INTEREST ANALYSIS OF USING FINTECH OVO WITH TAM MODEL ON MSMEs IN DENPASAR CITY

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Abstract—The development of technology has now been felt in almost various sectors, one of which is the financial sector. Financial Technology (Fintech) is an innovation in the financial sector that can accelerate the process of financial services, one of which is digital payments. OVO is a type of digital payment with the widest acceptance in Indonesia because it has several partnerships, one of which is with MSMEs. Even so, the use of digital payments is still not massive among MSMEs. The reasons are, among others, the unsupported infrastructure and the perceived usefulness of digital payment. This study aims to determine the factors that can affect the use of technology using a modified Technology Acceptance Model (TAM) by adding 2 external variables (system quality and culture). The method used is quantitative. The research data used primary data obtained directly from the respondents by distributing questionnaires. The data in this study will be analyzed using the PLS-based SEM method using the SmartPLS statistical tool. The results of this study show that as many as seven hypotheses can have a positive and significant effect on interest in using Fintech OVO, while there is one hypothesis that has a positive but not significant effect on interest in using Fintech OVO, namely the effect of perceived ease of use on perceived usefulness.

Keywords: Fintech, OVO, PLS, Technology Acceptance Model

INTRODUCTION

The digital era is an era that makes human life easier and more efficient with technological advances in various sectors. Also, the financial sector has innovated towards a more modern direction known as Financial Technology (Fintech). The presence of Fintech can provide a wide choice for users, such as transferring money, depositing funds, and making payments online or commonly referred to as digital payments (Leng et al., 2018). Digital payment is a non-cash payment technology that is practical and safe (Puspita, 2019). Transaction processes in non-cash payments can be made and received in digital form via the internet, without having to interact directly. OVO is one type of digital payment with the widest acceptance in Indonesia because it has several partnerships with one of the MSMEs. Some of the advantages for MSME actors in using OVO are that they are safe from counterfeit money and there is no need to bother...

Abstrak—Perkembangan teknologi saat ini telah dirasakan hampir di berbagai sektor, salah satunya sektor keuangan. Financial Technology (Fintech) adalah inovasi pada sektor keuangan yang dapat mempercepat proses layanan keuangan, salah satunya yaitu payment digital. OVO termasuk jenis payment digital dengan penerimaan terluas di Indonesia karena telah memiliki beberapa kemitraan salah satunya dengan UMKM. Meskipun begitu, penggunaan payment digital ini masih belum masif dikalangan UMKM. Penyebabnya antara lain sarana prasarana yang belum mendukung dan persepsi kegunaan dari payment digital tersebut. Penelitian ini bertujuan untuk mengetahui faktor-faktor yang dapat mempengaruhi penggunaan teknologi menggunakan model Technology Acceptance Model (TAM) yang dimodifikasi dengan menambahkan 2 variabel eksternal (system quality dan culture). Metode yang digunakan adalah metode kuantitatif. Data penelitian menggunakan data primer yang didapatkan langsung dari responden dengan menyebarkan kuisisoner. Data dalam penelitian ini akan di analisis dengan metode SEM berbasis PLS menggunakan alat statistik SmartPLS. Hasil dari penelitian ini memperlihatkan bahwa sebanyak tujuh hipotesis dapat berpengaruh positif dan bersignifikan terhadap minat penggunaan Fintech OVO, sedangkan terdapat satu hipotesis yang berpengaruh positif tetapi tidak bersignifikan terhadap minat penggunaan Fintech OVO, yaitu pengaruh perceived easy of use terhadap perceived usefulness.

Kata Kunci: Fintech, OVO, PLS, Technology Acceptance Model
with change, simply by scanning the barcode the payment can be processed immediately.

MSMEs in the culinary field is one type of business that has experienced developments in a modern direction by utilizing technological developments such as OVO as a digital payment. The ease of transactions created makes the payment transaction process faster and makes MSMEs look more modern. Although OVO has collaborated with several MSMEs as partners, the use of this digital platform is still not massive. Quoted from the InfoDenpasar.id page, Mr. I Wayan Mardiana as the Head of the Bali Province Cooperative and MSME Service stated that of the 326 thousand MSMEs spread across Bali, not all of them use digital platforms, including MSMEs in Denpasar City (Bali, 2020). The reasons are, among others, the unsupported infrastructure and the perceived usefulness of digital payment itself. Most people also still tend to prepare cash when making payments because there is no digital payment platform as a payment method.

