

# The Implication of Perceived Value to Continuance Intention to Use among Mobile Payment Users in Indonesia

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**Abstract**—The role of technology that affects to human life is not only happening in developed countries, but also in developing countries including Indonesia. The Covid-19 pandemic has accelerated digital transformation in society, one of it is regarding payment transaction technology. Mobile payment as one of the technologies provides features for the users such as cashless payment in stores, money transfer, and e-payment for various daily needs through the application. This study aims to examine the impact of perceived value on the continuance intention to use of mobile payment users in 6 provinces in Java Island by considering demography as a moderating variable to see potential differences between user profiles. Data is collected from 400 mobile payment users living in 6 provinces in Java Island, Indonesia, and analyzed using Partial Least Square Structural Equation Model (PLS-SEM). The findings in this study contribute to the formation of a comprehensive research model to capture the phenomenon of the utilization of digital technology in society, as well as become a reference for mobile payment service providers in making strategies to ensure business sustainability through continuance intention to use among their users.

**Keywords**—mobile payment, perceived value, continuance intention to use, demography

## I. INTRODUCTION

Mobile payment (M-Payment) by definition refers to a payment service through a mobile application provided by a vendor that utilize mobile device technology such as NFC, QR code, OTP code, or barcode scanning to complete the transaction [1, 2]. They are not only providing payment service in a physical merchant, but also through internet or network system. The users can deposit their money in the application and use it for various transactions such as buying goods, foods, or services, paying utility bills, and transferring money. Kim et al. [2] conveyed that M-Payment has a potential capability to provide better and safer experience compared to other offline and non-cash payment system such as debit or credit card. In Indonesia, some surveys and data indicated that M-Payment utilization in the market is increasing and becoming a trend.

Many M-Payment providers try to penetrate the market. Data from iPrice based on active users and application download showed a fluctuation on the market share [3]. This situation encourages the providers to have a competitive advantage to compete in the market to ensure their business sustainability. For the existing providers, if attracting new users is quite challenging, maintaining their users can be a strategy to sustain their business. Thus, continuance intention to use on the existing users becomes very important.

Continuance intention to use is another meaning of loyalty and a significant element for user retention [4]. Oliver [5] mentioned that customer loyalty can increase company's profit if attracting new customers is difficult and need more investment. The statement is relevant with the phenomenon of this study related to competition among M-Payment providers. To ensure business sustainability, if getting new users is challenging, establishing continuance intention to use among their existing users can be a solution. In some previous studies, continuance intention to use as a construct has ever been examined with several antecedents such as perceived value [6], satisfaction [7-9], and various dimensions of perceived value such as functional value, emotional value, social value, and monetary value [10-12].

In respect to consumer behaviour, the M-Payment users may have different preferences due to different background in terms of demographic that affect to their motives in using M-Payment. Thus, it is a challenge for M-Payment providers to ensure continuance usage among their existing users. Knowing their users' profile and preferences will be an advantage for the M-Payment providers to deliver expectation from the users, so they will not switch to other M-Payment providers that fulfils their expectation. For example, M-Payment providers often offer some financial benefit such as discount and cashback point both to attract and retain users who have concern financially. Moreover, the ease of use can also be considered as determining factor for continuance usage, especially for people who are not tech-savvy. In accordance with the users' profile differences, each factor can affect the users at different level.

Thus, understanding the profile differences can help the M-Payment providers to ensure continuance intention to use among their users. This challenge may happen in main areas where the M-Payment users can find many brands of M-Payment in the market. Thus, this study is conducted in six provinces in Java Island, Indonesia.

Hence, this study found two research gaps based on previous studies. The first gap is inconsistency significance result between perceived value and continuance intention. The impact of perceived value on intention was found not significant in the study of Fiandari et al. [13]. The second gap is regarding significance level of demography as moderating variable between perceived value and continuance intention. In the study about fintech, Hyun-Sun Ryu [14] found different significance result when the respondents were not grouped and when the respondents were grouped into two categories, which were early adopters and late adopters. The significant result changed to be not significant in early adopter category. Hyun-Sun Ryu [14] concluded that different expectation between consumers can impact to different significance result. This finding will be explored further in this study because no study related to M-Payment continuance usage has ever examined the role of demography as moderating variable in the relationship between perceived value and continuance intention.

This study has two research objectives to address the research gaps. The first objective is to examine the effect of perceived value on continuance intention to use and the second objective is to examine several demography aspects as moderating variable between perceived value and continuance intention to use, such as gender, age, income, marital status, education qualification, and occupational status. Theoretical and practical contributions are provided after completion of this study. For theoretical contribution, adding several demography aspects as moderating variable between perceived value and continuance intention to use generated a new research model that provide more comprehensive results in capturing consumer's preferences or concerns based on demography categories. For practical contribution, marketing practitioners or M-Payment providers can refer to this study result to get insight regarding different preferences or concerns among M-Payment users that can influence them to market their brands to ensure continuance usage among their users.

