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# Factors of Merchant Adoption QR Code Based Payment Systems: An Empirical Study Of Small and Micro Merchant in Jakarta

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## ABSTRACT

*QR Code is one of the payment methods that used mobile phones and scan the QR Code to make a transaction. Implemented of QR Code payment have benefit to many parties, from the merchant, customer, financial institution and government. The purpose of this research is to know and analyze factors that can influence merchant adoption of QR Code payment from small and micro merchant in Jakarta. Population in this study is small micro merchant in the food sector at Jakarta. Non probability sampling technique based on purposed sampling method used in this study. Statistic tools using PLS-SEM method with error level 5%, then sample set as 84 respondents. This study examines the merchant adoption in terms of intention to use, attitude toward to use, perceived usefulness, and perceived ease to use. Analysis of merchant adoption in this research using approach Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology of Acceptance Model (TAM).*

**Keywords: intention to use, attitude toward, perceived usefulness, perceived ease to use, QR Code, small micro merchant.**

## 1. INTRODUCTION

Once of contribution the economic and market condition at Indonesia depends on the growth of SME and its transaction which spread at big city and rural area. In 2018, almost 62.92 million of micro and small merchants noted by 'Department Koperasi dan UMKM'. The market case increment growth 2.06 % annually. (Departemen Koperasi Indonesia, 2018).

In 2018, the population of citizen at Jakarta 10.4 million (Badan Pusat Statistik, 2018) and the total of small micro merchant in Jakarta equal to 1,185,612 merchants record on non-agrobusiness industry area. Then, if compare to small micro-merchant at Indonesia equal 26,855,900 merchant, it's just represented for 4.41%. For the total of 12,460,246 merchants populated on food and beverage retailer sector based on 'Badan Pusat Statistik Indonesia' data, that means in 2018 around 550,085 small micro merchants in Jakarta on its sectors. (Badan Pusat Statistik Indonesia, 2019). On market condition, small micro merchant acquired domination by OVO and Gopay for QR Code transaction purposes rather than bank institution, the merchants prefer to be non-bank institution partnership. Approximal of total merchant OVO at Jakarta around 35,000 merchants (Arinta, 2019) and Gopay at Jakarta around 24,000 merchants with majority 50-60% (Gandasoebrata, 2019) intersect at the merchants. So, the total merchant already implemented QR Code for payment transaction just over 44,600 merchants or 8.11% at Jakarta.

Most of small micro merchants do transaction with cash money transaction, but there are some challenges when small and micro-merchant accept cash payment method. First, the merchant should take a break the production or serve process to accept cash with their hands. Second, consumer will think that food their order are not hygiene because the seller do transaction and make the food together. Third, there are possibility the cash could be miss or stolen. With technology adoption, the cash challenge will be solved.

Only few people will use when the merchant adopt payment. Another issue, there are still some obstacles, including consumer prefer to pay with cash, has not been of standards or regulation, and high-cost implementation, the technology security issue, which decreases the adoption of the implementation new payment method.

There are some reason why QR Code as the payment method can disburse fast. First, QR code itself is a trademark from Denso Wave, a Japanese technology

company and can be used freely. Second, it can be seen that large payment system players in China, namely Alipay and WechatPay have operated in other countries, including Indonesia, to accommodate tourists from China. Third, a combination of various international payment service providers European Mastercard Visa (EMV) has issued a standardized QR code that is used for payment. In Indonesia, local companies have implemented QR codes as one of the payment methods, for example OVO (PT. Visionet International), Gopay (PT. Dompet Anak Bangsa), TCash (Cellular Telecommunication PT), Sakuku (PT. Bank Central Asia, Tbk), JakOne (PT. Bank DKI), Rekening Ponsel (PT. Bank CIMB Niaga, Tbk), Yap (PT. Bank Negara Indonesia (Persero), Tbk), Dana (PT. EDIT) and so on. The requirement of the company to issue the product is one of them obtains permission from Bank Indonesia as the issuer of electronic money and/or electronic wallet.

Some countries have implemented the QR Code for payments as a form of transition from payment to cards to mobile payments. Here are some of them, left to right (EMV Logo QR, BharatQR India, SGQR Singapore, Alipay China, WeChatPay China).

