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What Drives Emerging Products Adoption Intention? Comparing Strategic Entrepreneurship Outcome of Leading Digital Multi-Sided Platform Startups

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ABSTRACT

The findings from this research serves as information exchange mechanism through customer interactions and aims to contribute to enhancing the strategic entrepreneurship of the multi-sided platform start-ups through efficient implementation of e-wallet services as an emerging product. The study adopts task technology fit model in analyzing the e-wallet adoption intention for two markets: E-commerce and transportation. Based on the results of preliminary study, the differences in the respondents' e-wallet adoption intention between the two sectors of e-commerce and transportation provides ground for this comparative study to analyze the underlying consumer behavior that endorse/ deter the usage of e-wallets. The independent variables (E-wallet tasks, compatibility, relative advantage) are analyzed within the TTF framework towards e-wallet adoption. 25-items questionnaire were distributed to a non-probability sample size of 100 and 101 valid responses for e-commerce and transportation respectively. Hypotheses were tested through structural equation modeling and exploratory factor analysis and confirmatory factor analysis were deployed to check the validity and reliability. Findings indicate compatibility and relative advantages positively influences TTF in both e-commerce and transportation usage. However, e-wallet tasks positively influence only the TTF in transportation and has no significant impact on TTF in e-commerce. The study contributes to a better understanding of the adoption intention gap that arise due to task differences and provides SE implications for MSP digital start-ups to formulate more innovative strategies for user attraction.

JEL Classification: O3, Y8, O36

Keywords: emerging products, strategic entrepreneurship, multi-sided platform, task technology fit, e-wallet tasks, compatibility, relative advantages, adoption intention

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I. INTRODUCTION

Strategic entrepreneurship (SE) derives from a combination of strategic management and entrepreneurial spirit in driving growth of the firm (Kim, 2018). Despite different origins and independent evolution, the two practices strived to achieve a common goal: firm's growth and maximization of wealth (Hitt et al., 2011). The underlying notion for SE is that firms must simultaneously push aspects: 1) efficient exploitation of existing capabilities and 2) exploring new innovations to not be left behind due to technological advancements (Hughes et al., 2021).

The value of SE lies in how it takes in two theoretically opposing constructs and proposes appropriate mix of both, resulting in complementary effect for the firm. In a theoretical sense, too much advantage-seeking may lead to stagnant status for the firm who has lost the ability to constantly innovate while too much exploration may lead to increased risks and low sustainability (Hughes, et al., 2021). These advantage-seeking and opportunity-seeking behaviors of the firm often compete for limited resources of the firm and requires an ideal balance emphasized by IT capabilities and product innovation performance (Lyver and Lu, 2018).

The rationale for SE has become more prevalent over the years as traditional business models are disrupted by technological advancements and its fast adaptations. It is essential for newly starting firms to bridge the gap and pursue SE which enhances the existing capabilities to be competitive in both market and technology frontiers in order increase its product quality as well as product innovativeness (Withers et al., 2018). It reinforces the argument that firms can simultaneously maximize their profit while exploiting existing advantages (advantage-seeking) and exploring new competencies (opportunity-seeking) (Lyver and Lu, 2018; Hughes et al., 2021; Schröder et al, 2021; Bayer and Landau, 2022).

Building upon two prominent notions from each field, SE can be summarized as a product of entrepreneurial orientation and dynamic capabilities (Kim, 2018). While the latter is deemed more prioritized by incumbent enterprises, small firms such as start-ups, can greatly benefit from the prior which improves the product innovation capabilities. In a quick-paced and volatile market such as today, both are essential in guaranteeing continued growth and business continuity.

Embracing the building blocks of strategic entrepreneurship, more than 500 multi-sided platform (MSP) digital start-ups had legally been certified by 2019 (Warta Ekonomi, 2019). Simply defined as a digital platform acting as an intermediary between two or more user groups (ie., buyers and sellers), the reason for interaction is for carrying out activities within economic value chains (Alt and Zimmermann, 2014). Despite MSP having been around for a long time, only with the generalization of internet and digitization, has it shown enormous potential to disrupt existing industries. Two arguments support the claim that MSP are the future of business; first, transaction costs are minimized owing to efficient platforms; second, in terms of adaptability and capacity to manage complexity, rapid growth and value creation, MSP business model perseveres.

Despite the enthusiasm, only a few start-ups ultimately succeed (Yoffie et al., 2019), mainly due to failure to attract users. The key indicator of a successful MSP is linked to its user base: how to attract more users, how to retain the existing users and encourage them to be more active (Abdelkafi, 2019). Based on the strength of the network effect that results from the user base, the growth rate of user base can vary greatly.

