

CHAPTER II

LITERATURE REVIEW

This chapter will describe the theoretical background of the research. The author will explain the description of technology acceptance model, perceived usefulness, perceived ease of use, compatibility, subjective norm, perceived risk, perceived trust, perceived cost, and behavioral intention. There are also the previous studies of the same topic of the research, hypothesis development, and the research framework of this study.

2.1 Technology Acceptance Model

As the technology keeps developing over time, particularly information and communication technologies (ICT), and its integration into the private and professional life of users, a decision according its acceptance or rejection still remains unsolved. Regarding this theory, the technology acceptance model (TAM) became a dominant model in exploring the factors affecting users' acceptance of the technology (Marangunic & Granic, 2015). Technology acceptance model developed from multidisciplinary fields of knowledge such as sociology, psychology, and management information systems. Studies on the social psychology of information technology acceptance and use are proven to be more productive than other research approaches (Dajani & Yaseen, 2016).

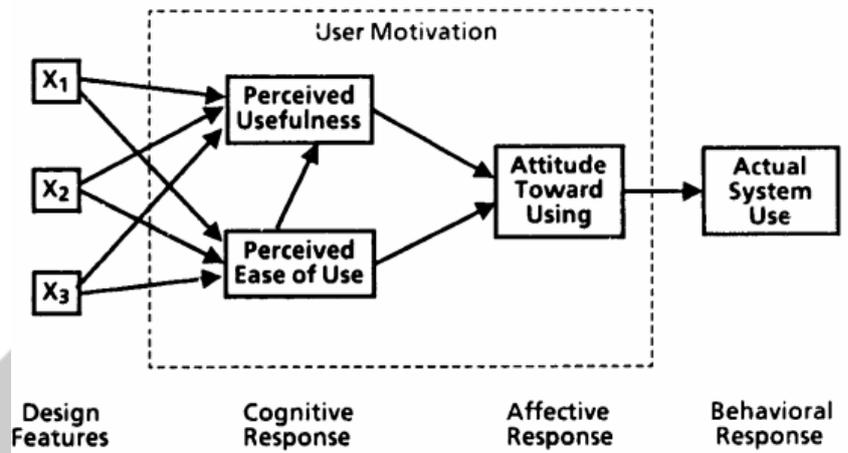


Figure 2.1 Technology Acceptance Model of Davis (1986)

The Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) is a widely studied model of social psychology based on the assumption of a person's intention whether to perform or not, a behavior is the immediate determinant of the action (Dajani & Yaseen, 2016). The technology acceptance model (TAM) which was introduced by Davis (1986) is an adoption of the Theory of Reasoned Action (TRA) model as the reference paradigm within the proposed TAM is developed (Davis, 1986).

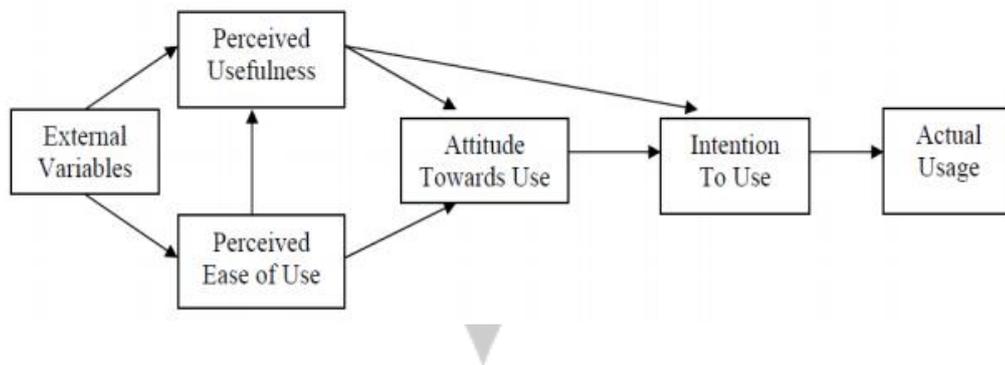


Figure 2.2 First modified version of Technology Acceptance Model

(TAM) (Davis, Bagozzi and Warshaw, 1989)

In technology acceptance model, the perceived usefulness and the perceived ease of use are believed to be the major determinants of the users' intention to use information technology (Davis, et al., 1989). However, ever since the first published of the TAM article, there have been notable empirical research which support TAM, for example (Adams, et al., 1992; Straub, et al., 1997; Davis, 1993; Davis & Venkatesh, 2004). Most of the researches that have been using TAM as a reference paradigm concentrate either on the same TAM constructs or extended it by adding new predictive constructs (Dajani & Yaseen, 2016).