Flow payments of QR Code transaction does not only occur to both parties but also involves domestic switching in Indonesia, there are four switching that now play a role in processing domestic transactions in Indonesia.

Ideally, the QR Code system would be adopted well in Indonesia. The consumer of this payment business can look for multisided (user and merchant). Focus on the merchant condition, if merchant already accepts QR Code as the payment, QR Code payment method could give benefit for many parties, for merchant QR payment method supported the small micro merchant with protect from human error or cash stolen in cash transaction. For customer QR Code facilitate the new trend payment without bring cash to purchase. QR Code also support financial institution to develop mobile payment for their business. For government QR Code support efficiency transaction with decrease circulation of counterfeit money and domestic routing transaction. There are many benefits by used QR Code payment, but until December 2018 implementing of QR Code payment still 8.11% in small micro merchant in Jakarta. To obtain these benefits we would increase implemented of QR Code payment for small micro merchant in Jakarta. Then, what factor will positively impact the intention to use QR mobile at the small-micro merchant.

## 2. LITERATURE REVIEW

### 2.1 TRA (Theory of Reasoned Action)

TRA model was developed by (Ajzen & Fisbein, 1980), this hypothesis is an individual proposed as an element of two determinants, individual one and the other social. The individual determinant is an individual disposition toward the conduct, and the social determinant is individual's impression of social strain to perform or not perform on the conduct, which called as the subjective norm (Ajzen & Fisbein, 1980). This theory follows as model below.

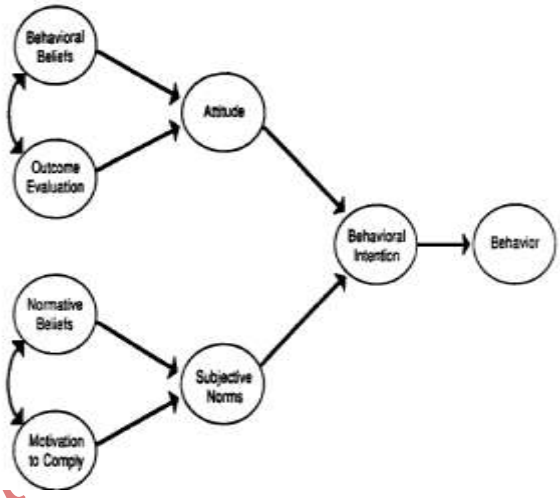


**Fig 1: Theory of Reasoned Model**
**Source: (Ajzen & Fisbein, 1980)**

### 2.2 TPB (Theory of Planned Behaviour)

Theory of Planned Behavior (Ajzen, 1991) is new theory which an advance of the previous theory of reasoned actions. TRA focused approach to human behavior strike a familiar chord, in this TPB will find the process a convincing explanation for our behavior (Ajzen, 1991). Compared with TRA, TPB is easier to use than at the point success probability and real command over the performance of a behavior are imperfect. TRA have two components, attitudes and subjective norms. In TPB, key contribution is the concept of perceived behavioral control, characterized as a person's impression of the simplicity or trouble of playing out the specific behavior Theory of planned behavior have five primary factors which effect with the result, from the attitude toward the behavior, subjective norm, perceived behavioral control, intention dan behavior conduct (Ryan & Carr, 2010).

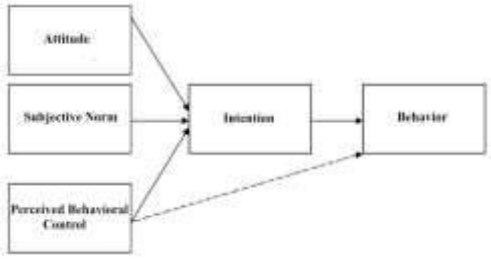


**Fig 2: Theory of Planned Behavior**
**Source: (Ajzen, 1991)**

## 2.3 TAM (Technology Acceptance Model)

TAM is a model in information management research give a clarification of the determinants of technology or computer acknowledgment that is general, fit for behavior use conduct over a wide scope of end-client figuring innovations and client populaces, while in the meantime being both niggardly and justified theory (Davis, Bagozzi, & Warshaw, 1989). Many researchers in the world use TAM to understand and study different type technology or information system. TAM planned to try for accomplish the examination objectives with identifying few basic factors which recommended by past research with the intellectual and full of feeling determinants of technology acceptance (Davis, Bagozzi, & Warshaw, 1989).

