THE PERCEIVED IMPORTANT FACTORS INFLUENCING MOBILE PAYMENT ADOPTION AMONG GENERATION Z IN BANDUNG

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Abstract. Mobile Payment is expected to be the next forefront e-payment type in Indonesia. The basis of this judgment is based on high smartphone penetration in Indonesia and generation Z population domination in Indonesia demography. Therefore, explaining their adoption factor of mobile payment will be highly valuable in the industry player's eyes and government. The research found that the only factors that matter influencing generation Z adoption are Social Influence, Performance Expectancy, and Effort Expectancy with 50.4% R-Square. Those factors show a positive correlation with the adoption of mobile payment for Generation Z. The sample number in research is 430 respondents processed with Structural Equation Modelling. The model used in explaining the adoption is UTAUT combined with Perceived cost, Perceived Risk. Risk factors are important additional variable since the concern of privacy is high. Based on the research, the researcher suggests that mobile payment industry players only need to focus on quality, simplicity and referral effect to have a better adoption rate among generation Z in Indonesia.

Keyword: Mobile payment; adoption; UTAUT; Generation Z; Perceived risk; Perceived cost; and PLS-SEM

INTRODUCTION

Mobile Payment has a strong indication to be the next belle in Indonesia. The judgement is based on current payment user proportion, smartphone penetration and Indonesia classification as a developing country. Data shows that the existing digital payment users in Indonesia are still below 1% of total population (Utama, 2018) marking big potential users in e-payment businesses. Moreover, this big potential user has a higher rate of smartphone penetration compare to the bank, which is quite odd since the bank has been established long before smartphone exists. This phenomenon has been studied before, and the result showed that it could answer the financial inclusion problem more effective than a bank in the low-income level countries (Chauhan, 2015). Hence, as a developing country with quite low financial inclusion and having high smartphone penetration, Indonesia could be considered as mobile payment market fit.

Nevertheless, in seizing the Indonesia market, industry players need to introduce the mobile payment service to the market. Unfortunately, corporate needs to spend big capital in the introduction phase (Arkolakis, 2017) in term of research and development, operation, marketing, and other function. Spending money in the facets ignored by the customers will incur a cost to the company both short and long term performance. This research is dedicated to answering that challenge by determining the strong factors that influence adoption intention. The researcher decides to use the UTAUT model view to find significant and power level of influencer factors in adoption intention. The researcher doesn't define the factor by himself since the previous study has proved that UTAUT is one of the best model constructs that explain the adoption intention. This paper will focus on generation Z in Indonesia. Generation Z is known with their tech dependency and dominates Indonesia demography by 25-30% to the total population in Indonesia. The finding will be beneficial for the mobile payment sector since research related to this topic is limited. Therefore, providing behavioural data of this industry will be impactful for the industry.

LITERATURE REVIEW

Mobile Payment
Mobile payment is a payment process that use smartphones or mobile devices as the media to transfer monetary value without bank institution participation (Abraho, Moriguchi, & Andrade, 2016). In this paper, the researcher adopts wide view regarding the payment types. The researcher views mobile payment as a payment media to transact goods, paying bills authorised, initiated, and services that are done through mobile devices or smartphone (Schierz, Schike, & Wirtz, 2010).

Generation Z
This generation is comfortable with and even dependent on technology. Their toddler and adult period always intersect with technology in every aspect of their life. The simplicity and unique design offered by technology cause generation Z to multitask constantly and form that habit. Furthermore, Generation Z also has better social responsibility compared to the previous generation since technology flood generation Z mind with information related to terrorism and climate change. In a wrap, technology is an important aspect in forming attitude or behaviour of generation Z.

Proposed Model
The model that the researcher proposed is based on Abrahao, Moriguchi, & Andrade, 2016 model. The model aims to explain the adoption intention of mobile payment in Indonesia using five variable, Social Influence, Performance Expectancy, Effort Expectancy, Perceived Cost, and Perceived Risk.
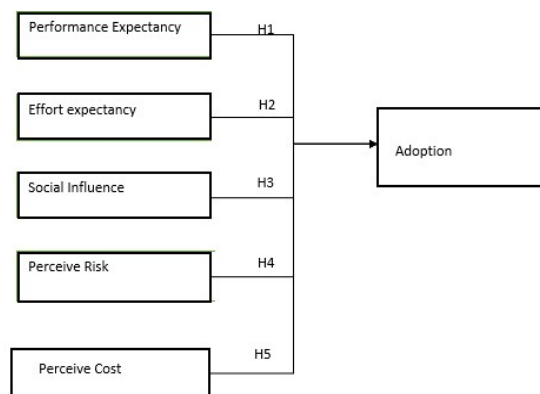

Figure 1 Model used

The Unified Theory of Acceptance and Use of Technology (UTAUT)
UTAUT model is inspired by all prior technology acceptance models and prove its advantage. Based on UTAUT literature review (Williams, P.Rana, & Dwivedi, 2015), UTAUT model successfully outperforms prior models seen in its adjusted R^2 of 69%. It means that the UTAUT model independent variables success in explaining the dependent variable by 69% compared to other models that only explain the dependent variable by 17-53%. UTAUT model combines the independent variables from the technology side and the adopters' side as well. Apart from that, the UTAUT model has included a social factor that is proven to have a significant effect on adoption.

