Mobile Payment As Financial Transactions In The Digital Era: An Empirical Analysis

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Abstract. The utilization of the development of the digital economy today has changed people's behaviour in almost all aspects of life. The use of technology such as mobile payment or often referred to as m-payment provides convenience in financial transactions. This study aims to determine the factors that influence the application of mobile payment systems by consumers. 230 respondents were surveyed online using the convenience sampling method. This study used a descriptive study using a quantitative approach. A research model was developed and proposed relationships were tested using Structural Equation Modelling (SEM). The results of the study were obtained by the factors of perceived usefulness payment, perceived ease of use, attitude toward using had a significant effect on intention to use in mobile payment based on the Chi-Squares, Probability, Chi-Squares Minimum (CMIN)/Degree of Freedom (DF), Goodness of Fit Index (GFI), Adjusted Goodness of Fit (AGFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI) and Root Mean Square Error Approximation (RMSEA) results that are in accordance with the reference value of the structural equation modeling (Goodness of fit model). This shows that the use of mobile payments in all sectors is in great demand by all levels of society.

1. Introduction
The development of technology and information in the digital era today has changed people's lifestyles in various sectors, one of which is in the financial sector. Payments via mobile phones (cellphones) or mobile payments are increasingly being used, this method of payment is one of the favorite trends of people around the world [2]. Moving payments in Indonesia are the main players in the financial technology industry with 43% of the total fintech players in Indonesia. In 2020, it is predicted that mobile payment business transactions in Indonesia will reach a very fantastic amount, around 459 trillion rupiahs. In general, fintech supports and contributes to the economy in Indonesia from two sides, the first side extends access for customers who have not been served by the financial services industry (inclusion) while the second side of customers wants a better financial product than those available on the market [1]. Mobile payments are payments for goods, services, and bills or invoices with a mobile device (such as a mobile phone, smart-phone, or Personal Digital Assistant) by taking advantage of wireless and other communication technologies [2]. Mobile payment refers to the use of a mobile device to transfer funds from one party (payer) to another recipient electronically, either directly or through an intermediary [3]. The mobile payment service has an appeal to consumers that allows them to buy and pay for products through their mobile devices. Financial transactions through mobile devices offer features of flexibility, familiarity convenience when making payments [4].
The payment industry is experiencing technological convergence and transaction processing. The integration of payment systems and mobile devices is a reality because mobile devices are effective in enabling the security and convenience of payment transactions [5]. This shows a shift from seeing mobile devices use to explore and access internet-based systems to cellular wallets that support applications that replace checks, cash or cards as a form of payment [6]. The payment industry hopes that the mobile payment will provide convenience, the speed of transaction, and versatility needed in today's complex market. The advantages of this payment solution for consumers are very clear: convenience and speed of transactions because of the use of one device and interface everywhere. For traders, the new payment method is likely to increase transaction volume, reduce transaction costs, and improve customer service and loyalty. Therefore, an integrated mobile payment solution might be the key to widespread adoption of mobile payment among consumers [7].

The purpose of this study was to determine the factors that influence the use of mobile payment systems by consumers. The sampling technique uses a convenience sampling method which is part of nonrandom sampling. The variables used included perceived usefulness, perceived ease of use, attitude toward using, intention to use and then processed by proposing a structural equation modeling.

2. Method
In this study, the type of research used is descriptive research with a quantitative approach. The location of the study was conducted in Depok, West Java with 230 respondents surveyed online. The sampling technique uses the convenience sampling method. [8]. Convenience sampling is available for information from members of the population who are conveniently available to provide it. So Convenience sampling is a collection of information from members of the population that are easily obtained and able to provide that information. Thus anyone who can provide information either accidentally or accidentally meet with the researcher can be used as a sample if seen by the person who provided the information suitable as a data source [9].

The first step was to disseminate questionnaires online to all people between the ages of 20 years and over 40 years with various educational and occupational backgrounds as the demographic data of respondents. The instrument used through a questionnaire containing a statement about the factors that influence the use of mobile payment includes perceived usefulness, perceived ease of use, attitude toward using, intention to use. The second step is to develop a valid and reliable research and measurement model for all factors used so that the impact on the adoption of mobile payment can be measured. The data of this study are then processed by proposing a structural equation modeling.