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However, network effects alone do not determine the success of MSP (McAfee and Brynjolfssn 2017) and is subject to economic and technological factors. Software platforms identifies two types of platforms: innovation and transaction platforms where the prior refer to providing an ecosystem for creation of complementary products and services (Cusumano and Gawer, 2002) and the latter refers to taking on the role of an intermediary between two or more parties for exchange of goods and services (Evans and Schmalensee, 2016).

Tokopedia is a prominent example of a successful transaction type MSP digital start-up (e-commerce) in Indonesia, which has achieved unicorn status, valued over 1 billion US dollars in less than 10 years since its foundation (CNBC, 2020) and claims to have contributed 1.5 percent of the overall Indonesian economy (Siregar, 2019. In response to growing competition in the ecommerce market and penetration of fintech services, Tokopedia launched its own platform currency called TokoCash as their emerging products. This fintech functions in form of an e-wallet to be topped up for exclusive usage in exchange for products and services offered by the platform and ranked second most popular among the consumer fintech (Daily Social, 2017).

For the MSP start-ups to thrive, adoption of new technologies, processes and management forms which conceptualizes radical innovation must be embraced. Radical innovation puts importance in fresh ideas, in particular the information exchange that arises from the interactive relationships with customers, resulting in exploitive learning ability (Wang and Xu, 2018). Radical innovation delivered through the exploitative learning mechanism is a core component of entrepreneurial orientation as well as its informational role in generating appropriate strategies in accordance with the dynamic capabilities in their operating environment (Zhang et al., 2021).

In the digital era, technology is critical, especially, in the payment situation, where cashless payment has now become a common means of transaction within the growing number of digital marketplaces such as Tokopedia. Cashless payment, also known as electronic money, has become a growing phenomenon for every payment sector (PT. Niskala Media Tenggara, 2016). Covid-19 pandemic has only accelerated these emerging products trend along with number of digital transactions (MarkPlus, 2020) with many players entering this digital market (Liputan6.com, 2020). Shopee Pay, GoPay, OVO and DANA has emerged as the most popular e-wallet services. With the recent merger of Tokopedia and GoJek (issuer of GoPay), the network effect for both has greatly expanded and the overall market share and penetration is expected to increase significantly.

Being the fourth most populated country in the world with more than 270 million citizens (World Bank, 2021), the bank account penetration is as low as 48% of the adult population, much lower than its neighboring countries such as Malaysia (85%) and Thailand (82%) (World Bank, 2017) and only 10% of them adopted non-cash payment (World Bank, 2014). With more than 250 million people in a young population growth and 52 million people entering the consumer class each year, Indonesia has significant attention as a major consumer market from global and local technology companies, which has greatly changed the retail and transportation sector landscape (KPMG Siddharta Advisory, 2017).

Mobile penetration in Indonesia is as high as 91% of the population, where 47% are smartphones (Freischlad, 2017). Some analysts believe payments-ready phone for Indonesian people will leapfrog card-based payments (KPMG Siddharta Advisory, 2017). Mobile devices may include mobile phones, PDAs, wireless tablets, and any other device

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that connects to the mobile telecommunication network and can make payments (Karnouskos and Fokus, 2004). Au and Kauffman (2007) define a payment-ready phone mobile device as payment to be authorized, initiate, and confirm exchange of sales and exchange of services for our purposes.

Understanding the unique characteristics of e-wallet as emerging products to be a potential opportunity for MSP digital start-ups to lock-in their users to their platform, this research aims to explore the adoption intention of mobile payment based on the commonly used Technology Acceptance Model (TAM). This study also adopts Task Technology Fit (TTF) model to understand the factors that drive e-wallet usage with relation to new product adoption in combination with innovation diffusion theory (IDT) and employs the 6-point Likert scale measurement as previously conducted by Hsiao (2017).

Five key characteristics of innovation can be defined as relative advantage, complexity, trialability, compatibility, and observability (Rogers, 2003). Relative Advantage have strong increasing influence on adoption intention for smartwatch (Hsiao, 2017) and Islam (2016) found that the compatibility of a learning management system will affect students' learning performance and usage intention, in accordance with IDT. Relative Advantage and Compatibility are variables that would be used. (Islam, 2016).

Preliminary study finds that 181 respondents, when asked if they have previously topped-up GoPay and TokoCash, 12 and 80 respondents answered yes respectively. From this observation, there seems to be a difference of e-wallet adoption intention between e-commerce and transportation. By comparing the two usage areas, researcher hopes to identify the factors that deters or encourages users from using e-wallets.

The purpose of this study is to examine the factors that affect e-wallet adoption using task technology fit model and the differences in the factors that affects users' adoption intention for e-wallet in the context of transportation and ecommerce as these are the most prominent fields for e-wallet usage in Indonesia. The research is formatted as the following: literature review, hypotheses, and research method, results and discussion, and conclusion.