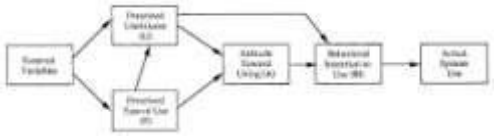

**Fig 2: Technology Acceptance Model (TAM)**
**Source: (Davis, Bagozzi, & Warshaw, 1989)**

## 2.4 TAM 2 (Technology Acceptance Model 2)

TAM2 (Technology acceptance model 2) was proposed by (Venkatesh & Davis, 2000) this study provide detail explanations as for the reasons for the user to finding a useful system on three points in same time: pre-implementation study, one-month post-implementation study, and three-month post-implementation study. TAM2 theories give user's mental assessment to meet imperative objectives at work and the outcomes of playing out a job task using a service system. (Venkatesh & Davis, 2000) provide detail external variable on TAM2 to accomplish previous TAM model, there are 7 points added to accomplish previous model, voluntariness, experience, subjective norm, job relevance, image, output quality, and result demonstrability.

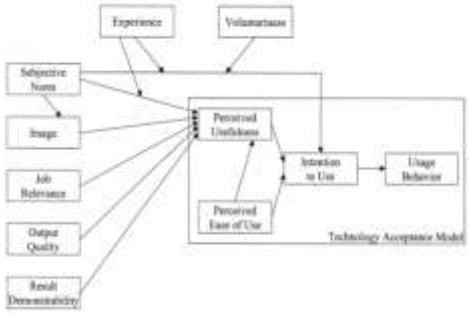

**Fig 3: Technology Acceptance Model 2**
**Source: (Venkatesh & Davis, 2000)**

## 2.5 QRPAM (QR Payment System Adoption Behaviour)

QRPAM is the new model founded by (Liebana, Luna, & Ríos, 2015). This theory explains human behavior relation for new technologies adoption used Theory of Reasoned Action (TRA) from (Ajzen & Fisbein, 1980), Theory of Planned Behaviour (TPB) by (Ajzen, 1991) and Technology Acceptance Model (TAM) by (Davis, Bagozzi, & Warshaw, 1989) as the basis of this theory.

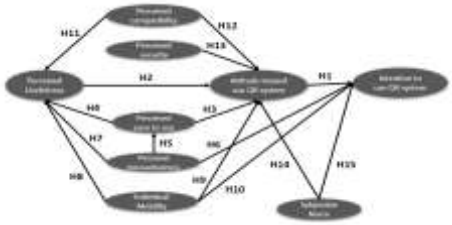

**Fig 5: QRPAM Model**
**Source: (Liebana, Luna, & Ríos, 2015)**

There are 9 variables measured in QRPAM Model. Attitude is individual reaction with the specific level of feasibly or unfeasibly any object, habit, people, or organization (Krebs & Schmidt, 1993). Theory planned behavior (Ajzen, 1991) intention directly affected by the attitude towards of individual. Attitudes are the best predictor to estimate individual success (Hendrickson, 1997). According to (Davis, Bagozzi, & Warshaw, 1989) intention to use is a factor which identification intentions encouragement of someone interest or behavior to do something. Intention to use is a propensity of a man to keep utilizing an innovation (Davis, 1989).

Perceived ease of use described as the degree a person to believe using a system will be free of effort, which is utilizing a specific technology free to any effort. a person may accept a given technology innovation if helpful and find out the innovation not be difficult to use (Davis, 1989). Perceived usefulness defined as how far someone trusts that utilizing an innovation will enhance work activity. Benefits of using new technology seen from the trust of technology used to deciding on acceptance, which believes that the use of technology provide a positive contribution to the users (Haryanto, 2005).

Personal innovativeness in this area of IT shows that marketer should have measurement to predict customer purchase behavior of innovativeness (Rosen, 1996). The person more likely tries new technology which should be identify, try, then retain of their needs (Agrawal & Prasad, 1998). Individual mobility used to validate the idea of a person who needs frequently switch technologies and suitable with the new technology (Kuemmerling et al, 2013).