3. Results and Discussion

3.1. Sampling and Data Collection
The research data obtained 230 respondents as samples by distributing participating questionnaires online and answering questions in full. The questionnaire distributed included data on respondents characteristics such as gender, age, education level, and occupation. The respondent characteristics data are presented as follows in Table 1. Based on Table 1, respondents' characteristics for female gender were 67.6%, a male was 32.4%. Age of respondents was less than 20 as many as 11.8%, 20-30 years as many as 31.6%, 30-40 years as many as 18.4%, more than 40 years as many as 38.2%. Educational level for high school level is 19.1%, diploma/associate degree is 21.3%, bachelor degree is 23.5%, lecturer is 23.5%, master degree is 34.6% and doctoral degree is 1.5%. Job professions as private employees are 38.5%, government employees are 14.2%, lecturers are 19.4%, teachers are 5.6%, entrepreneurs are 8.9, others are 13.4%.
Table 1. Demographic Profil of The Respondents

| Gender          | Percent (%) |
|-----------------|-------------|
| Female          | 67.6        |
| Male            | 32.4        |

| Age     | Percent (%) |
|---------|-------------|
| < 20    | 11.8        |
| 20-30   | 31.6        |
| 30-40   | 18.4        |
| > 40    | 38.2        |

| Education Level      | Percent (%) |
|----------------------|-------------|
| High School          | 19.1        |
| Diploma/Associate Degree | 21.3      |
| Bachelor Degree      | 23.5        |
| Master Degree        | 34.6        |
| Doctoral Degree      | 1.5         |

| Occupation        | Percent (%) |
|-------------------|-------------|
| Private Employees | 38.5        |
| Government Employees | 14.2    |
| Lecturer          | 19.4        |
| Teacher           | 5.6         |
| Entrepreneur      | 8.9         |
| Others            | 13.4        |

3.2. Data Analysis

Processing in the form of structural equations has several stages, namely testing the structural model assumptions, theory-based model testing, validity, and reliability testing and model suitability testing. Normality evaluation is carried out using the criterion critical ratio skewness value in the range of values which is between -2.58 to 2.58 at the significance level at 1%. The data can be concluded to have a normal distribution if the value of the critical ratio skewness is below the absolute price of 2.58. After the data is declared normal, the model will be tested for its suitability by looking at the value of Goodness of fit with the criteria that are the reference values are Chi-Squares, Probabilities, CMIN/DF, GFI, AGFI, TLI, CFI and RMSEA produced [10]. In the initial testing the model proposed in this study can be seen in the following Figure 1:
Based on the results of this test Figure 1 it was found that the probability value = 0.000 which is less or smaller than the standard accepted 0.05. The RMSEA value of 0.104 exceeds the accepted standard, namely ≤ 0.08. [10]. From the results of the initial model test, the research can be submitted under the initial research model not fit or suitable.

Validity testing is used to test the ability (accuracy) of an indicator so that it can represent a latent variable. To measure construct validity can be seen from the value of the loading factor which is greater than 0.5 [11]. In this study, an analysis of the Confirmatory Factor Analysis (CFA) model for exogenous and endogenous latent variables was carried out. The summary of the results of the validity test with Confirmatory Factor Analysis can be seen in Table 2, based on the results of the standardized loading estimate, indicators that have a value of loading factors above below 0.5 are valid constructs. While indicators that have a loading factor value below 0.5 are classified as invalid constructs and must be removed from the model.
Table 2. Validity Test Results

| Construct                        | Indicator | Loading Factor | Results |
|----------------------------------|-----------|----------------|---------|
| Perceived Usefulness (PU)        | X1        | 0.397          | not valid |
|                                  | X2        | 0.422          | not valid |
|                                  | X3        | 0.755          | Valid    |
|                                  | X4        | 0.647          | Valid    |
|                                  | X5        | 0.629          | Valid    |
| Perceives Ease of Use (PEU)      | X6        | 0.721          | Valid    |
|                                  | X7        | 0.694          | Valid    |
|                                  | X8        | 0.512          | Valid    |
|                                  | X9        | 0.740          | Valid    |
| Attitude Toward Using (ATU)      | X10       | 0.795          | Valid    |
|                                  | X11       | 0.701          | Valid    |
|                                  | X12       | 0.624          | Valid    |
|                                  | Y1        | 0.619          | Valid    |
| Intention To Use (ITU)           | Y2        | 0.770          | Valid    |
|                                  | Y3        | 0.561          | Valid    |
|                                  | Y4        | 0.367          | not valid |

The Construct Reliability (CR) test is used to test the reliability and consistency of data. In this test, it is said that it fulfills the criteria if it is better to construct reliability > 0.7. Construct Reliability value between 0.6 to 0.7 can still be accepted provided that the construct validity (indicator) in the model is good [11,12]. In Table 3, it can be seen that the reliability test results of the overall variables used are reliable.