## II. LITERATURE REVIEW

**Perceived Value.** Perceived value is discussed in consumption value theory. El-Adly and Eid [15] mentioned it as one of important constructs in service marketing field because many consumers consider it to evaluate their experience during consumption period and to determine the next behaviour. Perceived value defined by Kim et al. [16] as an overall evaluation from customer based on advantages and disadvantages of a product or service. Perceived value has been examined in several previous studies regarding consumer behaviour as an antecedent of customer satisfaction, customer loyalty, and subscription intention [17]. Some other studies found perceived value as a construct that can generate

satisfaction and customer loyalty [18-21]. Perceived value in some previous studies was examined in multi-dimension perspective. Zeithaml [22] examined intrinsic attributes, extrinsic attributes, quality, other high level abstractions, and price (monetary and non-monetary) as five dimensions of perceived value. In the next study, Sheth et al. [23] examined five dimensions of perceived value, namely functional value, conditional value, social value, emotional value, and epistemic value. Another multi-dimension approach was developed by Sweeney and Soutar [24] refers to Sheth et al. [23] known as PERVAL scale that contains of three dimensions, which are functional value, social value, and emotional value. Moreover, concept from Zeithaml [22] was adopted to divide functional value into quality and price. Thus, there are four dimension of perceived value based on PERVAL scale, which are functional value (quality), price value, social value, and emotional value. Furthermore, some other studies conducted to examine similar dimensions of perceived value. This study adopts PERVAL scale because it is considered as one of the latest concept of perceived value in multi-dimensional perspective and has been examined in study related to technology by Turel et al. [25].

**Continuance Intention.** Continuance intention is a type of behavioural intention and a significant element for loyalty or user retention [4, 7]. Behavioural intention is suggested to be used to measure customer loyalty due to the difficulties to observe and measure loyalty [19]. Oliver [26] explained that behavioural intention is used by many researchers to measure loyalty, even though action loyalty is the ideal one. Fishbein and Ajzen [27] defined behavioural intention as a condition when someone plans to perform or not perform certain behaviours in the future. The definition indicates that behavioural intention is not only about adoption, but also post-adoption. Kim et al. [8] suggested intention to return and word of mouth as two indicators of continuance intention.

**Demographic.** Chawla and Joshi [28] suggested that demography can be used as moderating variable to understand differences in consumers' preferences. It also happens in technology phenomenon that demography can have a significant role as moderating variable between independent and dependent variable [29]. However, in marketing study, demography has never been examined as moderating variable in technology post-adoption phase. Otherwise several demography aspects have been examined as moderating variable in technology adoption phase, such as gender [29-31]; age [29, 31-33]; income [34-36]; occupation [37]; education qualification [38]; and marital status [39-41]; with various significance results. Hyun-Sun Ryu [14] explained that by examining the demography as moderating variable, the company will understand users' preferences, expectation, and request more specifically.

### A. Conceptual Framework

The research model is developed refer to consumption value theory to examine the effect of perceived value on continuance intention to use. In addition, to address the explained research gap, demography is added into the research

model as a moderating variable between those constructs. This is to capture the potential of differences in the result of significance level between demography categories.

Zeithaml [22] defined perceived value as an overall consumer's evaluation of a product refer to what is received and what is given. Consumers' value is important to be fulfilled by a company to have a competitive advantage [9, 24, 42]. Perceived value, as a construct derived from consumption value theory, is considered as one of the main predictors of behavioural intention. Perceived value in some previous studies regarding M-Payment was found has a significant effect on continuance intention to use, as a type of behavioural intention [43-45].

H1: Perceived value has a positive significant effect on continuance intention to use

To address one of objectives in this study and to answer the research gap, demography will be examined as a moderating variable between perceived value and continuance intention to use. Moderation defined as a variable that interacts with independent variable in predicting variation in value to dependent variable [46]. As sample, Hyun-Sun Ryu [14] found different significance level between two variables when the respondents were not grouped and were grouped. The significant result in all respondents that were not grouped changed to be not significant in early adopter category. Hyun-Sun Ryu [14] concluded that different expectation and interest between consumers caused the different significance level. Some demography aspects have been examined and found as a significant moderating variable in several previous studies regarding technology adoption or usage, such as gender, age, economic class, marital status, education qualification, and occupational status [32-35, 37, 38, 41, 47, 48].

H2a: There is a different significance level of perceived value to continuance intention to use between male and female users.

H2b: There is a different significance level of perceived value to continuance intention to use between users in different age categories.

H2c: There is a different significance level of perceived value to continuance intention to use between users in different economic class categories.

H2d: There is a different significance level of perceived value to continuance intention to use between married and single users.

H2e: There is a different significance level of perceived value to continuance intention to use between users in different education qualification.

