of not spending," "do not like spending the money." Those responses indicated a

"decoupling effect," however, this study uses the word "illusion of liquidity" (Soman, 1999) as it is closer to the meaning of the sentence. Illusion of liquidity is defined as false assumptions that trigger customers to underestimate the price of goods and ignoring the total amount spent.

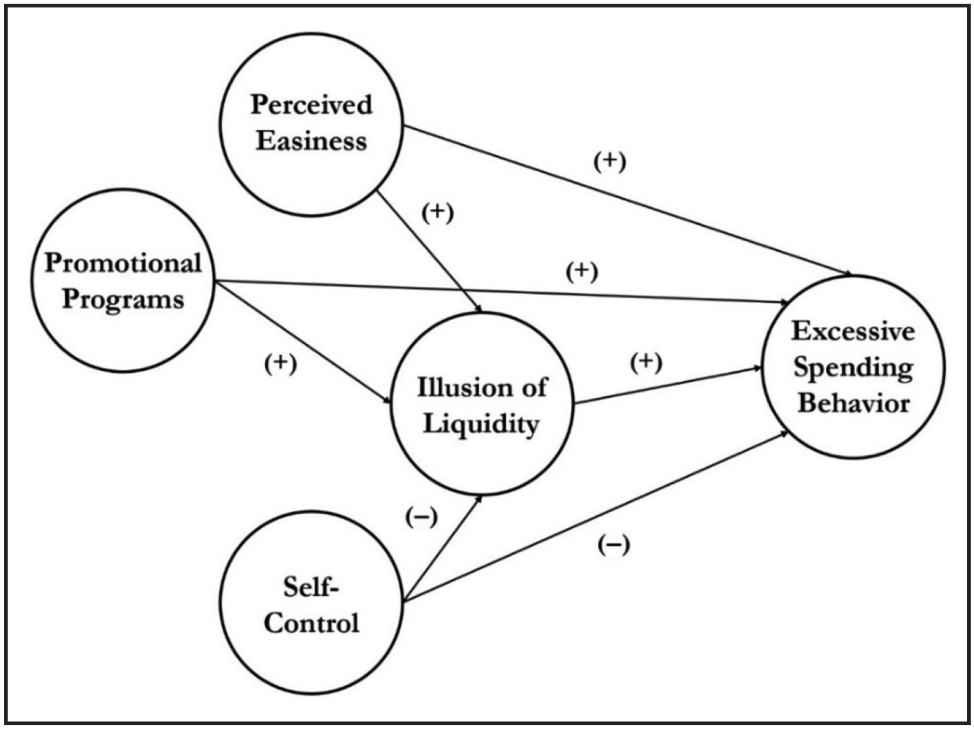
The model can also be explained using the stimulus-organism-response (S-O-R) framework. Based on the S-O-R framework, an individual's internal state such as feeling and perception is influenced by stimulus factors. Easiness and promotional programs act as stimulus (S) and the illusion of liquidity is an individual's internal state or "organism" (O) and excessive spending behavior is a response (R).

Study 1 also gives the idea to establish the hypothetical model showing the relationship as shown in Figure 1. The model shows that the illusion of liquidity (Soman, 1999) explains the relationship between perceived easiness, promotional programs and perceived behavioral control on excessive spending behavior. A false assumption of having liquid money is positively influenced by perceived easiness in using e-wallets and promotional programs offered by e-wallets providers. Besides, the model shows that consumers' self-control may negatively affect the illusion of having liquid money. Illusion of liquidity acts as a mediator in the model, as it may explain how and why such effect –excessive spending- occurs (Baron and Kenny, 1986). On the other hand, the effect of perceived easiness, promotional programs and self-control on spending behavior happened because young adult consumers emotionally feel of having sufficient money. Altogether, those four variables arguably influence e-wallet users' excessive spending behavior. This model is tested in Study 2.

Study 2: Model testing

The hypothetical model generated in Study 1 was then tested in Study 2 using a quantitative method. Using the purposive sampling technique, the online questionnaire was distributed to young adults via Facebook, WhatsApp and LINE.

Figure 1 Hypothetical model generated from Study 1



Out of 306 responses, 17 were excluded because they were not e-wallet users. As shown in Table 2, the respondents were male-dominant (n = 160, 53.69%). About 81.31% of the respondents are entirely dependant on their parents in terms of the income stream, confirming the views that the Indonesian parents shall wean funds to their children after graduating from college. This fund steam practice is rarely found in countries with individualistic cultures. In terms of e-wallets usage frequency, most respondents claimed that they used both physical and digital wallets proportionally (n = 201, 69.55%). Only 11 respondents claimed that they use e-wallets more extensively. Despite e-wallets' growing popularity nowadays, transforming into an entirely cashless society may take several years more. Interestingly, most respondents (n = 169, 58.48%) use more than one digital wallet in their smartphones. While 41.52% (n = 120) of them only trust one out of the four digital wallet providers. Go-Pay seems to be the most popular digital wallet among Indonesian young adults (n = 69 out of 120). Followed by OVO (n = 37 out of 120), Dana (n = 9 out of 120) and LinkAja (n = 4 out of 120).