UTAUT model is constructed by four cores, which are performance expectancy, effort expectancy, social influence, and facilitating condition and also moderated by gender, age, experience, and voluntariness of use. However, in this paper, the constructs used are a social influence, performance expectancy, and effort expectancy. Those three factors are consistently significant and powerful in several previous studies.

Performance expectancy construct explain the degree of how technology makes the user life more convenience. Performance expectancy consistently becomes the most powerful and significant in several prior studies. The characteristic of the relationship is positive to adoption construct.

The second construct is effort expectancy explaining the degree of easiness to learn the technology. Based on the previous study, this construct consistently significant explaining the adoption. The relationship characteristic is positive to adoption constuct. The third construct is social influence explaining the degree of close people around the user influencing the user adoption. The mobile payment as consumer technology has social exposure, potentially affecting the potential user. The relationship characteristic is positive to adoption construct

Perceived Risk Construct
Perceived risk is a construct that measures the degree of perceived uncertainty in consumers' mind in term of financial, social, psychological, physical or time. The study of perceived risk started in 1964 by Bauer in Consumer behaviour research. Since the theory invention, perceived risk has widely been used in the purchase or adoption model, and it's still relevant for current condition considering the effect of the Facebook scandal influencing the data privacy risk perception. The relationship of perceived risk construct and adoption construct is negative

Perceivedd Cost Construct
The cost construct directly influences the adoption intention. There is a cost-benefit analysis process that always precedes the adoption or purchase decision in the mind of consumers (Dasgupta & D.W.Peace, 1972). The cost construct usually has a negative correlation with the adoption or purchase intention of certain products. This model is crucial to be added since adopting mobile payment requires cost sacrifices, which is not explained in the original UTAUT model. Thus, the relationship is negative

Hypothesises		Previous Study
H1	Performance expectancy has a significant and positive relationship with the adoption of mobile payment, among for generation Z in Bandung.	(Teo & Tan, 2015), (Oliveira T., Thomas, Baptista, & Campos, 2016)
H2	Effort expectancy has a significant and positive relationship with the adoption of mobile payment among for generation Z in Bandung	(L. Slade, Dwivedi, Pierey, & D.Williams, 2015)
H3	Social influence has a positive and significant relationship with the adoption of mobile payment among for generation Z in Bandung	(Cao & Niu, 2019)
H4	Perceived risk has a significant and negative effect on adoption of mobile payment among for generation Z in Bandung	(Hongxia, Xianhao, & Weidan, 2011)
H5	The perceived cost has a negative and significant correlation with the adoption of mobile payment among for generation Z in Bandung	(Chong, 2015)

METHODOLOGY

Population and Sampling

Based on BPS data, in 2016, 326,274 people fulfil the scope and limitation of a research paper. The required number of samples is derived from it using 5% alpha, stating that the researcher needs to collect 400 respondents to have good data representatives. This sample size decision is referred to (Israel, 1992). The respondents will be questioned through a google form. The questionnaire is Likert scale with score 1-7. The sampling method used is non-probability sampling with a convenience sampling method. The age-eligible respondent age is between 17-24 years old.

Method and Technique

PLS-SEM is a statistical model that explain the relationship of multiple variables, including the latent variable. PLS-SEM will provide the equation of the model relationship between independent and dependent variables. The equation produced by PLS will be the basis of the model explanation.PLS is chosen in here because it can tolerate non-normal data different from the OLS which could not tolerate it. The accuracy of PLS would be better for non-normal data. Therefore, the researcher uses PLS to handle non-normal perception data (Farahani, Rahiminezhad, Same, & Immannezhad, 2010). The data should fulfil the two assumptions, the reliability test using composite reliability as the measurement with 0.7 cuts off value referring to (S.Taber, 2017) paper and validity test using AVE with cut off value 0.5 referring to (Hamid, Sami, & Sidek, 2017) paper. If all the items pass those tests, the constructs will be tested with path analysis and bootstrapping to explain the relationship characteristic (Henseler, M.Ringle, & Sinkovics, 2009). In the bootstrapping, the required P-value is below 0.05.