The problems mentioned above can be related to one of the models for determining technology acceptance, namely the Technology Acceptance Model (TAM) (Davis et al., 1989). The TAM model can explain a person’s influence in using technology as seen from 2 main constructs, namely Perceived Usefulness and Perceived Ease of Use. The original form of the TAM model will be presented in the image below.

![Original TAM Model](image1.png)

Source: (Davis et al., 1989)

There are several types of constructs in the original TAM model above that will be used in this study to measure a person’s interest in the use of technology, namely as follows: Perceived usefulness is a person’s perception of the belief that using the system can improve the performance of his activities. Perceived ease of Use is the perception of a person’s belief that using the system can reduce effort on his work. Attitude Toward Using is the user’s positive or negative feelings about the actions that have been carried out (Davis et al., 1989).

**MATERIALS AND METHODS**

The research method used a type of quantitative research method which includes survey methods (collecting data using instruments) and experimental methods (testing hypotheses). The type of data used is quantitative data in the form of numbers. The source of data from this research is primary data directly obtained from respondents.

**Method of Collecting Data**

Data was collected by distributing questionnaires directly to respondents. The number of samples from this study was 120 respondents of culinary SMEs in the city of Denpasar. Sampling was carried out using 2 methods, first with cluster sampling, namely dividing the city of Denpasar into 4 parts of East, West, South, and North Denpasar. Second, using convenience sampling is looking for respondents who are easily found or found by chance in each section.

**Data Analysis**

Data analysis in this study used the PLS-based SEM (Structural Equation Modeling) method. The software used is SmartPLS 3.0. The SEM method was conducted to test research hypotheses related to the effect of exogenous latent variables on endogenous latent variables, as well as endogenous latent variables on other endogenous latent variables. Exogenous latent variables are variables that are not influenced by other variables. Endogenous latent variables are variables that are influenced by other variables.

**Research Conceptual Framework**

This conceptual framework is based on the original TAM model and modified by adding 2 external variables, namely System Quality and Culture variable are how well the system can perform the task according to its objectives. The addition of this variable is supported because it can affect the Perceived Usefulness and Perceived Ease of Use variables (Andarwati & Jatmika, 2017).
The variable Culture can be added because previous research states that the culture of SMEs in Batam city can have a significant influence on technology acceptance (Pintubipar Saragih & Nopriadi, 2019). Culture indicators in this case include internet access and user experience in using technology. The Culture variable can also be added as an interest variable after Attitude Toward Using which can determine the user in deciding to use technology. Behavior Intention is a tendency of an individual's behavior in using technology (Davis et al., 1989).