All questionnaire items were self-developed based on the preliminary exploratory survey and FGD conducted in Study 1. There were 22 items used to measure the five variables, as indicated in Table 3. In the CFA, all items are grouped into five factors. Factor 1 consists of items that measure the "perceived easiness" of using e-wallets as a payment method. These items are strongly reliable, indicated by their CR score ($0.90 > 0.70$). The AVE for this factor is 0.60, which is greater than 0.50, implying a free convergence validity issue. Similar results happen to Factor 2 which consists of items measuring "promotional programs" offered by e-wallets providers (AVE = $0.71 > 0.50$, CR = $0.91 > 0.70$). Three items grouped into Factor 3 measure the "illusion of liquidity" is also internally consistent (CR = $0.81 > 0.70$) and valid (AVE = $0.60 > 0.50$). Four items converged in Factors 4 and five items in Factor 5 measure "self-control" and "excessive spending behavior," respectively. There are also no convergence validity and reliability issues in both factors as the AVE for both factors is greater than 0.50 and the CR scores are greater than 0.70.

Table 2 Respondent characteristics of Study 2

Demographic variables	n	%
Gender		
Male	160	53.69
Female	129	44.64
Income stream		
Fully dependant on parents	235	81.31
Partially dependant on parents	39	13.49
Fully independent	15	5.19
Frequency in using e-wallets		
More cash, fewer e-wallets	77	26.64
A balance between cash and e-wallets	201	69.55
More e-wallets, less cash	11	3.81
The number of e-wallets used		
■ Only one e-wallet used:	120	41.52
■ Go-Pay	69	57.50
■ OVO	37	30.83
■ Dana	9	7.50
■ LinkAja	4	3.33
More than one e-wallets used	169	58.48

In addition, all items are also free of discriminant validity problems. The square root AVE scores for all constructs are greater than the correlation of the constructs below the diagonal. The complete information can be seen in Table 4. The goodness-of-fit (GoF) test is also applied to the model using AMOS. As the overall results, the model can be considered as good or fit (Hooper *et al.*, 2008; Hair *et al.*, 2010), as the CMIN/DF is 2.058 (p-value < 0.01), CFI = 0.933, GFI = 0.90, NFI = 0.88 and RMSEA = 0,05.

The test is moved forward to the structural model. The complete results in Table 5 shows that excessive spending behavior is directly and positively influenced by perceived easiness (β = 0.122, *t*-value = 2.091, *p*-value 0.037 < 0.05), illusion of liquidity (β = 0.392, *t*-value = 4.683, *p*-value 0.000 < 0.01) and promotional programs (β = 0.170, *t*-value =

Table 3 Confirmatory factor analysis (CFA)

Items	*FACTORS* 1	2	3	4	5	*AVE*	*CR*
Perceived easiness							
"PayLater" feature made e-wallets payment easier	0.83					0.60	0.90
Payment using e-wallets is easy	0.83						
The information regarding e-wallets is easy to get	0.74						
The method to pay using e-wallets is clear	0.73						
To be skillful using e-wallets is easy	0.76						
Payment using e-wallets is more comfortable, as it is connected to internet banking	0.75						
Promotional discounts							
E-wallet providers aggressively offer a discount to users		0.87				0.71	0.91
E-wallet providers aggressively offer promotional codes to the users		0.86					
E-wallet providers aggressively offer cashback to users		0.81					
E-wallet providers aggressively offer any other types of promotional programs to the users		0.83					
Illusion of liquidity							
E-wallets make me feel that I have money			0.72			0.60	0.81
E-wallets make me feel that I can purchase products that I want			0.77				
E-wallets make me shop without realizing that I have spent more			0.82				
Excessive spending behavior							
E-wallets make me shop without realizing that I spend more money than the budget					0.79	0.72	0.93
E-wallets encourage me to spend more					0.87		
E-wallets encourage my spending excessively					0.89		
E-wallets encourage me to spend exceeds the budget					0.89		
E-wallets encourage me to be relatively more consumptive					0.81		
Self-control							
I believe that I can control myself from spending more money				0.83		0.53	0.82
Self-control for not spending more money is easy				0.81			
The decision not to spend more money is entirely under my control				0.69			
It is completely my authority either to spend more or not				0.56			