Venkatesh and Davis (2000) proposed an extended model of TAM, called TAM 2. They put new determinants of perceived usefulness such as subjective norm, job relevance, image, output quality, result demonstrability and perceived ease of use in the addition to two moderators: voluntariness and experience (Dajani & Yaseen, 2016). In short words, the theories of technology acceptance model are extendable since there are various factors which affect behavioral intention of people's action.

2.2 Perceived Usefulness

According to the technology acceptance model (TAM), perceived usefulness is the intention of people to use or not use an application to the degree they assure it will help them perform better in their job. This adheres the definition of useful, which is capable of being used beneficially (Davis, 1989). Porter & Donthu (2006) in Salas (2016) found that perceived usefulness and perceived ease

of use are faith that are assured to affect attitudes toward new technology and mediate the relationship between attitude and external variables.

Based on Chow (2012) in Joo, et al., (2018) study, people will perceive new system as being useful when they are able to use it easily. Therefore, when people feel the perceived usefulness of certain applications has satisfied their expectations in helping them doing their work, they tend to use that application for quite a long time as long as they need it. In the other hands, when people do not get any significant effect of a particular technology, they will leave it without any hesitation.

2.3 Perceived Ease of Use

According to Davis (1989), the definition of perceived ease of use is the extent to which a person convinced that using a certain system would improve his or her job performance. This embraces the definition of ease, the liberty from tough situation or great effort. Pagani & Schipani (2004) in Aslam & Arif (2017), said that it is required to offer advantages which meet the ease of use criterion. Here, a simple and easy payment process with plain icon and function buttons can establish the ease-of-use factor in consumers' mind.

The findings of Hossain & Prybutok (2008) in Ozturk (2016) found that the higher the combination of perceived usefulness and perceived ease of use, the higher the acceptance of a certain technology. It is also discovered in Ozturk (2016) that particular system should be ease to use in order to increase the usefulness. The easier a specific system to use, more people will be happy to use it as it does not

confuse them but make them spend less effort. Thus, perceived ease of use can be considered to affect the behavioral intention of consumer acceptance model of mobile payment.

2.4 Compatibility

Rogers (1983) in Yu-Yin, et al., (2018) defined compatibility as the level to which the exertion of the new technology is apprehended to be consistent with the potential users' needs, existing values, and previous experiences. Compatibility has been discovered to be a significant factor in predicting the intention of users to use an innovation, thus, the higher the compatibility level is, the higher chances of adoption to use new things (Ozturk, et al., 2017). According to Van Slyke, et al., (2002) in Elmorshidy, et al., (2015) had concluded that behavioral intention was strongly influenced by the compatibility factor.

Du, et al., (2012) in Makanyeza (2017) found that consumers who perceive a certain innovation as compatible with their lifestyles are likely to adopt it. Pushel, et al., (2010) in Makanyeza (2017) also sum up an acknowledgement that an innovation which is compatible with an individual's lifestyle is likely to be embraced faster than those that are not compatible. It is because consumers seem to derive satisfaction from using particular system that improve their way of living while applying those services that contradict their values and lifestyles (Makanyeza, 2017).

2.5 Subjective Norm

Venkatesh (2003) in Mokhtar, et al., (2018) defined subjective norm as the perception of users whether other significant people assume they should engage in certain behavior. However, Ajzen and Fishbein (1969) in Leonard (2017) mentioned that subjective norm or personal normative beliefs is a moral obligation to do a certain action. Lujja, et al., (2016) defined subjective norm as the measurement of whether or not individuals think that people who are important to them believe a particular behavior should be done. In other words, according to Ajzen (1991) in Mafabi, et al., (2017), subjective norm refers to an individual's assumption of what their significant others expect him or her to do.

According to Mokhtar, et al., (2018) subjective norm makes people engage in a certain behavior because their significant others tell them to do. For instance, if the instructors find learning management system more suitable and more convenient for their academic activities, they will in turn find it more useful, and easier to use. Therefore, their intention to use will be affected positively.