Perceived security described in consumer minds that's their money can't be lose, missing or cheat during transfer and update balance by third parties in any transaction. Perceived security as the specialized perspective to guarantee integrity, privacy, verification method, and non-acknowledgment of the transaction. Privacy includes the information being seen by approved people. Verification enables a specific activity to be completed simply after distinguishing proof, or if there are assurances that characters (Flavian & Guinaliu, 2006). Perceived compatibility is the procedure to enhance aim to utilization of the smartphone can be created by understanding the significance of seen similarity which an activity as indicated by daily life, work activity, experience and self-esteem (Alhardbi & Drew, 2014). Subjective norm described as an person who affected each other is imperative, which play out certain conduct and inspiration joined by the readiness to do and another thing which important for them (Wedayanti & Giantari, 2016).

## 3. METHODOLOGY

This research type to descriptive model using literature review and questionnaire as the survey. This research needed to know the acceptance of QR payment method impact on intention to use QR system at the small micro-merchant. This research used a quantitative approach with the survey.

Population in this research are all small micro-merchant in the food and beverage retail sector that already implemented QR code payment, and located in Jakarta. All population categorized as a micro merchant with criteria maximum net worth of IDR 50 million and the annual income of no more than IDR 300 million and small with criteria net worth between IDR 50 million to IDR 500 million and the annual income between IDR 300 million to IDR 2.5 billion.

Sampling method used in this study is nonprobability sampling with type purposive judgment sampling method. The judging sample represents a specific group categorized as the small micro-merchant in the food sectors located at Jakarta and already accepted payment via QR Code method for their transaction process (Sekaran & Bougie, 2010).

The research approach in business most likely explanatory approach, then regression analysis is often used by researchers in this approach. As research develops, regression analysis is considered to be less able to answer business research. Therefore, Structural Equalization Model (SEM) is the choice of researchers because it can overcome the weaknesses of regression analysis, while tools in testing SEM using Partial Least Square (PLS). (Hussein, 2015). The reason for using the SEM calculation method is because the test is not limited to the normality assumption of a data, most of the business research data is always an abnormal distribution. Then, with the help of PLS, it can test more than one dependent variable. Data analyzed with descriptive statistic, validity and reability test.

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## 4. RESULT

### 4.1 Descriptive Statistics

The 84 questionnaires that have been spread at the small micro-merchant in this research were divided into gender, age, educational level, the average of gross income and number of transactions per day.

**Table 1. Demographic profile of respondent**

| Division | | Frequency | Percent (%) |
|---|---|---|---|
| Gender | Men | 64 | 76.2 |
| | Women | 20 | 23.8 |
| | **Total** | 84 | 100 |
| Age | 18-24 | 30 | 35.7 |
| | 25-34 | 30 | 35.7 |
| | 35-44 | 18 | 21.4 |
| | 45-54 | 4 | 4.8 |
| | 55-64 | 2 | 2.4 |
| | Total | 84 | 100 |
| Educational level | Elementary School | 8 | 9.5 |
| | Junior High School | 28 | 33.3 |
| | Senior High School | 44 | 52.4 |
| | Undergraduate | 4 | 4.8 |
| | **Total** | 84 | 100 |
| Average daily Income | <IDR 50,000 | 8 | 9.5 |
| | IDR 50,001 – 100,000 | 20 | 23.8 |
| | IDR 100,001 – 500,000 | 32 | 38.1 |
| | > IDR 500,001 | 24 | 28.6 |
| | **Total** | 84 | 100 |
| Average daily transaction | < IDR 20,000 | 68 | 81 |
| | IDR 20,001 – 50,000 | 12 | 14.3 |
| | IDR 50,001 – 100,000 | 4 | 4.8 |
| | **Total** | 84 | 100 |

### 4.2 Scale Convergent Validity and Reliability Analysis

The validity test is needed to check all indicators on variables, some items detected with variance lower than 0.5 will be deleted from statistical test. In fact, all the variables with more than 0.5 average variance and the compound reliability should have more than 0.7 reliability test. The values of variables mention: attitude toward using (AVE = 0.89; reliability = 0.97), individual mobility (AVE = 0.916; reliability = 0.978), intention to use (AVE = 0.631; reliability = 0.834), perceived compatibility (AVE = 0.737; reliability = 0.892), perceived ease of use (AVE = 0.912; reliability = 0.977), personal innovativeness (AVE = 0.848; reliability = 0.957), perceived security (AVE = 0.842; reliability = 0.955),

perceived usefulness (AVE = 0.897; reliability = 0.944), and subjective norms (AVE = 0.933; reliability = 0.977). In the measurement model, the variables constructed with each item that called outer loading factors. Some examples are mention the lowest item (IU3 = 0.627), researcher take off the IU3 indicator that invalid on this research (standard coefficient below 0.700). Please refer to Table 2 below for number/value details.