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Code</th>
<th>Observed Variable (indicator)</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Quality (Andarwati &amp; Jatmika, 2017)</td>
<td>X1.1</td>
<td>Response time</td>
<td>I feel that the payment process for my business can be responded to quickly by OVO</td>
</tr>
<tr>
<td></td>
<td>X1.2</td>
<td>Reliability</td>
<td>I find it easy to be reliable in using this OVO system</td>
</tr>
<tr>
<td></td>
<td>X1.3</td>
<td>Functionality</td>
<td>The payment system offered by OVO can make it easier for me to manage customer payments</td>
</tr>
<tr>
<td></td>
<td>X1.4</td>
<td>Flexible</td>
<td>The payment system offered by OVO is very flexible and uncomplicated</td>
</tr>
<tr>
<td>Culture (Pintubipar Saragih &amp; Nopriadi, 2019)</td>
<td>X2.1</td>
<td>Internet accessible environment</td>
<td>The environment in my business can get stable internet access</td>
</tr>
<tr>
<td></td>
<td>X2.2</td>
<td>Experience using internet-based applications</td>
<td>I have experience and understanding in using innovative mobile and internet-based applications</td>
</tr>
<tr>
<td>Perceived Usefulness (Davis et al., 1989)</td>
<td>Y1.1</td>
<td>Quick completion</td>
<td>I feel that using OVO can speed up the payment process for my business</td>
</tr>
<tr>
<td></td>
<td>Y1.2</td>
<td>Ease of work</td>
<td>I feel that by using OVO the payment process in my business becomes easier</td>
</tr>
<tr>
<td></td>
<td>Y1.3</td>
<td>Useful</td>
<td>I feel OVO is very useful for my business</td>
</tr>
<tr>
<td>Perceived Easy of Use (Davis et al., 1989)</td>
<td>Y2.1</td>
<td>Easy to learn</td>
<td>I find it easy to learn to use OVO</td>
</tr>
<tr>
<td></td>
<td>Y2.2</td>
<td>Easy to use</td>
<td>I find it easy to use OVO to process payments for my business</td>
</tr>
<tr>
<td></td>
<td>Y2.3</td>
<td>Clear and easy to understand</td>
<td>I feel the features of OVO are clear and understandable</td>
</tr>
<tr>
<td></td>
<td>Y2.4</td>
<td>Easy to reach the goal</td>
<td>Overall, I think OVO is easy to use</td>
</tr>
<tr>
<td>Attitude Toward Using (Sari &amp; Sorongan, 2020)</td>
<td>Y3.1</td>
<td>Rejection</td>
<td>I like using OVO</td>
</tr>
<tr>
<td></td>
<td>Y3.2</td>
<td>Attitude of acceptance</td>
<td>Using OVO as an option for payment method is a wise idea</td>
</tr>
<tr>
<td>Behavior Intention (Mayeh et al., 2016)</td>
<td>Y4.1</td>
<td>Intention to use</td>
<td>I intend to always use OVO</td>
</tr>
<tr>
<td></td>
<td>Y4.2</td>
<td>Good for future use</td>
<td>I intend to continue using OVO in the future</td>
</tr>
<tr>
<td></td>
<td>Y4.3</td>
<td>Regular Use</td>
<td>I intend to use OVO as much as possible.</td>
</tr>
</tbody>
</table>
Research Hypothesis

Based on the conceptual framework of the research that has been made, there are as many as 8 hypotheses formed, which are as follows:

- a) $H_1$: System Quality has a positive effect on Perceived Usefulness

- b) $H_2$: System Quality has a positive effect on Perceived Easy of Use

- c) $H_3$: Culture has a positive effect on Perceived Usefulness

- d) $H_4$: Culture has a positive effect on Perceived Ease of Use

- e) $H_5$: Perceived Usefulness has a positive effect on Attitude Toward Using

- f) $H_6$: Perceived Easy of Use has a positive effect on Perceived Usefulness

- g) $H_7$: Perceived Easy of Use has a positive effect on Attitude Toward Using

- h) $H_8$: Attitude Toward Using has a positive effect on Behavioral Intention

Instrument Validity Test Results

Testing the validity of this study was carried out on 30 questionnaire sample data using SPSS v.25 software. The criteria for the reliability level of Cronbach’s alpha can be interpreted as follows (Arif & Santoso, 2016):

- $0.0 - 0.20 = less reliable
- $0.20 - 0.40 = somewhat reliable
- $0.40 - 0.60 = quite reliable
- $0.60 - 0.80 = reliable
- $0.80 - 1.00 = very reliable

RESULT AND DISCUSSION

Instrument Validity Test Results

Testing the validity of this study was carried out on 30 questionnaire sample data using SPSS v.25 software. Based on the process of test results, it shows that:

- a) The System Quality variable has 4 questions with a calculated r-value greater than the r table (0.3061). This means that the questionnaire on this variable can be said to be valid.
- b) The Culture variable has 2 questions with a calculated r-value greater than the r table (0.3061). This means that the questionnaire on this variable can be said to be valid.
- c) The Perceived Usefulness variable has 4 questions with a calculated r-value greater than the r table (0.3061). This means that the questionnaire on this variable can be said to be valid.
- d) The Perceived Easy of Use variable has 4 questions with a calculated r-value that is greater than the r table (0.3061). This means that every question on this variable can be said to be valid.
- e) The Attitude Toward Using variable has 2 questions with a calculated r-value that is greater than the r table (0.3061). This means that every question on this variable can be said to be valid.
- f) The Behavioral Intention variable has 3 questions with a calculated r-value that is greater than the r table (0.3061). This means that every question on this variable can be said to be valid.