2.6 Perceived Risk

Thakur and Srivastava (2014), in Unnikrishnan & Jagannathan (2018) defined perceived risk as the assumption regarded with uncertainties and negative consequences. Koeng-Lewis, et al., (2010) in Makanyeza (2017) explained that perceived risk is the disconcerted probability of something which will happen, and the aftermath are usually unwanted when it comes. According to McDougall and

Levesque (2000) in Mao & Lyu (2017) perceived risk is defined as a subjectively assigned prediction of a potential loss when achieving a desired outcome.

Makanyeza & Mutambayashata (2018) found a negative effect of perceived risk towards behavioral intention because customers perceive more risk in accepting and using mobile banking services. It also results in customers become less willing to accept and use the innovation. The reasonable explanation is that customers are concerned about losing their money when conducting mobile banking transaction as it is still a new technology. This makes perceived risk as a barrier to the adoption of mobile banking services in Zimbabwe.

2.7 Perceived Trust

According to Ganesan (1994) in Barkhordari, et al., (2017) trust is a set of beliefs which consumers held as to particular characteristics of suppliers and their possible behavior in the future. Therefore, trust in Garbarino and Johnson (2014) in Nawi, et al., (2017) is defined as the confidence of the consumers in the reliability and the quality of the services that are provided by a certain organization. Mayer, et al., (1995) in Wu, et al., (2017) defined perceived trust as a subjective sense which is supposed to a feeling of trustworthiness and safety.

Shockery, et al., (2016) in Nawi, et al., (2017) believed that student entrepreneurs will be influenced to use social media as a business platform only if they trust it or feel that it is necessary for them in operating their business. Tsiakis and Sthephanides (2005), in Barkhodari, et al., (2017) believed that perceived trust in e-payment system is assigned as the consumers' belief that the transactions of e-

payment will be processed in a suitable favor with their expectations. The study of Lio, et al., (2015) discovered that the most significant variable influencing examinees' participation acceptance for online exam was perceived trust. It implies that the more reliable and credible examinees feel regarding the online exam, the more acceptance they will be to participate in it.

2.8 Perceived Cost

According to Kansal (2016) perceived cost refers to the customers apprehend they will have to purchase in a mobile banking transactions. Shafinah, et al., (2013) in Ricardo, et al., (2016) mentioned that perceived cost is the subscription, initial, transaction and communication costs to which is believed by customers that it will be proposed in the future, it also includes the ability of the consumers to purchase a mobile device which supports the mobile payment services. Gastal (2005) in Ricardo, et al., (2016) described costs as the time and effort required to be summed up and become the decision-making alternatives.

Sedighi, et al., (2016) stated that increasing perceived costs of participation regarding sharing knowledge reduces the participants' voluntary willingness to share their own knowledge. Alkhadi (2018) believed that cost is a significant determinant affecting citizen behavior. For instance, the role of price comparison between various m-government service costs is an influential factor in the users' selection and continuity in the use of service.

2.9 Behavioral Intention to Adopt

Intentions can be defined as the willingness of a person to involve in a certain behavior (Ajzen, 1991). Behavioral intention is usually regarded as the predecessor of a behavior (Gupta & Dogra, 2017). According to Emmanuel, et al., (2015) behavioral intention is the level to which individuals behave to accept and use a system. Carlsson, et al., (2006) in Makanyeza & Mutambayashata (2018) describes behavioral intention as the degree to which users intend to use a certain technology. Soderlund and Ohman (2003) in El Alfy, et al., (2017) defined behavioral intention as an individual assumed likelihood of being engaged in an action or behavior.

Ajzen (1985) in Mbrokoh (2016) concluded that an individual's behavior is usually driven by behavioral intention, which is often a function of an individual attitude towards the behavioral and subjective norms surrounding the performance of the behavior. Hence, the greater the intention to adopt or continue using mobile payment system, the more positive the attitude to adopt it. Behavioral intention is used as the final dependent variable of this study as it is perceived to be the immediate antecedent of actual behavior of people to use a system (Jasmine, 2016).