**Table 2. Convergent validity and internal consistency reliability**

| Relationship between constructs | | | Standard coefficient | Cronbach's α | Compound reliability | Average Variance Extracted |
|---|---|---|---|---|---|---|
| Attitude towards using | → | AT1 | 0.928 | 0.959 | 0.970 | 0.890 |
| | → | AT2 | 0.935 | | | |
| | → | AT3 | 0.931 | | | |
| | → | AT4 | 0.979 | | | |
| Individual mobility | → | IM1 | 0.944 | 0.969 | 0.978 | 0.916 |
| | → | IM2 | 0.953 | | | |
| | → | IM3 | 0.969 | | | |
| | → | IM4 | 0.961 | | | |
| Intention to use | → | IU1 | 0.897 | 0.701 | 0.834 | 0.631 |
| | → | IU2 | 0.834 | | | |
| Perceived compatibility | → | PC1 | 0.919 | 0.814 | 0.892 | 0.737 |
| | → | PC2 | 0.931 | | | |
| | → | PC3 | 0.706 | | | |
| Perceived ease of use | → | PE1 | 0.963 | 0.968 | 0.977 | 0.912 |
| | → | PE2 | 0.974 | | | |
| | → | PE3 | 0.941 | | | |
| | → | PE4 | 0.942 | | | |
| Personal innovativeness | → | PI1 | 0.897 | 0.940 | 0.957 | 0.848 |
| | → | PI2 | 0.943 | | | |
| | → | PI3 | 0.942 | | | |
| | → | PI4 | 0.900 | | | |
| Perceived Security | → | PS1 | 0.961 | 0.939 | 0.955 | 0.842 |
| | → | PS2 | 0.906 | | | |
| | → | PS3 | 0.894 | | | |
| | → | PS4 | 0.909 | | | |
| Perceived usefulness | → | PU1 | 0.878 | 0.920 | 0.944 | 0.807 |
| | → | PU2 | 0.898 | | | |
| | → | PU3 | 0.899 | | | |
| | → | PU4 | 0.916 | | | |
| Subjective norms | → | SN1 | 0.941 | 0.964 | 0.977 | 0.933 |
| | → | SN2 | 0.973 | | | |
| | → | SN3 | 0.983 | | | |

Based on the test result in Table 2, validity and reliability already supported. The purpose of this test to eliminate the invalid constructed variable if the variable to be found. Variable attitude toward using QR Code, individual mobility, intention to use, perceived ease to use, personal innovativeness, perceived security, perceived usefulness, and subjective norms will be used for this research.

## 4.3 Scale Discriminant Validity

The discriminant validity the significantly purpose to know the construct have discriminant value or not. This procedure adopts Fornell-Larcker Criterion that compares the value of number square root AVE and latent variable correlation. The perceived usefulness perceived compatibility, and subjective norm variables have a higher value than its square root AVE of the main construct. The value highlighted by blue is shown the lower value of square root AVE, there are PU and PC of 0.897 (different 0.039), SN and PC of 0.923 (different 0.065), SN and PU of 0.917 (different 0.019).

**Table 3. Discriminant validity test**

| Latent Construct | AT | IM | IU | PC | PE | PI | PS | PU | SN |
|---|---|---|---|---|---|---|---|---|---|
| AT | **0.944** | | | | | | | | |
| IM | 0.818 | **0.957** | | | | | | | |
| IU | 0.625 | 0.785 | **0.794** | | | | | | |
| PC | 0.707 | 0.808 | 0.675 | **0.858** | | | | | |
| PE | 0.669 | 0.737 | 0.583 | 0.845 | **0.955** | | | | |
| PI | 0.743 | 0.775 | 0.741 | 0.740 | 0.700 | **0.921** | | | |
| PS | 0.459 | 0.508 | 0.436 | 0.436 | 0.326 | 0.530 | **0.918** | | |
| PU | 0.820 | 0.885 | 0.686 | 0.897 | 0.860 | 0.795 | 0.434 | **0.898** | |
| SN | 0.751 | 0.832 | 0.649 | 0.923 | 0.858 | 0.738 | 0.429 | 0.917 | **0.966** |