II. LITERATURE REVIEW

A. Technology Acceptance Model (TAM) and Task Technology Fit (TTF) Model

Recent studies identify the factors that influence adoption intention to use mobile payment in the case of Go-Pay on Go-Ride service using research model and theoretical framework derived from Technology Acceptance Model. The results indicate perceived usefulness (PU), perceived ease of use (PEOU), and perceived security influence intention to use (Mubarok, 2017). Past studies also adopt TTF model which combines new product adoption with the innovation diffusion theory (IDT) to explore the factors that affect smartwatch adoption (Hsiao, 2017).

Task-technology fit is defined as the degree to which the technology features match the task requirement (Goodhue and Thompson, 1995). It means TTF model systems will help to maximize individual performance when technology is a good fit with the task requires (Goodhue and Thompson, 1995). The empirical results reveal that the interaction of task characteristics and technology characteristics significantly affect the task-technology fit, which further impacts the intention to use a social networking site

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(Lu and Yang, 2014). Some study search in the field of m-banking tasks find there is significance results with task-technology fit (Tam, 2016).

Chung et al. (2015) suggests that e-wallet can facilitate daily tasks and the TTF model can be used to explain the reasoning behind e-wallet usage (Chung et al., 2015). Rogers (2003) indicated that product attributes are key factors that influence users' adoption of a product, the e-wallet tasks become other variables that can be used.

B. E-Wallet as Emerging Products Tasks

The universe is continuously winding up more digitized in various areas. The electronic wallet framework makes the stage for putting away and getting to monetary fund without the need of ATM cards (Rutter, 2012). An electronic wallet is a virtual or a cashless service utilized as a substitute for physical money. Prepaid wallets will increasingly replace cash in the near future. They will not replace debit or credit cards but will be used for specific needs and micro transactions (Salodkar et al., 2015).

E-wallet in this way has been characterized as an efficient and transparent electronic device system that uses vouchers for the purchase and distribution of agricultural inputs (Nnenna, 2013). Likewise E-wallet can be utilized to personalize digital artifact that contains electronic payments instruments (Olsen et al., 2011) for example, person-to-person (P2P) payments and other payment methods, balance-inquiry and reporting functions, support of loyalty programs (rewards, coupons), and other functions (Aite Group, 2016). An E-Wallet enables customer to make electronic commerce transaction rapidly and safely, resulting in higher speed and efficiency for online shoppers (Upadhayaya, 2012). An electronic wallet is a virtual or a cashless service used as a substitute for physical cash.

C. Compatibility in Digital Emerging Products Context

The degree to which a technological innovation is perceived as being consistent with existing operating practices, beliefs, values, past experiences, and needs is definition of compatibility (Rogers, 2003). Attributes of compatibility can impact the choices of utilizing new technology since technology frequently requires formation to change their current business practices and tasks in order to build the advantages of utilizing the technology (Lee and Kim, 2007). This study finds that compatibility have a positive relationship with the extent of E-Commerce adoption (Mndzebele, 2013).

D. Relative Advantages

Relative advantage of an innovation defined as "the degree to which the innovation is perceived as being better than the idea it supersedes". Organizations must recognize that the selection of innovation will either offer answers for existing problems or present new opportunity, such as expanded profitability and enhanced operational effectiveness (Rogers, 2003). Organizations adopt a technology when they see a need for that technology, believing it will either take advantage of a business opportunity or close a suspected performance gap (Zhu and Kraemer, 2005).

Mndzebele (2013) finds that relative advantage not significance with the extent of adoption of E-Commerce. Another study found relative advantage of a new technology

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had a positive relationship with task-technology fit and adoption intention to use smartwatch (Hsiao, 2017). Tornatzky and Klein (1985) also found that relative advantage has a positive relationship with adoption of innovation (Kapoor et al., 2015).

E. Adoption Intention

Joubert and Belle (2013) defines adoption intention as the result of the sum all variables that culminate into a goal showing that the consumer will perform certain actions. Adoption intention of consumers are affected by perceived product attributes, environmental variables, and consumer traits. Consumers who have the characteristic of innovativeness, are more likely to adopt new products (Im et al., 2003). If the technology can support the tasks, the technology will be adopted and if it helps bring more advantage, the results show that adoption intention influence of the consumer adoption to the tasks. (Hsiao, 2017) and is often used as a proxy for adoption.