2.10 Previous Studies

Table 2.1
Previous Studies

No.	Title	Variable	Method	Findings
1.	<p><i>An investigation of mobile payment (m-payment) services in Thailand</i></p> <p>Chanchai Phonthanukitithaworn (2016)</p>	<ul style="list-style-type: none"> • Perceived usefulness • Perceived ease of use • Compatibility • Subjective norm • Perceived risk • Perceived trust • Perceived cost 	<ul style="list-style-type: none"> • There are 529 Respondents of Thai mobile users • Based on elements of innovation diffusion theory and technology acceptance 	<ol style="list-style-type: none"> 1. The consumer adoption of m-payment services in Thailand was determined by compatibility, subjective norm, perceived trust, and perceived risk. 2. Perceived usefulness, perceived ease of use, and perceived cost were discovered not to have a direct influence on behavioral intention.
2.	<p><i>Adoption of Mobile Payment Services in Bangalore Urban – A structural Equation Modelling based Approach</i></p>	<ul style="list-style-type: none"> • Perceived usefulness • Trust • Social influence • Facilitating conditions • Perceived ease of use 	<ul style="list-style-type: none"> • There are 232 respondents, age range of 20-50 years old • Using multicollinearity, discriminant validity, convergent validity, 	<ol style="list-style-type: none"> 1. Perceived usefulness, trust, social influence and perceived risk were found to have significant impact with mobile

	Roshny Unnikrishnan & Lakshmi Jagannathan (2017)	<ul style="list-style-type: none"> • Perceived risk • Attitude towards use of mobile money services • Behavioral intention to use mobile money services 	reliability (Cronbach alpha) and exploratory	<p>payment usage.</p> <p>2. Facilitating conditions and perceived ease of use do not have significant effect with neither attitude nor behavioral intention.</p>
3.	<p><i>Behavioural intention to adopt mobile wallet: a developing country perspective</i></p> <p>Khusbu Madan & Rajan Yadav (2016)</p>	<ul style="list-style-type: none"> • Performance expectancy • Effort expectancy • Social influence • Facilitating conditions • Perceived value • Perceived risk • Perceived trust • Perceived regulatory support • Promotional benefits 	<ul style="list-style-type: none"> • There are 210 respondents, age range of 20-50 years old • Perceived regulatory support (PRS) and promotional benefits (PBs) was added as additional constructs • A structural model was constructed in AMOS to test the hypothesis 	<p>1. Performance expectancy, social influence, facilitating conditions, perceived risk, perceived value, perceived trust, perceived regulatory support, and promotional benefits were found to be significant factors on the behavioral intention to adopt mobile wallet.</p> <p>2. The impact of effort expectancy was identified to be insignificant.</p>
4.	<i>Consumer Behavioral</i>	<ul style="list-style-type: none"> • Perceived security 	<ul style="list-style-type: none"> • There are 335 valid 	<p>1. Perceived usefulness,</p>

	<p><i>Intention Towards Mobile Payment Services: an empirical analysis in Pakistan</i></p> <p>Wajeeha Aslam, Marjia Ham, Imtiaz Arif (2017)</p>	<ul style="list-style-type: none"> • Perceived compatibility • Perceived usefulness • Perceived ease of use • Subjective norm • Attitude towards usage of mobile payment services • Intention to use mobile payment services 	<p>respondents, divided by their education level from below undergraduate up to postgraduate</p> <ul style="list-style-type: none"> • Using SPSS 22.0, EFA was used for the formation of the construct. • CFA was performed to obtain the results of model fitness • SEM was applied on AMOS 22.0 	<p>perceived compatibility, and subjective norm are significant factors of consumer attitude towards mobile payment services usage.</p> <p>2. The impact of perceived security and perceived ease of use on attitude is insignificant.</p>
5.	<p><i>Determinants of Consumers' Intention to Adopt Mobile Banking Services in Zimbabwe</i></p> <p>Charles Makanyeza (2017)</p>	<ul style="list-style-type: none"> • Perceived usefulness • Perceived ease of use • Perceived self-efficacy • Social influence • Facilitating conditions • Relative advantage • Perceived complexity • Perceived compatibility • Perceived trialability • Perceived risk • Awareness knowledge • Behavioral intention 	<ul style="list-style-type: none"> • Cross-sectional survey of 232 random bank customers using a structured questionnaire with Likert-type questions • Structural equation modelling, independent-samples t-test and one-way ANOVA were used to test the hypothesis 	<p>1. Perceived usefulness, perceived self-efficacy, social influence, relative advantage, and perceived compatibility found to have a positive effect, while perceived risk was identified to negatively affect behavioral intention to adopt mobile banking services in Zimbabwe.</p>