Table 4 Means, standard deviation and discriminant validity results

Variables	*Means*	*SD*	*Perceived easiness*	*Promotional programs*	*Self-controls*	*Illusion of liquidity*	*Spending behavior*
Perceived easiness	4.14	0.54	0.77				
Promotional programs	4.12	0.61	0.37	**0.84**			
Self-control	3.79	0.62	0.14	0.11	**0.73**		
Illusion of liquidity	3.28	0.71	0.16	0.16	−0.13	**0.77**	
Spending behavior	3.17	0.85	−0.01	0.13	−0.44	0.35	**0.85**

Note: The estimates of square roots of AVE are on the diagonals; correlations of the constructs are below the diagonals following Fornell and Larcker's (1981) procedure

2.292, p-value 0.022 < 0.05). While self-control negatively affects customers' excessive spending behavior (β = −0.417, t-value = 6.058, p-value 0.000 < 0.01). The illusion of liquidity has the greatest positive magnitude from four direct predictors to affect young adults' excessive spending behavior in using e-wallets. Self-control also has a strong magnitude toward excessive spending but in a negative direction. It means that customers spend less money whenever they have stronger self-control. Table 5 also provides the statistical test on the indirect effect between perceived easiness, promotional programs and self-control on excessive spending behavior through the illusion of liquidity. The results show that the indirect effect only occurs on self-control → illusion of liquidity → excessive spending behavior relationship (β = −0.082, t-value = −2.129, p-value 0.033 < 0.05). The indirect effect on perceived easiness → illusion of liquidity → excessive spending behavior and promotional programs → illusion of liquidity → excessive spending behavior relationships are not proven significantly, as the t-value is less than 1.96 and p-value > 0.05.

Discussion and conclusion

Study 1 found that young consumers' excessive spending behavior when using e-wallets is associated with easiness, perception of having liquid money (the illusion of liquidity), self-control and massive promotional campaigns that include cashback, discounts and special prices. The results in Study 1 are supported by Study 2, confirming the direct effects of those variables on excessive spending behavior. Perceived easiness can trigger young adult consumers to behave exaggeratedly in spending. For example, e-wallets providers in Indonesia have collaborated with banks to facilitate their users to top up their account balances. This is admitted by the respondent in Study 1, alleging that "E-wallets make payment easier as it is connected to M-Banking [for topping up e-wallets' balance]." The respondents also claim that using e-wallets is easier as most e-wallets providers offer the "PayLater" feature allowing for more flexible payment. Past studies reveal that credit card payment stimulates its users to spend more (Soman, 2001; Raghubir and Srivastava, 2008; Teoh *et al.*, 2013; Runnemark *et al.*, 2015; Trinh *et al.*, 2020), so e-wallets are even more. Young adults are more connected to smartphones (Bolton *et al.*, 2013) because it has more modern, easier and secure features (Matemba and Li, 2018).

Study 2 also confirmed the information from Study 1 that massive promotional campaigns shape young consumers' mindset of possessing more money, thus, encouraging more spending. Raghubir *et al.* (2004) classified three promotional effects: first, an economic effect related to monetary and non-monetary gain; second, informational effect, which affected customers' product knowledge; the third, effective effect customers' feelings or emotions. These three effects can explain why e-wallets' promotion influences young adults' spending behavior. In the case of discounted products, Lee and Chen-Yu (2018) empirically proved that customers think they saved more money when they buy discounted products, which

Table 5 Relationship testing

Proposed relationship	*Direct effect (β)*	*Indirect effect (β)*	t-*value*	p-*value*	*Sig*
The illusion of liquidity → spending behavior	0.392		4.683	0.000	**
Perceived easiness → spending behavior	0.122		2.091	0.037	*
Perceived easiness → illusion of liquidity	0.149		1.499	0.134	ns
Perceived easiness → illusion of liquidity → spending behavior		0.057	1.367	0.172	ns
Promotional programs → spending behavior	0.170		2.292	0.022	*
Promotional programs → illusion of liquidity	0.170		1.594	0.111	ns
Promotional programs → illusion of liquidity → spending behavior		0.066	1.416	0.157	ns
Self-control → spending behavior	−0.417		6.058	0.000	**
Self-control → illusion of liquidity	−0.205		2.154	0.031	*
Self-control → illusion of liquidity → spending behavior		−0.082	−2.129	0.033	*

Notes: ** p-value < 0.01; * p-value < 0.05; ns = p-value > 0.05

eventually leads to more buying. In a case of a coupon, Kadoya *et al.* (2020) revealed that consumers tend to spend more money on coupon products, even though the relationship is like an inverted U-shaped (Jia *et al.*, 2018). Similarly, the study results also confirmed Vana *et al.* (2018), claiming that cashback payment increases consumers' probability of making additional purchase quantities. In short, promotion programs such as discounts, cashback, coupons created by e-wallet providers, can encourage young consumers to spend more.