The characteristics of tasks and technology have a strong impact on TTF, which in turn influences consumers' intention to adopt mobile banking. They note that if banks consider the suitability between consumer task requirements and cellular banking system features, consumers will be more interested in using the system when launched (Zhou et al., 2010). In contradiction, Oliveira et al. (2015) found that the TTF did not have significant influence on the intention to adopt mobile banking, and that task characteristics had less effect on TTF than on technology characteristics. Consumers who still consider cellular networks as a new concept and remain unfamiliar with the services and features provided by the network are not affected to adopt mobile banking (Sampaio et al., 2015).

F. Hypotheses

This chapter comprises of the explanation of the theoretical framework, the hypothesis statement, the operational definition of the variables, and the methodological choices followed by explanation of data collection methods and describing the analytical techniques employed. This research adopts quantitative approach. All respondents have been informed of the research purposes and agreed to help the researcher to solve the problem by answering and spreading the questionnaire to be collected for numerical analysis and interpretation (Yin, 1994).

The figure on the relation of “What Drives E-Wallet Adoption Intention? Comparing E-Wallet for E-Commerce and E-Wallet for Transportation” is shown in Figure 1.

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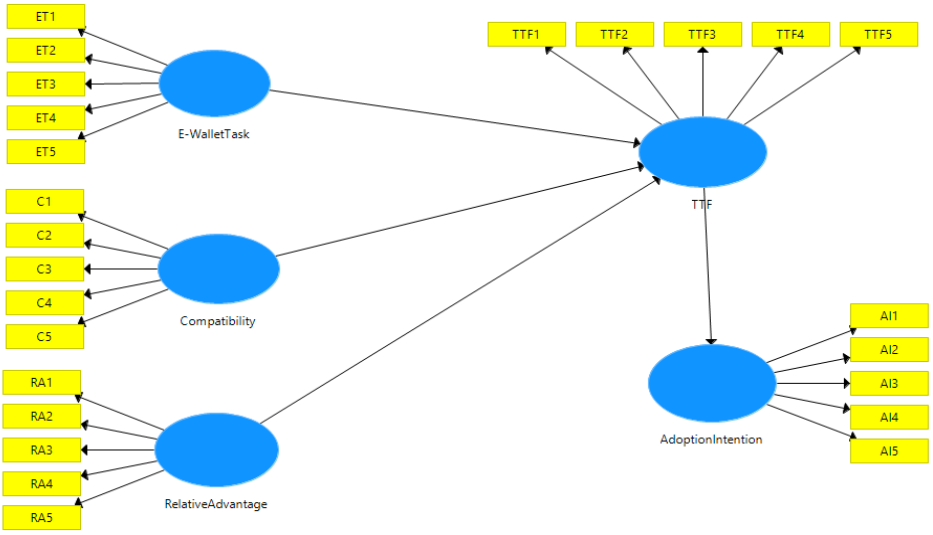
Figure 1
Research Framework



1. Task-Technology Fit and E-Wallet Task

There are four types of task characteristics: communication assignments, information assignments, payment transaction assignments, and entertainment tasks (Zigurs and Buckland, 1998). Kim and Ammeter (2014) explore the intention of adopting a consumer information system in the context of communication and information tasks. Therefore, to explore the factors that affect the TTF, researchers choose the information system and the task of payment transactions. When the function is aligned with the task that must be completed, consumers can obtain the necessary information or complete the task faster and more efficiently (Hsiao, 2017). We propose the following hypothesis:

H1: Functions of the e-wallet facilitating consumer tasks, positively influences TTF.
H2: TTF positively influences e-wallet adoption intention.

2. Compatibility and Relative Advantages

IDT records five key characteristics of innovation: observation, compatibility, relative advantage, experimental ability, compatibility, and complexity (Rogers, 2003). Compatibility is an acknowledgment in which technological tasks are considered consistent with the needs, values, and experiences of previous adopters (Kim and Ammeter, 2014). The relative advantage of referring to perceived benefits obtained by innovative products compared to prototypes (Hsiao, 2017). Perceptions of the relative benefits of consumer impressions of the latest technology and the most effective factors for determining whether new technology is accepted or not. Considering e-wallet is a new method of payment replacing cash payments, we propose the following hypothesis:

H3: Compatibility positively influences TTF.

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H4: Relative advantage positively influences TTF.

III. METHODOLOGY

A. Operational Definition of Variables

The current study uses construct measurement from Adoption Intention, Task-Technology Fit, Compatibility, E-wallet Tasks, and Relative Advantages. It is measured by a scale consisting of 5 questions with 6 Point Likert Scale, shown in Table 1.