		<ul style="list-style-type: none"> • Usage 		
6.	<p><i>Intention of Adoption of Mobile Payment: An analysis in the light of the Unified Theory of Acceptance and Use of Technology (UTAUT)</i></p> <p>Ricardo de Sena Abrahao, Stella Naomi Moriguchi, Darly Fernando Andrede (2016)</p>	<ul style="list-style-type: none"> • Performance expectation • Effort expectation • Social influence • Perceived risk • Perceived cost • Behavioral intention 	<ul style="list-style-type: none"> • Using structured online questionnaire, there are 605 valid respondents • Structural equation modelling (SEM) was used to test the model 	<p>1. The constructs performance expectation, effort expectation, social influence, and perceived risk indicated positive relationship with the intention of adoption of mobile payment.</p>

2.11 Hypothesis Development

2.11.1 The Influence of Perceived Usefulness Towards Behavioral to Adopt Mobile Payment

Gu et al (2009) in Unnikrishnan & Jagannathan (2017) found a significant impact of perceived usefulness on the behavioral intention towards adoption of technology. It was also tested in the Unnikrishnan & Jagannathan (2017) study, that perceived usefulness was identified to have significant impact with the behavioral intention to use mobile payments. However, it was also revealed that perceived usefulness did not have a direct association on the behavioral intention, yet the effect was mediated through attitude. According to Phonthanakitithaworn (2016), perceived usefulness has no significant relationship with the behavioral intention to adopt mobile payment.

Based on Makanyeza (2017) study, perceived usefulness was found to have a positive influence on behavioral intention. It implies that consumers are likely to adopt mobile banking services if they think that it is useful for them. In Ozturk (2016) research, it was found that perceived usefulness had the strongest positive direct effect on intention to use cashless payments. Moreover, Aslam, et al., (2017) discovered that perceived usefulness has a remarkable impact on attitude as well as behavioral intention towards mobile payment services. Therefore, the hypothesis that can be proposed in this study is:

H1 : Perceived usefulness has influences towards behavioral intention to use Gopay mobile payment.

2.11.2 The Influence of Perceived Ease of Use Towards Perceived Usefulness

In the Makanyeza (2017) study, it was found that perceived ease of use did not significantly affect the behavioral intention, instead, perceived ease of use was identified to positively impact perceived usefulness. Gu, et al., (2009) and Luarn & Lin (2005) in Makanyeza (2017) discovered a positive influence of perceived ease of use towards perceived usefulness regarding the adoption of mobile banking. According to Ozturk (2016) perceived ease of use was regarded as an antecedent of perceived usefulness, which was considered as a motivation to engage with the use of information system.

Joo, et al., (2018) confirmed that perceived ease of use have a significant effect on perceived usefulness for integrating a user interface and personal innovativeness into technology acceptance model for mobile learning. Ozturk

(2016) also found a positive influence of perceived ease of use towards perceived usefulness. Furthermore, Phonthanakitithaworn (2016) discovered that perceived ease of use have a direct effect on perceived usefulness of mobile payment services. Thus, the hypotheses that can be proposed are such follows:

H2 : Perceived ease of use has influences towards perceived usefulness

2.11.3 The Influence of Perceived Ease of Use Towards Behavioral Intention to Adopt Mobile Payment

Gu et al (2009) in Unnikrishnan & Jagannathan (2017) discovered that there is an effect of perceived ease of use towards the behavioral intention to adopt technology. Hanafizadeh et al (2014) in Makanyeza & Jagannathan (2017) found that there is a positive influence of perceived ease of use towards the intention to use mobile banking. However, in Unnikrishnan & Jagannathan (2017) and Aslam, et al., (2017) researches, perceived ease of use did not have significant impact with behavioral intention.