Table 3. Reliability Test Results

| Variabel                      | Construct Reliability |
|-------------------------------|-----------------------|
| Perceived Usefulness          | 0.66                  |
| Perceives Ease of Use         | 0.73                  |
| Attitude Toward Using         | 0.80                  |
| Intention To Use              | 0.69                  |

After the validation and reliability tests are carried out, the model is re-formed after validity and reliability tests to see the results of the overall value of the Goodness of Fit Model [10]. The model formation can be seen in the following Figure 2:
Based on the conformity test of the model in Figure 2, the results of the second model are already well fit, so this model is accepted as a mobile payment research model. This can be seen from the results of Chi-Squares, Probability, CMIN/DF, GFI, AGFI, TLI, CFI and RMSEA [10] which are in accordance with the reference values of the structural model equations summarized in the following Table 4:

### Table 4. Goodness of Fit Model Results

| Indeks       | Cut off Value  | Results | Model Evaluation |
|--------------|----------------|---------|------------------|
| Chi-Square   | small $\leq \chi^2$ a : df | 68,461  | Marginal Fit     |
| Probability  | $\geq 0.05$    | 0.067   | Good Fit         |
| CMIN/DF      | $\leq 2.00$    | 1.901   | Good Fit         |
| GFI          | $\geq 0.90$    | 0.922   | Good Fit         |
| AGFI         | $\geq 0.90$    | 0.963   | Good Fit         |
| TLI          | $\geq 0.95$    | 0.968   | Good Fit         |
| CFI          | $\geq 0.95$    | 0.976   | Good Fit         |
| RMSEA        | $\leq 0.08$    | 0.072   | Good Fit         |

### 3.3. Hypothesis Testing

Based on the analysis of the results of the model goodness of fit ($\chi^2 = 68,461$, CMIN/DF = 1,901, GFI = 0.922, AGFI = 0.963, TLI = 0.8968, CFI = 0.976, RMSEA = 0.072) then this model is used in research because it is well fit. Hypothesis testing of the relationships between variables based on the results obtained can be seen in Table 5 below:
Table 5. Hypothesis Test Results

| Intention_To Use | Perceived_Usefulness | Estimate | S.E. | C.R. | P | Results |
|------------------|----------------------|----------|------|------|---|---------|
| Intention_To Use | Perceived_Usefulness | .274     | .080 | 3.442 | *** | Supported |
| Intention_To Use | Perceived_Ease Of Use | .177     | .065 | 2.716 | .007 | Supported |
| Intention_To Use | Attitude_Toward Using | .258     | .076 | 3.399 | *** | Supported |

The results of the hypothesis test in the table above show that all exogenous variables used in this study have a significant effect on endogenous variables, which means that H0 is rejected with a value of C.R > 1.96 and a value of P < 0.05. These results show that perceived usefulness (PU) influences the use of mobile payments such as increasing effectiveness, productivity, supporting transactions more accurately and being able to access every information [8]. The variables perceived ease to use (PEU) also have an influence on the use of mobile payments seen from the ease of using them, easy to understand and practical [7,8]. Likewise with the attitude toward using (ATU) variable which has an influence on the use of mobile payment which provides its own experience in using a mobile payment so it plans to use mobile payment in the future [7,8].

4. Conclusion
Based on the results of the analysis and discussion that has been done, it can be concluded that the use of mobile payment using the indicator dimensions of perceived usefulness variables, perceived ease of use, attitude toward using valid and reliable. The relationship of all exogenous variables to endogenous results obtained is significant. Perceived usefulness variable is 3.422 > 1.96 P value = 0.000 < 0.05, variable perceived ease of use is 2.716 > 1.96 P value = 0.007 < 0.05 and attitude toward using variable is 3.399 > 1.96 P value = 0.000 > 0.05. This shows that the use of mobile payments in all sectors is in great demand by all levels of society.

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