Table 1
Operational Definition of Variables

Construct	Item	Indicator	Source
Adoption Intention (Y) *Probability consumer will perform certain actions* (Joubert and Belle, 2013)	AI1	I would consider using a E-Wallet	
	AI2	I intend to use a E-Wallet whenever appropriate to my needs.	
	AI3	I intend to use a E-Wallet in the future.	
	AI4	I am likely to return to E-Wallet for my next usage	
	AI5	I will recommend E-Wallet	
Task-Technology Fit (Y) *degree to which the technology features match the task requirement* (Goodhue and Thompson, 1995)	TTF1	The functionalities of E-Wallet are very adequate.	(Tam, 2016)
	TTF2	The functionalities of E-Wallet services are very appropriate.	
	TTF3	The functionalities of E-Wallet are very useful.	
	TTF4	The functionalities of E-Wallet are enough to help me do the payment.	
	TTF5	In general, E-Wallet services are enough	
Relative Advantage (X) *degree to which the innovation is perceived as being better than the idea it supersedes* (Rogers, 2003)	RA1	A E-Wallet makes it easier for me to do tasks.	(Hsiao, 2017; Mndzebele, 2013)
	RA2	A E-Wallet improves the quality of tasks.	
	RA3	A E-Wallet allows me to accomplish tasks more quickly.	
	RA4	A E-Wallet allows me to increase my productivity on tasks.	
	RA5	I find E-Wallet useful for managing my task.	
Compatibility (X) *degree to which a technological innovation is perceived as being consistent with existing operating practices, beliefs, values, past experiences, and needs* (Rogers, 2003)	C1	An E-Wallet is easy to use	(Hsiao, 2017)
	C2	Using E-Wallet payment is compatible with my experience about using a cash payment.	
	C3	Using E-Wallet payment is compatible with my current situation.	
	C4	An E-Wallet payment is compatible with my needs from a cash payment.	
	C5	Using a E-Wallet is helpful.	
E-Wallet Tasks (X) *electronic wallet is a virtual or a cashless service utilized as a substitute for physical money* (Rutter, 2012)	ET1	I need to manage my accounts anytime anywhere	(Hsiao, 2017)
	ET2	I need to top-up everywhere, every time.	
	ET3	I need to redeem my e-wallet as much as cash required.	
	ET4	I need to have a quick change on payment method if my balance falls short.	
	ET5	I need to have a real time control in my accounts.	

B. Instrument

The questionnaires were divided into 2 groups, the questionnaire for e-wallet for e-commerce users and questionnaire for e-wallet for transportation users. This questionnaire is distributed to the respondent to open the objective of the research.

A pilot test of the questionnaire conducted to 60 people (30 people for e-wallet for e-commerce users, and 30 people e-wallet for transportation users). The aim of the pilot test is to avoid the odd and invalid items in the instrument that will make ambiguous questions so the respondents will understand the meaning and answer the questions. The factor loadings for the questions that could be eliminated are less 0.5.

After collecting 60 data from 2 demographic profile, 25 independent variable questions, and 3 dependent variable questions. In this research used Likert scale at six-point Likert from strongly disagree to strongly agree. Instead of using seven-point Likert type scale that respondents often choose the middle alternative, six-point Likert will force the respondent to take a distinct standpoint (Fleischer and Wåhlin, 2016).

C. Sampling

The sample of the research are the general population who live in Indonesia and have been using e-wallet for e-commerce/transportation between the age range of 18-38 years old. The survey questionnaire was distributed via popular social media sites. Distributed indiscriminately to existing contacts (non-probability sampling), the survey starts with a filtering question which eliminates respondents who have no experience of using e-wallet for e-commerce or transformation purposes. Respondents that already filled the questionnaires were asked to share it to their friends and relatives, likely to have used the e-wallet. The snowball sampling technique aims to approach likely respondents to find key informant whose characteristics as intended for research purposes (Nurdiani, 2014) and is therefore in line with our research purposes whose focus is on consumers who have had previous experience of using an e-wallet.

D. Data Collection

1. Procedure

In this research, primary data was collected by survey method using online questionnaire and divided into 2 different questionnaire links for e-commerce users and transportation users. These questionnaires are of the same content. By dividing these questionnaires, it becomes easier for respondents to answer more objectively as some of them may only use either of the two. The primary data collected from the survey was then analyzed using the Partial Least Square Structural Equation Model (PLS-SEM).

In addition to findings from the primary data, this research also contains secondary data for the literature of this study as well as in the anlaysis and interpretation part of the paper. Most of the secondary data collected are from previous journals, theses, books, reports, articles, and credible internet websites to support the construction of the theoretical framework and selection of factors influencing e-wallet adoption intention.

2. Validity and Reliability

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In quantitative studies, validity as a range of concepts is measured accurately (Heale and Twycross, 2015). A valid questionnaire if the question can be measured most of the questions. (Ghozali, 2016). There are two types of validity, namely convergent validity and discriminant validity. Convergent validity presents instruments with high correlations with instruments measured in the same variable. Discriminant validity presents additional concepts, because two different concepts must show sufficient differences.