Based on the process of test results, it shows that:

- a) Cronbach’s alpha value of the System Quality variable is 0.801 > 0.600. This means that the questionnaire on this variable can be said to be reliable and has a ‘very reliable’ reliability level value.
- b) The value of Cronbach’s alpha variable Culture is 0.783 > 0.600. This means that the questionnaire on this variable can be said to be reliable and has a ‘reliable’ level of reliability.
- c) The value of Cronbach’s alpha variable Perceived Usefulness is 0.758 > 0.600. This means that the questionnaire on this variable can be said to be reliable and has a ‘reliable’ level of reliability.
- d) The value of Cronbach’s alpha variable Perceived Easy of Use is 0.725 > 0.600. This means that the questionnaire on this variable can be said to be reliable and has a ‘reliable’ level of reliability.
- e) The value of Cronbach’s alpha variable Attitude Toward Using is 0.850 > 0.600. This means that the questionnaire on this variable can be said to be reliable and has a ‘very reliable’ reliability level value.
- f) The value of Cronbach’s alpha variable Behavioral Intention is 0.800 > 0.600. This means that the questionnaire on this variable...
can be said to be reliable and has a 'very reliable' reliability level value.

Respondent Demographics

In the demographics of the respondents, 30 respondents filled in each division of the region and the majority were women as much as 51.7%. Then for the duration of the business establishment, the majority of the culinary MSMEs that have been around for 1 year > 3 years are 45% and in the old part using OVO the majority is in the 1 year > 2-year range by culinary MSMEs that have used OVO.

Descriptive Statistics

Descriptive statistics aim to provide an overview of the variables studied. Regarding the System Quality variable data from filling out the questionnaire, it was found a minimum score of 2 and a maximum score of 5. Then it has a smaller standard deviation value when compared to the average, which is 0.744 > 4.245. This means that this variable is homogeneous and the average value can be used as a good representation of the overall data.

Regarding the Culture variable data from filling out the questionnaire, it was found a minimum score of 2 and a maximum score of 5. Then it has a smaller standard deviation value when compared to the average, which is 0.752 < 4.33. This means that this variable is homogeneous and the average value can be used as a good representation of the overall data.

Regarding the Behavior Intention variable data from filling out the questionnaire, it was found a minimum score of 2 and a maximum score of 5. Then it has a smaller standard deviation value when compared to the average, which is 0.752 < 4.33. This means that this variable is homogeneous and the average value can be used as a good representation of the overall data.

Data Processing Results

The data processing technique was carried out using the SEM-PLS method on the SmartPLS 3.0 test tool. Some of the steps required in this method are as follows:

a. Model design, by designing 2 types of models, namely the inner model which is indicated by the relationship between one latent variable and another latent variable, and the outer model which is indicated by the relationship that flows from the latent variable to the observed variable. These observed variables are also called indicators.

b. Evaluation of the model in the design of the outer model aims to measure how much the observed variable can measure the latent variable. The criteria used to assess the convergent validity, discriminant validity, and composite reliability.

Convergent validity is assessed based on the loading factor to prove that the observed variables in the model can be said to be able to measure each
of the latent variables. The condition is that if the loading factor value is < 0.6, the indicator must be eliminated from the model. The results of processing on SmartPLS 3.0 show that there is 1 relationship that has a value less than 0.60 so it must be eliminated in the model, namely the second observed variable (X2.2) in the Culture variable. After recalculation, the entire relationship between the observed variable with the latent variable has a value > 0.6.

Discriminant validity is assessed based on cross-loading with a reference value of > 0.7. Based on the results of data processing, it shows that the entire correlation value of each observed variable with the latent variable > 0.7, so it is stated that the latent variable predicts the observed variable on its indicator better when compared to indicators in other blocks. Composite reliability has a reference value of >0.7. Based on the results of data processing, it shows that all composite reliability values in latent variables have values > 0.7, so it can be said that all latent variables in this model have good stability and internal consistency values for observed variables.