H2f: There is a different significance level of perceived value to continuance intention to use between users in different occupational status.

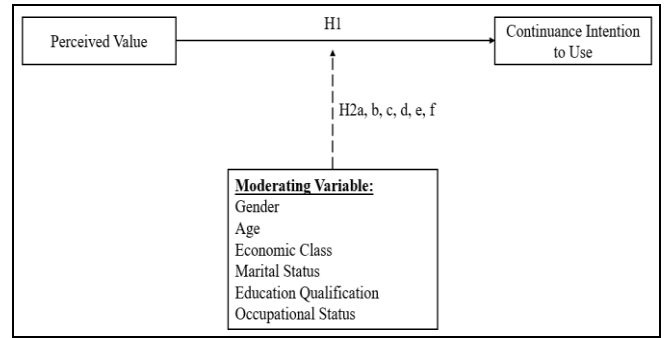


Fig. 1. Research model.

**III. RESEARCH OBJECTS AND METHODS**

Questionnaire, research population of this study is M-Payment users who actively spend their times in six main provinces in Java Island, because they tend to meet various M-Payment brands. Moreover, they should use M-Payment at least five times in a week and use it by their own will, not encouraged by certain parties. Data will be collected through online questionnaire to the population with those criteria. The minimum target of respondent is 400, which has fulfilled the suggested minimum sample size for marketing study by Malhotra [49], which is 200 respondents.

Survey, online questionnaire with seven Likert scale from strongly disagree to strongly agree.

Partial Least Square Structural Equation Modelling (PLS-SEM). The analysis contains of outer and inner model analysis, then followed by hypotheses testing afterwards. Outer model is conducted through convergent validity, discriminant validity, and uni-dimensionality test. The score of outer loading in convergent validity test should be higher than 0,6 and Average Variance Extracted (AVE) should be higher than 0.5. In discriminant validity test, the score of factor loading should be higher than the cross loading to be free from discriminant validity problem. Furthermore, uni-dimensionality test is conducted by considering composite reliability score that should be higher than 0,7 [50]. Inner model analysis is conducted after outer model analysis through R-square, Q-square, and F-square test.

**IV. RESULTS AND ANALYSIS**

Two research objectives will be addressed through data analysis. The first objective is to examine the effect of perceived value on continuance intention to use. The second objective is to examine several demography aspects such as gender, age, economic class, marital status, education quality, and occupational status as moderating variables in the relationship between perceived value and continuance intention to use. Theoretical and practical contributions are provided after completion of this study. This study provided theoretical contribution through the result of some demography aspects as moderating variable, which are gender, age, economic class, marital status, education quality, and occupational status in the

relationship between perceived value and continuance intention to use. The finding will enrich consumption value theory that demography is an important variable to capture perceived value effect more comprehensively. For practical contributions, this study gives insight to M-Payment providers to provide good value for their users to establish continuance intention to use on their M-Payment. Moreover, the M-Payment providers need to learn and understand their users' preferences more specifically based on demography category to deliver the right value to their users to ensure continuance intention to use.

## V. CONCLUSION AND SUGGESTION

This study's findings provide insights for practitioners or M-Payment providers and academicians. The result will show whether perceived value has significant effect to continuance intention to use and demography has significant effect as moderating variable between those constructs or not. In the hypotheses, it is assumed that value is important to ensure continuance intention to use among M-Payment users. The higher value perceived by users, the higher continuance intention to use will be. We also have several hypotheses that assume each demography has different significance level in the relationship between perceived value and continuance intention to use. It will give insights for marketing practitioners especially in M-Payment industry to consider demography profile of their users in formulating strategies to ensure continuance intention to use among them.

Furthermore, this study still has some limitations that can be addressed in the next study. First, the results of this study cannot be generalised to other setting because of the sampling design is only focused on M-Payment users in Java Island, Indonesia. Second, only perceived value is examined as an antecedent of continuance intention to use. Other relevant constructs can be added for more comprehensive result and better prediction. Third, only several demography aspects are examined as moderating variable. Thus, the next study can examine other demography aspects to enrich information for M-Payment providers.

## VI. SUMMARY

Indonesia as a developing country currently are in process to adopt and implement the latest technology in the society. In this paper, it is shown that technological advance in terms of payments provides customers a convenience transaction experience. From practical perspective, the findings of this study is useful for M-Payment providers to formulate strategies to ensure continuance intention to use among their users. Demographic as moderating variable enable this study to provide detail information regarding the impact of perceived value to continuance intention to use in each demography category. Thus, the M-Payment providers can formulate their marketing strategies more specifically in each segmentation. From academic perspective, this study provides reference for the next researcher with a comprehensive research model to capture technology utilization among society. Greater scale of study is suggested to be conducted in the future to get broader

perspectives from other territories and demography categories in Indonesia.

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