According to Kim, et al., (2010) and Wu & Wang (2005) in Phonthanakitithaworn (2016) perceived ease of use has been identified to hold a direct influence towards the intention as well as the perceived usefulness of using mobile payment. Thus, the hypotheses that can be proposed are such follows:

H3 : Perceived ease of use has influences towards behavioral intention to adopt Gopay mobile payment

2.11.4 The Influence of Compatibility Towards Behavioral Intention to Adopt Gopay Mobile Payment

Rogers (1962) in Aslam, et al., (2017) described compatibility as the state to which an innovation is assumed as being consistent with a person's values, needs, and prior experiences. Schierz et al (2010) in Kapoor, et al., (2015) found a strong evidence that compatibility has a significant influence on the consumers' use intention. It was also tested in Kapoor, et al., (2015) study that there is a positive impact of compatibility on the behavioral intention of users in using mobile payment services.

Aslam, et al., (2017) identified that perceived compatibility is a significant factor of consumer attitude towards the mobile payment services usage. Compatibility was also found to positively affecting the intention to use mobile banking in the Hanafizadeh, et al., (2014) study in Makanyeza (2017). It was concluded that the higher the degree of compatibility, the higher the behavioral intention to adopt mobile banking services. In addition, Phonthanakitithaworn (2016) also discovered that compatibility as the most significant factor influencing the behavioral intention to adopt mobile payment services. Therefore, the hypothesis that can be proposed in this study is:

H4 : Compatibility has influences towards the behavioral intention to adopt Gopay mobile payment

2.11.5 The Influence of Subjective Norm Towards Behavioral Intention to Adopt Gopay Mobile Payment

Based on Aslam, et al., (2017) study, subjective norm is described as the assumption of social pressure coming from related individuals and directed toward a person to act in a certain manner. Lujja, et al., (2016) found that subjective norm did not directly influence behavioral intention variable, however, it was mediated by attitude. Leonard, et al., (2017) discovered both insignificant and significant effect of subjective norm towards behavioral intention among five factors, one factor has a significant effect and the other four did not show any association between subjective norm and behavioral intention.

Leonard, et al., (2017) in his literature review has found several studies which confirm that subjective norm has an influence in predicting the behavioral intention of people. Studies from May (2005), Jen-Ruei, et al., (2006) and Abduh, et al., (2011) have revealed a strong relationship between subjective norm and behavioral intention. Furthermore, Phonthanukitaworn (2016) found a significant influence of subjective norm towards behavioral intention to adopt mobile payment services. Therefore, the hypothesis that can be proposed is as follows:

H5 : Subjective norm has influences towards behavioral intention to adopt Gopay mobile payment

2.11.6 The Influence of Perceived Risk Towards Behavioral Intention to Adopt Gopay Mobile Payment

Wu and Wang (2005) in Madan & Yadav (2016) described perceived risk as the financial, social, and product-associated risk that consumer assumes while doing some online transaction. Mobile phones usually save important personal information, which becomes the main reason of why customers being insecure in making any transaction via a mobile wallet (Madan & Yadav 2016). Phonthanukititaworn (2016) discovered that perceived risk has an influence to the adoption of mobile payment services. Laforet and Li (2005) in Makanyeza (2017) found that perceived risk is the major obstacle to online banking in China.

Unnikrishnan & Jagannathan (2017) identified perceived risk as a significant direct variable of behavioral intention in using mobile payments usage. Ricardo, et al., (2016), Madan & Yadav (2016) and Makanyeza (2017) found a negative influence between perceived risk and behavioral intention which means that the lower the perceived risk variable, the higher behavioral intention to adopt mobile wallet, and vice versa. Thus, the proposed hypothesis is such follows:

H6 : Perceived risk has influences towards behavioral intention to adopt Gopay mobile payment.

2.11.7 The Influence of Perceived Trust Towards Behavioral Intention to Adopt Gopay Mobile Payment

Pham and Ho (2014) in Madan & Yadav (2016) revealed that perceived trust has acted as a catalyst for various innovation or new things in the technology era. It

refers to the degree to which consumers assume mobile payment system to be trustworthy with respect to the security and privacy policies (Madan & Yadav, 2016). Therefore, trust was considered as a significant factor in the adoption intention for similar technologies by other researchers as well (Zhang et al 2012, Chong et al 2012). Phonthanukitaworn (2016) found that perceived trust has a significant influence towards behavioral intention to adopt mobile payment services, the lack of trust will potentially affect important issues such as consumers refusing to provide personal information to mobile payment providers.