Unlike the other variables, self-control affects spending behavior in a negative direction. In Study 1, mostly FGD participants agree to hold excessive spending when using e-wallets. To do so, they should have self-control. It includes a perception that he or she can control his/her desire. It can be implied that young adult e-wallets users spend less money when they have high self-control. This finding is theoretically supported by Ajzen's (1991) TPB, which includes perceived behavioral control (PBC). It comprises two constructs, namely, self-efficacy (one's belief about their ability) and perceived controllability (one's belief that behavior is volitional) (Ajzen, 2002). Specific prior studies on this relationship are yet to be found; however, in the context of credit cards, Anastasia and Santoso (2020) and Kennedy and Wated (2011) proved that PBC influences consumers' behavioral intention to use credit cards. The use of credit cards is often out of control. With such more advanced easiness features, e-wallets have more potential to be used out of control by young consumers. Thus, individual self-control can hold young consumers to spend more.

Excessive spending behavior when using e-wallets is also affected by the illusion of liquidity. It is a false assumption of having liquid money (Soman, 1999). A decoupling effect, when the actual cost is obscured (Khan *et al.*, 2015). This happens, as the money being transacted is not physical but digital. It is admitted by the participant in Study 1 who said that "it is because the money [in e-wallets] is not physical, so people do not feel like spending money, do not feel like making a purchase transaction. They just look at the apps and press the screen [to purchase]." Psychologically, technology affected young consumers (Bolton *et al.*, 2013). In addition to Study 1, Study 2 also found that illusion of liquidity is also strongly and negatively influenced by self-control. In essence, the users' illusion of liquidity is negative whenever the self-control is positive. However, Study 2 found that illusion of liquidity is not significantly influenced by perceived easiness and promotional programs. This is interesting because, in the FGD, several participants admitted that the easiness provided by e-wallets creates an impression of not spending much money. These findings also do not support the S-O-R framework. Easiness and promotional programs are not the best stimuli for the illusion of liquidity. Future studies should consider emotions (Khan *et al.*, 2015) as the direct determinant of the illusion of liquidity in the electronic payment research topic.

It is also interesting to know that of 3 mediating hypotheses, only 1 is supported. The effect of self-control on spending behavior is found to be partially mediated by the illusion of liquidity. It supports participants' responses in Study 1 who said that self-control is the key to hold excessive spending using e-wallets. However, this study found that there is no full or partial mediation between perceived easiness → illusion of liquidity → spending behavior and promotional programs -> illusion of liquidity → spending behavior. Perceived easiness is found not significantly influence spending behavior. Probably, it is because based on Roger's (1995) Diffusion of Innovation, easiness is more connected to the adoption of innovation or technology. In this study setting, easiness can be more associated with e-wallets adoption, not spending behavior.

The results of this study encourage e-wallet practitioners to develop a nudging strategy that focuses more on easier payment mechanisms. E-wallet providers should build more strategic partnerships with online marketplaces or merchants.

In conclusion, answering three RQ's asked at the beginning of this study, young adult consumers spend more money using e-wallets due to the e-wallets' perception of easiness, promotional programs, self-control and the illusion of liquidity. This study also concludes that the illusion of liquidity explains why and how self-control influences spending behavior.

Limitations and future research directions

During the COVID-19 pandemic where a physical meeting is not suggested, the FGD is conducted online via Zoom. Perhaps, this condition can be one limitation this study faced. In an online FGD, it is difficult to engage in participation for each participant. The Internet connection can sometimes be the barrier to effective communication, thus the message is not decoded. For future research, it is suggested to conduct a physical FGD to avoid communication problems. It is also highly advised to involve related stakeholders in the FGD such as e-wallet providers and, perhaps, also the parents, as most young adult consumers in Indonesia are financially still dependant on their parents. This will give a more comprehensive understanding of why and how e-wallets encourage excessive spending behavior.

The constructs generated from Study 1 missed several important variables from past studies such as pain of paying (Zellermayer, 1996), decoupling of payment and consumption (Raghubir and Srivastava, 2008) and tangibility of cash (Khan *et al.*, 2015). Therefore, it is highly recommended for future studies to consider examining those variables.

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Corresponding author

Hendy Mustiko Aji can be contacted at: hm.aji@uii.ac.id