Convergent validity can be done by looking at The Outer Loadings and Average Variance Extracted (Heale and Twycross, 2015). The acceptable external load is 0.5 which means satisfying, while the external load is 0.7 which means very satisfying (Memon and Rahman, 2014). AVE is a large average value of quadratic loading of all indicators sets (Hair, 2010). The minimum Variance Extracted (AVE) minimum value is 0.50 or higher. Fornell and Larcker assessed the criteria for discriminant validity. This method states that the construct of sharing is more diverse with indicators compared to other constructions. To test this requirement, the AVE of each construct must be higher than the highest quadratic correlation with another construct (Fornell and Larcker 1981). Henseler and Sarstedt (2013) propose another way to measure discriminant validity is to examine the cross load of indicators.

3. Respondent Profile

In this section, respondents are required to fill in their gender, age, and if they are using e-wallet in order to know how their response to the questions were given. Gender is divided into female and male to know whether which gender is the most e-wallet users. Then, the age is in the range of millennials since the most users of e-wallet are millennials. The last question is about have they ever use e-wallet, it can separate the users of e-wallet to answer the questions.

4. Descriptive Analysis

Descriptive analysis is a measurement that utilized as a part of data analysis that is explained with description or information that has been submitted then concluded that applies to public (Ghozali, 2016). This research uses Likert Scale from 1 – 6 that means strongly disagree and strongly agree. With the intervals reads: Extremely agree, very agree, Somewhat agree, Somewhat disagree, Very disagree, Extremely disagree.

5. Inferential Analysis

The Goodness of Fit (GoF) recently obtained an increase in dissemination as an index to assess the overall fit model in the PLS pathway model (Tenenhaus, et al., 2004). Using PLS path goodness-of-fit modeling must know how to interpret it and for what purpose they can be used. Bentler and Bonett (1980) provide the first fit steps proposed in the SEM literature as normed fit index (NFI). The Chi^2 value of the model in Chi^2 does not provide understandable information to assess the suitability of the model, NFI uses the Chi^2 value of the zero model as a measurement. NFI produces values between 0 and 1. The closer the NFI to 1, the higher the match. NFI values above 0.9 usually indicate acceptable matches. Hu and Bentler (1999) SRMR is defined as the difference between

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observed correlations and implied correlation matrix models. Thus, it is possible to assess the average difference between the observed and expected correlations as an absolute measure of the appropriate criteria (model). A value less than 0.10 or 0.08 is considered suitable.

IV. RESULTS AND DISCUSSION

Questionnaires were distributed from 14 August to 13 September 2018 Participants were recruited through online communities on social media such as Line, WhatsApp, Facebook and Instagram. There are a total of 200 valid data consisting of 100 responses from e-wallet for e-commerce users and 100 responses from e-wallet for transportation users. This chapter explains test results and hypotheses. This was tested using SEM-PLS. Primary data is processed into Smart PLS 3 software to calculate PLS algorithms.

A. Outer Model Analysis

1. Convergent Validity

Data processing results shows that the external loading of E-Wallet for E-Commerce in each construct has a value above 0.5, so the measurement model is reliable and stronger. For the outer loading above it shows that the latent variable has well-fitting reflective model, which are higher than 0.70 (Henseler and Sarstedt (2013). The lowest outer loading in e-wallet for e-commerce is C2 which is 0.712 outer loadings, also AI2 has the highest score with 0.871 outer loadings.

The results of data processing shows that the outer loading of E-Wallet for Transportation that has lower outer loadings in the range of 0.4 to 0.7 which are C2, ET3, RA5. According to Hair (2010) indicators with that measurement loading should be dropped to improve composite reliability (Hair, 2010). Overall, other outer loadings have value above 0.7 which is the latent variable is more reliable.

2. AVE

The AVE that shows in the table has reach the required level which is 0.5. The AVE for E-Wallet for E-Commerce has the lowest value 0.586 was E-Wallet Tasks and the highest AVE 0.664 which is task technology fit. For Transportations E-Wallet the lowest AVE 0.588 was E-Wallet Tasks, and the highest AVE 0.678 was Adoption Intention. Overall, from the measure of outer loading and AVE for e-commerce and transportation e-wallet passed the convergent validity (Table 2).

Table 2
AVE

	AVE for E-Commerce	AVE for Transportation
Adoption Intention	0.660	0.678
Task Technology Fit	0.664	0.596
E-Wallet Tasks	0.586	0.588
Compatibility	0.618	0.647
Relative Advantages	0.638	0.589

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3. Discriminant Validity

Discriminant validity is used to ensure that the concept of each variable varies from other variables. All e-commerce and transportation cross-loading values in each construct variable have the highest loading compared to other variables. This means that each e-commerce variable meets the discriminant validity requirements.