## 4.4 Analysis of Structural Model

The structural model of QR Mobile Payment Acceptance Model (QRPAM) represented by the latent variable (pic. Blue circle). The purpose of the structural model to identify and execute the hypothesis test at each latent variable. The variables will contain the dependent variables and independent variables. The number in the blue circle marked the dependent variable, means the R square contribution of each variable on this research (as Table 5). Hypothesis on this research shown on every path that links (a.k.a connector) between latent variables. Then, the measurement model (pic. yellow circle) linked with its variables, means the validity of each indicator. Normally, the validity parameter will be set on more than equal to 0.7. Although the IU3 indicator of intention on use value is 0.627 (below the parameter 0.7), the indicator will still be used in this research. Validity discussed in Table 2 will complete the path of the structural model and measurement model represented in the description shown in Figure 6.

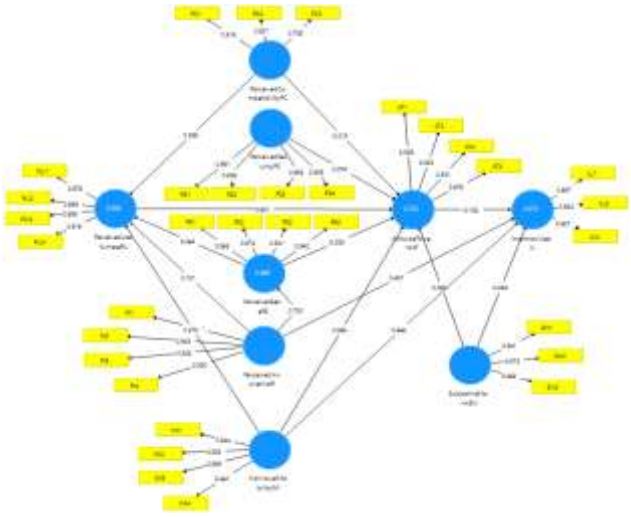

**Fig 6: Result of path model**

The data have shown numerically of significance level between the variable's 'support' if p-value ≤ 0.05 and t-statistic ≥ 1.96, some hypothesis supported and rejected. H1, H2, H4, H5, H6, H8, H9, H10, H11 were supported by this data (p-value ≤ 0.05 and t-statistic ≥ 1.96), on the other hand H3, H7, H12, H13, H14, H15 were rejected (p-value > 0.05 and t-statistic < 1.96). As H1 has negative coefficient results as shown in Table 4., the meaning of -0.162 is actually even the hypothesis significance, but there is the indicator on intention to use (IU) reverse the direction into the attitude toward use (AT). The indicator is IU3 said that the merchant prefers to use QR payment method rather than another payment method like accept cash or card (The details will be explained in the next chapter).

**Table 4. Statistic of standardized path coefficient hypothesis test**

| Hypothesis | | Coefficient | T Statistics | P Value | Result |
|---|---|---|---|---|---|
| H1 | **AT → IU** | -0.162 | 2.013 | 0.044 | **Supported** |
| H2 | **PU → AT** | 0.601 | 3.875 | 0.000 | **Supported** |
| H3 | **PE → AT** | -0.050 | 0.412 | 0.681 | Rejected |
| H4 | **PE → PU** | 0.264 | 3.194 | 0.001 | **Supported** |
| H5 | **PI → PE** | 0.700 | 9.260 | 0.000 | **Supported** |
| H6 | **PI → IU** | 0.401 | 3.597 | 0.000 | **Supported** |
| H7 | **PI → PU** | 0.101 | 1.719 | 0.086 | Rejected |
| H8 | **IM → PU** | 0.370 | 4.639 | 0.000 | **Supported** |
| H9 | **IM → AT** | 0.385 | 2.843 | 0.005 | **Supported** |
| H10 | **IM → IU** | 0.684 | 5.498 | 0.000 | **Supported** |
| H11 | **PC → PU** | 0.299 | 3.516 | 0.000 | **Supported** |
| H12 | **PC → AT** | -0.215 | 1.552 | 0.121 | Rejected |
| H13 | **PS → AT** | 0.074 | 1.475 | 0.140 | Rejected |
| H14 | **SN → AT** | 0.090 | 0.435 | 0.663 | Rejected |
| H15 | **SN → IU** | -0.094 | 1.029 | 0.304 | Rejected |