The evaluation of the model in the design of the inner model is assessed based on the R-Square which aims to assess how much the endogenous latent variable can be explained by the exogenous latent variable. The results of data processing show that the R-Square value on the Perceived Usefulness variable is 0.69. This means that the System Quality, Culture, and Perceived Easy of Use variables can explain the Perceived Usefulness variable by 69% and the rest is explained by other variables outside the model.

The value of R-Square on the Perceived Easy of Use variable is 0.40. This means that the System Quality and Culture variables can explain the Perceived Easy of Use variable by 40% and the rest is explained by other variables outside the model.

The value of R-Square on the Attitude Toward Using variable is 0.55. This means that the Perceived Usefulness and Perceived Ease of use variables can explain the Attitude Toward Using variable by 55% and the rest is explained by other variables outside the model.

The value of R-Square on Behavior Intention is 0.58. This means that the attitude toward using variables can explain the behavior intention variable by 69% and the rest is explained by variables outside the model.

After going through the design and evaluation stages of the inner and outer models, the resulting output can be illustrated in the picture 3 below:

![Picture 3. The output of Model Design and Evaluation Results](image)

**Hypothesis Test**

Hypothesis testing is done by using bootstrap on SmartPLS 3.0 software to see the relationship and influence between the variables. T-test statistics and path coefficients are the basis used in testing the hypothesis in this study.
Based on the test results, there is a positive influence between the two variables because it has a coefficient value in the range 0-1 of 0.33. Then when viewed from the relationship, the Culture variable has a significant relationship to Perceived Easy of Use, because it has a value of $t_{\text{statistic}} > t_{\text{table}}$, which is 3.63 $> 1.96$. So it can be concluded that $H_4$ can be accepted and $H_0$ is rejected. The interpretation is to show that culture which includes internet access and user experience in using Fintech OVO can influence the perception of culinary MSME actors regarding the convenience offered by OVO for their business.

5. Effect of Perceived Usefulness (Y1) on Attitude Toward Using (Y3)

Based on the test results, there is a positive influence between the two variables because it has a coefficient value in the range 0-1 of 0.56. Then when viewed from the relationship, the Perceived Usefulness variable has a significant relationship to Attitude Toward Using, because it has a value of $t_{\text{statistic}} > t_{\text{table}}$, namely 6.68 $> 1.96$. So it can be concluded that $H_5$ can be accepted and $H_0$ is rejected. The interpretation is to show that MSME actors in the culinary sector can accept or reject the use of OVO Fintech based on the benefits offered by OVO for their business.

6. Effect of Perceived Easy of Use (Y2) on Perceived Usefulness (Y1)

Based on the test results, there is a positive influence between the two variables because it has a coefficient value of 0-1 at 0.12. Then when viewed from the relationship, the Perceived Easy of Use variable has an insignificant relationship to Perceived Usefulness, because it has a $t_{\text{statistic}} < t_{\text{table}}$ value, namely 1.58 $< 1.96$. So it can be concluded that $H_6$ is rejected and $H_0$ is accepted. The interpretation is to show that the perception of the convenience felt by culinary SMEs in using Fintech OVO does not always affect the perception of the benefits of OVO itself.

7. The Influence of Perceived Easy of Use (Y2) on Attitude Toward Using (Y3)

Based on the test results obtained a positive influence between the two variables because it has a coefficient value in the range 0-1 of 0.25. Then when viewed from the relationship, the Perceived Easy of Use variable has a significant relationship to Attitude Toward Using, because it has a value of $t_{\text{statistic}} > t_{\text{table}}$, which is 2.94 $> 1.96$. So it can be concluded that $H_7$ can be accepted and $H_0$ is rejected. The interpretation is to show that SMEs in the culinary sector will accept or reject the use of OVO Fintech for their business based on the convenience offered by OVO for their business.