4. Reliability Test

For e-wallet for e-Commerce Reliability test, Cronbach's Alpha must be more than 0.5. Upon running Cronbach's Alpha test on e-wallet for e-commerce and transportation data set, the dependent variable and all other independent variables passes the Cronbach's Alpha reliability test and adds to the robustness of the results (Table 3).

Both E-wallet for e-commerce and E-wallet for transportation endorsed Cronbach's Alpha higher than 0.8 with the result of a good confirmation goal and a composite reliability test. For this study shows all variables in this study are reliable.

B. Inner Model Analysis

In this research there are 2 variables which are Adoption Intention which influence by TTF which being influenced by e-wallet tasks, compatibility, and relative advantages. In the table above shows R-square for adoption intention of e-wallet for e-commerce (0.649) and the R-square of Task-Technology Fit of e-wallet for e-commerce (0.689). Otherwise, the R-square for adoption intention of e-wallet for transportation is 0.562 and the R-square for Task-Technology Fit of e-wallet for transportation is 0.684. These analyses represent 64% adoption intention of e-wallet for e-commerce and 56% adoption intention of e-wallet for transportation can be affected by TTF; 68% Task-Technology Fit of e-wallet for e-commerce and 68% Task-Technology Fit of e-wallet for transportation can be affected by e-wallet tasks, compatibility, and relative advantages.

Table 3
CR and Cronbach's Alpha

	E-Commerce		Transportation	
	Cronbach's Alpha	Composite Reliability	Cronbach's Alpha	Composite Reliability
Adoption Intention	0.870	0.906	0.881	0.913
Task Technology Fit	0.874	0.908	0.830	0.880
E-Wallet Tasks	0.823	0.876	0.823	0.875
Compatibility	0.844	0.889	0.862	0.901
Relative Advantages	0.858	0.898	0.826	0.877

Table 4
Inner Model Analysis

	R-Square E-Commerce	R-Square Transportation
Adoption Intention	0.649	0.562
Task Technology Fit	0.689	0.684

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C. Respondent Profile

1. Gender

In this research, for the e-wallet for e-commerce and transportation most of the respondents are female with the number of 56 which is 56% of the total population for e-commerce and 36 which is 36% for transportation. Thus, the male respondents are 44 which is 44% of total population for e-commerce and 64 which is 64% for transportation.

2. Age

For the age in the e-wallet for e-commerce, the range of age 19 – 25 dominates with the total of 55 which is 55%. Next is from the range of age 25-30 with the amount of 17 respondents, with the percentage of 17%. Next is from the range of age 31-25 with 12 respondents. Last, the range of age 36-38 with 36-38 with 16 respondents.

For the age in the e-wallet for transportation, the range of age 19 – 25 dominates with the total of 55. Next is from the range of age 25-30 with the amount of 8 respondents, with the percentage of 8%. Next is from the range of age 31-25 with 16 respondents. Last, the range of age 36-38 with 36-38 with 21 respondents.

D. Hypothesis Testing and Discussion

1. Hypothesis Testing H1 (Functions of the E-wallet Facilitating Consumer Tasks, Positively Influences TTF)

The results show positive relationship between e-wallet users and task-technology fit of e-wallet in transportation with the path coefficient of 0.185, t-statistics of 2.037. However, the relationship between e-wallet tasks to task-technology fit is not significant with the path coefficient of 0.174, t-statistics of 1775 and p-value of 0.077.

The result does not align with the findings of Said (2015), Tam and Oliveira (2016), and Hsiao (2017) who found that task characteristic positively affect TTF in the contexts of knowledge management systems, mobile banking, and smartwatch users.

Table 5
Hypothesis Testing E-Wallet for E-Commerce

	Original Sample (O)	T Statistics (|O/STDEV|)	p Values
E-Wallet Task → TTF	0.174	1.775	0.077
TTF →Adoption Intention	0.805	19.413	0.000
Compatibility → TTF	0.288	2.179	0.030
Relative Advantage → TTF	0.459	4.685	0.000

Table 6
Hypothesis Testing E-Wallet for Transportation

	Original Sample (O)	T Statistics (|O/STDEV|)	p Values
E-Wallet Task → TTF	0.185	2.037	0.042
TTF →Adoption Intention	0.750	15.259	0.000
Compatibility → TTF	0.358	3.693	0.000
Relative Advantages → TTF	0.382	3.604	0.000

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To find more information about why there are different results of e-wallet for e-commerce, the research interviewed 5 users of e-wallet for e-commerce. When they were asked about how e-wallet for e-commerce can match their needs, surprisingly, 4 out of 5 respondents admitted that they did not really get the advantage of using e-wallet rather than transferring in ATM because most of e-commerce cannot redeem the e-wallet balance to the cash, so they are afraid to have too much money sitting in their account. Respondent 1 and 3, who use both of e-wallet for e-commerce and transportation stated the reason they prefer to top-up in e-wallet for transportation is to use it to fulfill her mobilizing needs every day. The e-wallet for transportation really helps her to pay the driver directly without spending more time to give a change and find the cash. Also, the discounts given by e-wallet for transportation is one of the main reasoning behind adoption intention.

