



## Analysis of Simpeldesa Application Acceptance Using the UTAUT 2 Modification Method in Cibiru Wetan and Pangandaran Villages

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**ABSTRACT:** This study aims to analyse the effect of performance expectancy, effort expectancy, social influence, habit, and trust on behavioral intention and the effect of facilitating conditions, behavioral intention, and habit on adoption behavior in using Simpeldesa. This variable is a variable derived from the Modified UTAUT 2 Model. Simpeldesa is a digital platform the village government uses with digitization features covering governance, social governance, and commerce processes.

This study uses quantitative research methods with conclusive or causal research types. This research survey used questionnaires with 268 respondents from early adopter users of the Simpeldesa application from the Cibiru Wetan and Pangandaran villages.

The findings from this study are that effort expectancy, social influence, facilitating conditions, and habits significantly affect behavioral intention. Facilitating conditions, habits, and behavioral intentions significantly affect the Simpeldesa application's adoption behavior. The independent variable with the most significant influence is facilitating condition on behavioral intention, with a t-statistic value of 5.203 and a p-value of 0.000.

**KEYWORDS:** Acceptance, Technology, Simpeldesa, Strategy, Villages.

### INTRODUCTION

Simpeldesa is a web-based and mobile application (apps) that can be used by Village, District, and Provincial Governments to ministries that are integrated with village communities. The big concept of Simpeldesa is divided into three big concepts, namely digitalization of Governance (Smart Governance), Social Governance (Smart Society), and Tata Commerce (Smart Economy) to support governance and digital economic ecosystems in villages.

As the village government's highest leader, the village head has room to implement digital platforms to develop a digital village ecosystem towards an independent and advanced village. Economic activities diverted from conventional methods allow villages to increase Village Original Income through Village Owned Enterprises (BUMDes). Detailed explanations of village digitization supported by Simpeldesa include:

1. Smart Governance: the ease of managing village administration, public services, and the interaction of the village administration with the village government and the government levels above it.
2. Smart Society: digital-based social interaction between village communities and other village communities within the Village, sub-district, district, provincial and national scopes facilitated by the village government among simple village users. The Village Government facilitates this Village Social Governance to provide convenience to the Village community regarding essential services they usually get manually, such as Health, Security, Education, and other Basic Social Services.
3. Smart Economy: i.e., Digitalization of the Village Commerce System managed by BUMDes as the spearhead of the Village economy is a vital part of the SimpleDesa platform to manage all village potential based on digital transactions. Maximum Village Governance and Social Implementation will provide a massive opportunity for BUMDes to educate the Village community to divert all digital business activities through simple desa. The Village Community is expected to be concerned about this transaction-based digital activity as the leading participant in the progress of the Village. The participation they transact must have advantages over the needs of digital activities they usually do in terms of quality, service, and increasing village original income for their villages.

Pangandaran Village and Cibiru Wetan Village are early adapters that use Simpeldesa. Pangandaran Village is piloting the implementation of village digitization in Indonesia. Cibiru Wetan Village has won various national-level awards for awards related to village digitalization.



Simpeldesa's implementation encourages creating of a more effective and efficient public service process. Currently, the number of Simpeldesa downloaders in Cibiru Wetan is 307 people out of a total population of 11,840 residents. The number of Simpeldesa downloads in a new ratio is 2.59%. During the two years of use, the most frequently used feature is the mail service, with the number of served letters of 444 letters. Other features, such as village info, village reports, and village news, have yet to be widely used; 14 published village information, eight village reports via Simpeldesa, and 30 village news.

For the use of Simpeldesa in Pangandaran Village, the number of Simpeldesa downloaders was 979 out of 11,449 residents. The ratio of Simpeldesa downloaders to the total population is 8.55%. The main feature is the most frequently used, with 1,188 letters used. A total of 123 village information, Village reports via Simpeldesa 8 reports and 103 village news.

The data above indicates that there is still room for optimizing the use of Simpeldesa in Cibiru Wetan and Pangandaran Villages. The level of use of Simpeldesa, which still needs to be optimal, is one of the parameters determining the level of user acceptance of digital transformation in rural areas. Village digitization can provide added value in village development which has implications for ease of governance processes, connectedness and increased accessibility of village social order, and increased welfare of village communities through the management of original village income. There still needs to be a gap between the potential for village digitization and the implementation of village digital transformation.

The challenge in village digital transformation is the level of acceptance of village communities in using Simpeldesa as a digital platform that supports village digitization. Simpeldesa has the potential to encourage village digitization in terms of village governance (Smart Government), village social governance (Smart Society), and village economic governance (Smart Economy). This potential will only be optimally achieved if the village community internalizes the village digitalization support platform.

The level of acceptance by rural communities of digital transformation is closely related to digital readiness theory. This refers to the stage of development, which describes a portrait of tendencies, desires, and willingness to internalize the development of information technology in everyday life. Technology is the main factor that determines the success of implementing digital transformation.