FINDINGS AND ARGUMENT

Table 1 Reliability Test and Validity Test

Construct	Composite Reliability	AVE
PE	0.926	0.757
EE	0.865	0.618
SI	0.917	0.734
BI	0.917	0.786
PC	0.946	0.853
PR	0.918	0.74

Table 2 Significant table

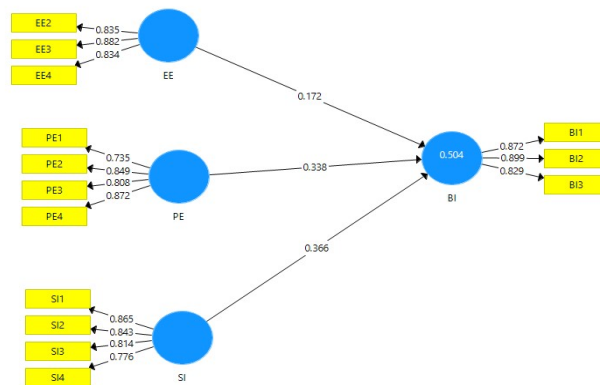| Hypothesis	Structural Path	P-Values	Result
H1	Performance Expectancy→Adoption	0.000	Reject H0
H2	Effort Expectancy→Adoption	0.004	Reject H0
H3	Social Influence→Adoption	0.000	Reject H0
H4	Perceivedd Risk→Adoption	0.779	Do not reject H0
H5	Perceivedd Cost→Adoption	0.647	Do not reject H0

Figure 2 Theoretical Framework; Source: Author Analysis

All the construct is valid and reliable; thus, all the construct could proceed to the bootstrapping step. The result shows that the only significant relationship among 5 hypothesises is Performance Expectancy, Effort Expectancy, and Social Influence. Performance expectancy is positive with weight (+0.338), Effort Expectancy is positive with weighing (+0.172), and Social Influence is positive with weight (+0.366). While the Perceivedd Risk and Perceived Cost is not significant with weight (-0.0130) and (-0.017). Performance expectancy result is in line with (Zhou, Lu, & Wang, 2010). Customer prefers mobile payment technology that has good performance to help daily transaction. Quality of mobile payment technology is an essential part of fulfilling user performance expectancy. The better the quality of the mobile payment in helping transaction, the higher the likelihood of the adoption

Effort Expectancy result is in line with Teo & Tan, 2015. It means that generation Z in Bandung prefer to adopt mobile payment technology if the effort to learn the technology is minimal. This construct is highly correlated with the user interface of the technology. The simpler the user interface to be understood, the higher the likelihood to be adopted. Social Influence result is in line with (Hongxiao, Xianhao,& Weidman). It means that people around the potential user has a significant impact on the adoption. This type of technology penetration rate is boosted by the number of the user.

Perceived Risk result is in line with (Yendra, Brasil, Juni, & Nursyamsi). It means that the relationship between risk perception and adoption construct is meaningless. Based on some previous research, to explain the effect of perceived risk on adoption, there should be a mediating variable, Trust Construct (Yousafzay et al., 2009). Perceived Cost is in line with (Abrahao, Moriguchi, & Andrade, 2016). The relationship between the perceived cost and adoption intention is meaningless. It means that perceived cost isn't a barrier of adoption construct. The model has quite good predictive power since the R^2 is 50.6%. It means that the independent variables could explain 50.6% of the independent variable variance. The R^2 indicates that the predictive power of the model is moderate and pass the minimum score to use PLS-SEM.

CONCLUSIONS

Based on the result, Generation Z is only triggered by social influence, performance expectancy, and effort expectancy. The result is in line with Generation Z characteristic that prefers digital transaction than cash due to its usefulness and prone to their peer influence. The other factors that are not significant arguably have contrary characteristic with Generation Z and can't be perceived well because of generation Z immature psychological state.

The implication of the research is giving generation Z behavioural data to the business sector. The industry player could anticipate or asses market reaction before launching the technology. Mobile payment provider only needs to focus on three factors of UTAUT, social influence, performance expectancy, and effort expectancy. In real practice, Mobile payment provider could enhance the mobile payment product level of convenience and easiness to be learnt by increasing the number of the merchant, maintain the transaction speed to give optimum convenience level to the user, and create simple mobile payment interface to ease the potential user learn the technology. Those strategies are related to performance expectancy and effort expectancy, while the social influence variable is related to the marketing strategy. The researcher suggests that the mobile payment industry player use their user as leverage by using referral marketing strategy. The people around the user is one of the most impactful and significant to influence the adoption of mobile payment among generation Z. Besides the industry player, the government also crucial boosting mobile payment technology penetration. Since performance expectancy become the driving factor and one of the element is the speed of transaction; thus, the infrastructure providing internet speed becomes essential. The infrastructure part is a government responsibility. However, the R^2 of the model only hit 50.6%. It means that there is still 49.4% unexplained data from the model. Future research could focus on finding the unexplained data by combining, adding, and modifying the model.

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