As mentioned before, there are 4 (four) dependent variables on this research model, the 'perceived usefulness', 'perceived ease of use', 'attitude toward using QR Code', and 'intention of use' (pic. blue circle with a number on it). The results represent the percentage contribution by independent variables. R square details and effect size (f square) combined in Table 5 below.

**Table 5. Effect relationship using statistic F square test**

| Independent Variable | Dependent Variable and ($R^2$) | $F^2$ | Effect Result |
|---|---|---|---|
| IM | | 0.104 | Small |
| PC | | 0.021 | Small |
| PE | AT | 0.002 | Very small |
| PS | (0.723) | 0.014 | Very small |
| PU | | 0.118 | Medium |
| SN | | 0.003 | Very small |
| AT | | 0.023 | Small |
| IM | IU | 0.293 | Medium |
| PI | (0.673) | 0.170 | Medium |
| SN | | 0.008 | Very small |
| PI | PE (0.490) | 0.959 | Large |
| IM | | 0.393 | Large |
| PC | PU | 0.192 | Medium |
| PE | (0.904) | 0.198 | Medium |
| PI | | 0.038 | Small |

Based on hypothesis test result in this research, the summary of the hypothesis can be found in Table 6 below.

**Table 6. Summarize of hypothesis test results**

| Independent Variable | Dependent Variable | Hypothesis | Hypothesis Test Result |
|---|---|---|---|
| Attitude toward use | Intention to use | H1 | **Supported** |
| Perceived usefulness | Attitude towards to use | H2 | **Supported** |
| Perceived ease to use | Attitude towards to use | H3 | Rejected |
| | Perceived usefulness | H4 | **Supported** |
| Personal innovativeness | Perceived ease to use | H5 | **Supported** |
| | Intention to use | H6 | **Supported** |
| | Perceived usefulness | H7 | Rejected |
| Individual mobility | Perceived usefulness | H8 | **Supported** |
| | Attitude towards to use | H9 | **Supported** |
| | Intention to use | H10 | **Supported** |
| Perceived compatibility | Perceived usefulness | H11 | **Supported** |
| | Attitude towards to use | H12 | Rejected |
| Perceived security | Attitude towards to use | H13 | Rejected |
| Subjective norm | Attitude towards to use | H14 | Rejected |
| | Intention to use | H15 | Rejected |

## 5. CONCLUSION AND RECOMMENDATION

This research found that variable individual mobility is the most important variable which supported three aspect from perceived usefulness, attitude toward to use, and intention to use. We hope that involved parties use these results to improving variable individual mobility from QR Code application. This is expected to increase usage of QR code use in small medium merchant. As discussed in chapter 1, there are many benefits that can be used from many parties with increasing the use of QR Code payment.

Attitude toward use, personal innovativeness, and individual mobility variable are directly influencing variable intention of use QR mobile payment at the small-micro merchant. Convenience to use and benefits provided of QR mobile payment become the factor that supports variable attitude toward of use. The small-micro merchant seller who generally likes and wanted to use new technology become the factor support personal innovativeness variable. The small-micro merchant seller who busy, want to do their work quickly and do several activities at once become the factor which supports individual mobility variable.

For recommendation, many small micro merchant's also want that QR Code can be accepted by many consumer's application with single QR Code' type. With single QR Code, merchant don't need to open or split their income from QR transaction into more than one merchant's account. Actually, the internet infrastructure on market condition still on low coverage. Many cases of timeout transaction, the reason can be lost connection at issuer host, acquirer host, switching host, or mobile data operator. Then, the internet infrastructure should be

upgraded to following this transaction traffics. At the market needed, QR Code regulation hasn't existed, so researcher recommend the regulator should be charged to deploy the QR Code payment regulation and the regulation that's defined shouldn't close the industrial innovation.

We hope this research can be used by many parties, especially from financial institution and government for any regulation which supported QR payment method.

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