Unnikrishnan & Jagannathan (2017) has identified trust as a significant direct variable of behavioral intention. Perceived trust was found to have a positive influence on mobile wallet behavioral intention in Madan & Yadav (2016). Positive influence between perceived trust and behavioral intention means that the higher the perceived trust, the higher the behavioral intention to adopt some new technology. Hence, the hypothesis that can be proposed is such follows:

H7 : Perceived trust has influences towards behavioral intention to adopt Gopay mobile payment

2.11.8 The Influence of Perceived Cost Towards Behavioral Intention to Adopt Gopay Mobile Payment

Ricardo, et al., (2016) found that perceived cost was not an important predictor for determination of behavioral intention. However, perceived cost should still be put into the independent variables to complete future research since it depends on each country with different perspectives. Phonthanukitaworn (2016)

found that there is no significant relationship between perceived cost and behavioral intention.

In Krishanan, et al., (2016) perceived cost was seen to have a significant impact towards attitude in using mobile banking. Alkhaldi (2018) found that perceived cost was an important factor to hinder users' intention, however, it was a negative effect. It was caused by the high cost in adopting the technology, therefore, the higher the perceived cost in using new system, the lower the behavioral intention of consumers in using it. Hence, the hypothesis that can be proposed in this study is such follows:

H8 : Perceived cost has influences towards behavioral intention to adopt Gopay mobile payment

2.12 Research Framework

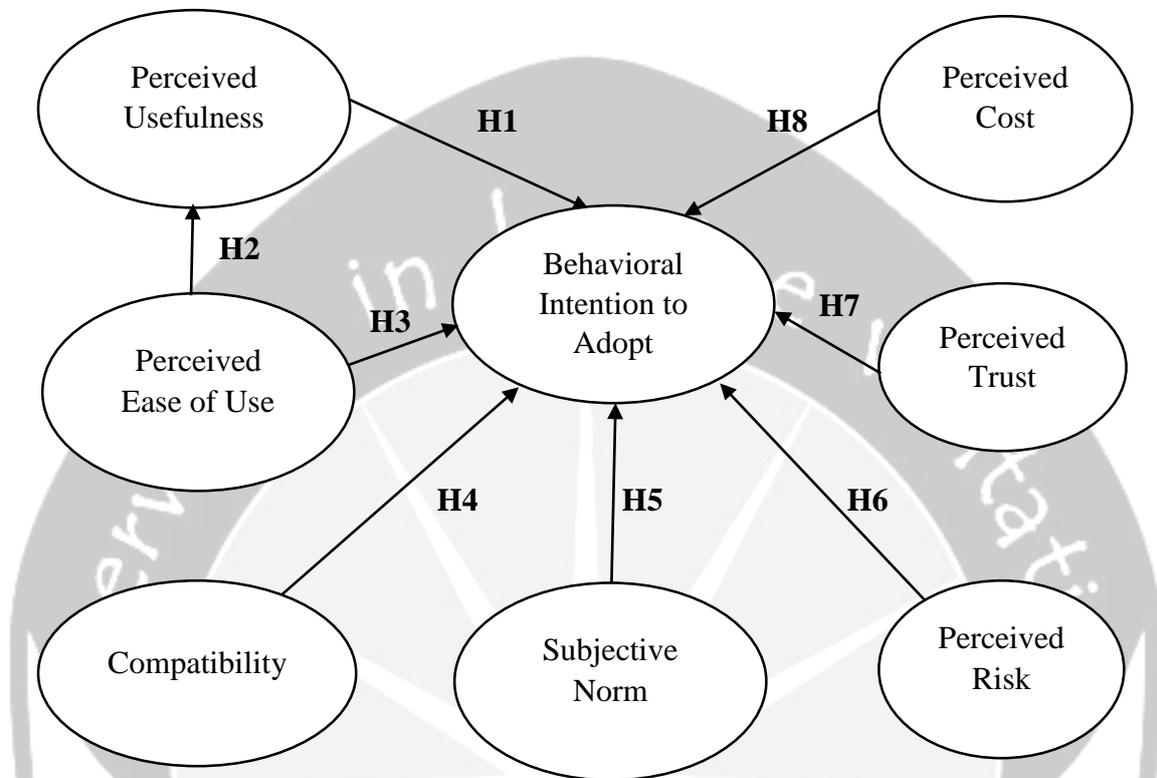


Figure 2.1
Research Framework

Adopted from: Phonthanakitithaworn (2016)