8. Effect of Attitude Toward Using (Y3) on Behavior Intention (Y4)

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### Table 3. Bootstrap Output

<table>
<thead>
<tr>
<th>$H$</th>
<th>Path Coefficient</th>
<th>$t_{\text{statistic}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 -&gt; Y1</td>
<td>0.632</td>
<td>8.147</td>
</tr>
<tr>
<td>X1 -&gt; Y2</td>
<td>0.404</td>
<td>4.521</td>
</tr>
<tr>
<td>X2 -&gt; Y1</td>
<td>0.197</td>
<td>3.080</td>
</tr>
<tr>
<td>X2 -&gt; Y2</td>
<td>0.339</td>
<td>3.638</td>
</tr>
<tr>
<td>Y1 -&gt; Y3</td>
<td>0.566</td>
<td>6.686</td>
</tr>
<tr>
<td>Y2 -&gt; Y1</td>
<td>0.121</td>
<td>1.589</td>
</tr>
<tr>
<td>Y2 -&gt; Y3</td>
<td>0.252</td>
<td>2.945</td>
</tr>
<tr>
<td>Y3 -&gt; Y4</td>
<td>0.765</td>
<td>17.719</td>
</tr>
</tbody>
</table>

The explanation of table 3 above is as follows:

1. Effect of System Quality (X1) on Perceived Usefulness (Y1)

Based on the test results obtained a positive influence between the two variables because it has a coefficient value in the range 0-1 of 0.63. Then when viewed from the relationship, the System Quality variable has a significant relationship to the Perceived Usefulness variable, because it has a value of $t_{\text{statistic}} > t_{\text{table}}$, namely 8.14 $> 1.96$. So it can be concluded that $H_1$ can be accepted and $H_0$ is rejected. The interpretation is to show that the quality of the OVO system can affect the perception of MSME actors in the culinary field regarding the benefits of OVO itself for their business.

2. Effect of System Quality (X1) on Perceived Easy of Use (Y2)

Based on the test results, there is a positive influence between the two variables because it has a coefficient value in the range 0-1 of 0.40. Then when viewed from the relationship, the System Quality variable has a significant relationship to the perceived ease of use, because it has a value of $t_{\text{statistic}} > t_{\text{table}}$, which is 4.53 $> 1.96$. So it can be concluded that $H_2$ can be accepted and $H_0$ is rejected. The interpretation is to show that the quality of the OVO system can affect the perception of culinary MSME actors regarding the convenience offered by OVO for their business.

3. The Influence of Cultur (X2) on Perceived Usefulness (Y1)

Based on the test results, there is a positive influence between the two variables because it has a coefficient value in the range 0-1 of 0.19. Then when viewed from the relationship, the Culture variable has a significant relationship to Perceived Usefulness, because it has a value of $t_{\text{statistic}} > t_{\text{table}}$ which is 3.03 $> 1.96$. So it can be concluded that $H_3$ can be accepted and $H_0$ is rejected. The interpretation is to show that culture which includes internet access and user experience in using Fintech OVO can influence the perception of culinary MSME actors regarding the benefits of OVO itself for their business.

4. Influence of Culture (X2) on Perceived Easy of use (Y2)
Based on the test results, there is a positive effect between the two variables because it has a coefficient value in the range 0-1 of 0.76. Then when viewed from the relationship, the Attitude Toward Using variable has a significant relationship to Behavior Intention, because it has a t-statistic > t-table value, namely 17.17 > 1.96. So it can be concluded that $H_0$ can be accepted and $H_1$ is rejected. The interpretation is to show that attitudes towards the use of Fintech OVO by culinary MSME actors can automatically affect the interest in using OVO in their business activities.

**CONCLUSION**

The conclusion from the results of this study is that by the discussion of the research results from the hypothesis testing that has been described, this study concludes that there are accepted hypotheses with a positive and significant influence on the interest in using Fintech OVO, namely the system quality and culture variables on perceived usefulness variables, system quality and culture variables on variables perceived ease of use, perceived usefulness and perceived ease of use variables on the attitude toward using a variable, and the attitude toward using a variable on the intention behavior variable. Then there are also the results of the rejected hypothesis with a positive but not significant effect on the interest in using Fintech OVO, namely the perceived easy-off use variable on the perceived usefulness variable.

**REFERENCE**