2. Hypothesis Testing H2 (TTF Positively Influences E-wallet Adoption Intention)

There exists a positive relationship between task-technology fit and adoption intention of e-wallet for e-commerce. The result is the same with e-wallet for transportation, it had significant relationship between task-technology fit toward adoption intention because the path coefficient of 0.750, t-statistics of 15.259 and p-value of 0.000. These results align with the findings of Said (2015) and Tam and Oliveira (2016) that the technology of mobile banking (Tam, 2016) and utilization (Said, 2015) helps users to be more effective and advantageous in the tasks results, the adoption intention of the consumer will increase. For an apple smartwatch user, the tasks characteristic of smartwatch has significant relationship with task-technology fit, the adoption intention also has significance result (Hsiao, 2017).

3. Hypothesis Testing H3 (Compatibility Positively Influences TTF)

There exists positive relationship between compatibility and task-technology fit of e-wallet for e-commerce. It is also the same with e-wallet for transportation, it had significant relationship between compatibility towards task-technology fit because the path coefficient of 0.358, t-statistics of 3.693. All findings align with the findings of Hsiao (2017) find that compatibility positively influences TTF on apple and non-apple watch. Other findings on compatibility are in cloud computing (Tripathi and Jigeesh, 2015) and performance utilization (Maulina et al., 2015), and has been found to have a positive impact on TTF that will increase the individual job performance.

4. Hypothesis Testing H4 (Relative Advantages Positively Influences TTF)

There exists a positive relationship between compatibility and task-technology fit of e-wallet for e-commerce. It is also the same with e-wallet for transportation, it had significant relationship between compatibility toward task-technology fit because the path coefficient of 0.382, t-statistics of 3.604. The results echo with the findings of Hsiao (2017) which states that relative advantage has stronger fit for the Apple smartwatch group and were shown to have a significant positive effect on TTF.

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V. CONCLUSION

The findings indicate a positive influence of TTF towards e-wallet adoption intention (H2), positive relationship between compatibility and TTF (H3) and positive relationship between relative advantage and TTF (H4) in both the e-commerce and transportation context. 3 out of 4 hypotheses are accepted with the exception of H1 which finds that consumer tasks facilitated by e-wallet tasks has not significant relationship with TTF in the e-commerce sector while it still has positive influence on TTF in the transportation sector.

This contrary finding is further explored through additional in-depth interview with 5 respondents. 4 out of 5 respondents mentioned the task-based need to constantly top-up the e-wallet for transportation in order to meet their daily needs to commute to and from places. With the added benefit of discount vouchers when using e-wallet, the incentive to use e-wallet for transportation is high. An interesting factor identified to deter the consumers from using e-wallet for e—commerce was the concern of being unable to withdraw cash once it has been topped-up. Despite all e-wallets having the same characteristics, depending on the purpose of usage (in this case e-commerce and transportation), the consumer adoption intention may vary. This can further be rationalized by identifying the different characteristics of the goods and services purchased on these platforms; transportation can be planned ahead and thus can be topped up without the concern for not being able to spend all, whereas e-commerce purchases may greatly vary depending on the economic situation and other consumer characteristics, thus the findings align with the TTF model.

The findings yield several managerial implications for SE, in particular, for MSP digital start-ups as they compete to gain more users in the market.

- The task technology fit for e-wallet have significance influence towards adoption intention to use e-wallet. Managers needs to identify products and services that consumers need in their daily life to use e-wallet and through efficient marketing campaigns, endorse consumers to top-up a certain amount by providing promotions and discount vouchers. E-wallet can also function as savings account, despite providing low interest, it may still be perceived as a strong incentive for consumers to top-up and spend in the platform.
- Since the respondents are millennials with high pace life (Moody, 2018) the use of e-wallet for transportation would be suitable for their needs because it would reduce the time to make payment in cash but, in e-commerce since they are not usually using it, many of them tend to pay with atm transfer rather than top-up their e-wallet. Improving the features of the e-wallet as well as increasing the number of partners to increase the pool of goods and services available, as indicated by the compatibility relative advantage factors that drives the TTF.

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