The basic theory used to measure the acceptance of the Cibiru Wetan Village Community for digital transformation is the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) Modification theoretical model. The variables used in this study include performance expectancy, effort expectancy, social influence, hedonic motivation, price value, habit, trust in the internet, trust of intermediaries, facilitating conditions, behavioral intention, and adoption behavior. Variables in the Modified UTAUT 2 Model were cross-checked with previous research in Indonesia to identify which variables were relevant for use in identifying village community acceptance of Simpeldesa.

This research contains several research questions that are:

1. Does performance expectancy, effort expectancy, social influence, habit, and trust significantly affect behavioral intention in using Simpeldesa?
2. Do facilitation conditions, behavioral intentions, and habits significantly affect adoption behavior in using Simpeldesa?

## LITERATURE REVIEW

### Strategic Management

Strategy can be defined as a set of coordinated actions designed to outperform competitors and achieve superior profitability (Thompson et al., 2022). In the context of government, the meaning of competitors in terms of strategy can be contextualized against the challenges faced, and profitability can shift its meaning into the organization's vision to be achieved. The essence of the strategy, among others, is to gain a competitive advantage in sustainably achieving a shared vision (Thompson et al., 2022). Strategy implementation can help achieve common goals for an extended period, not only temporarily.

Strategic management is generally achieved through strategy formulation, implementation, and evaluation (Thompson et al., 2022). The position of this research at the strategic management stage intersects with the strategy evaluation and strategic formulation stages. The UTAUT 2 theoretical model can provide insight into what variables are most influential and not influential in the use of Simpeldesa by the Cibiru Wetan community. The level of acceptance of the Cibiru Wetan community towards the Simpeldesa application can be measured through a question instrument that has been operationalized and contained in a questionnaire. The results



of data processing and quantitative analysis can be used as input for corrective actions and the preparation of relevant alternative strategies to enhance digital transformation through Simpeldesa.

### Diffusion of Innovation

Innovation is closely related to technology, namely the design used for instrumental action to reduce the irregularity of causal relationships in achieving a specific goal (Thompson & Eveland, 1967). Innovation can also be defined as an idea, practice, or object that individuals consider new (Rogers, 1995). The essential thing from these two definitions is that innovation is an effort to achieve specific goals and will be considered innovation for some people but not others. This understanding refers to the time dimension, and what individuals feel about the ideas, practices, or tools used are the factors that determine whether an innovation is an innovation or not.

Diffusion can be defined as the process of innovation being communicated through specific channels over a certain period to members of a social system. In addition, diffusion also refers to the types of changes that occur in social structures and functions. Diffusion of innovation is a process of spreading the absorption of ideas or new things as an effort to transform a society that occurs continuously, from one place to another, from a certain period to the next period, from one field to another, to a group of members of the system. Social.

Some of the main factors that influence the adoption of innovations include relative advantage (how innovation can be judged as a better idea than previous activity patterns), compatibility (how innovation is consistent with values, experience, and the needs of users), complexity (how easily the innovation can be used), trialability (how the innovation can be tested before it is used in general), and observability (how the innovation can be measured with concrete results).

### Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) Modification

UTAUT 2 is a further development of individuals' acceptance and use of technology. This model aims to identify three essential constructs of acceptance and use of technology, change some of the existing relationships in the UTAUT theoretical model, and introduce new relationships. UTAUT 2 Modification refers to the addition of relevant variables in the UTAUT 2 theoretical model, which is contextual with the model of personal acceptance of the development of information technology. The following is an explanation of the variables in the UTAUT 2 model and the variables used in this study:

**Table 1.** Variable of UTAUT 2 Modification

| Variable                     | Description  | Notes   |
|------------------------------|--|---|
| Performance Expectancy (PE)  | Refers to how individuals believe that information technology will assist them in achieving benefits in their job performance    | Used further in this study  |
| Effort Expectancy (EE)       | Refers to the level of ease associated with using the system   | Used further in this study  |
| Social Influence (SI)        | Refers to the influence that the environment has on the users of innovation  | Used further in this study  |
| Facilitating Conditions (FC) | Refers to how users of innovation believe that the organizational and technical infrastructure can support the use of the system | Used further in this study  |
| Behavioural Intention (BI)   | Refers to the level of desire or Intention to use information systems with the assumption that users have access to information  | Used further in this study  |
| Hedonic Motivation (HM)      | Refers to the enjoyment that comes from the use of information technology  | Not used in this study because, in the implementation context, the user has no choice but what has been determined by the village apparatus |



|                  |   |  |
|------------------|---|--|
| Price Value (PV) | Refers to the sacrifice's individuals incur to adopt information technology with the benefits obtained                                | In the context of this study, no fees were charged to the villagers. |
| Habit (Hb)       | Refers to the extent to which people tend to perform behaviours automatically   | Used further in this study   |
| Trust (Tr)       | Refers to how user confidence in using available intermediary channels and internet (applications, websites, or other forms of media) | Used further in this study   |

The UTAUT 2 model is a theoretical model developed by Venkatesh in 2012. This model is a refinement of previous models in analyzing technology adoption on human behavior. This study considers the suitability between the theoretical model developed and the contextual conditions in the field. The following is the UTAUT 2 Modification model used in this study:

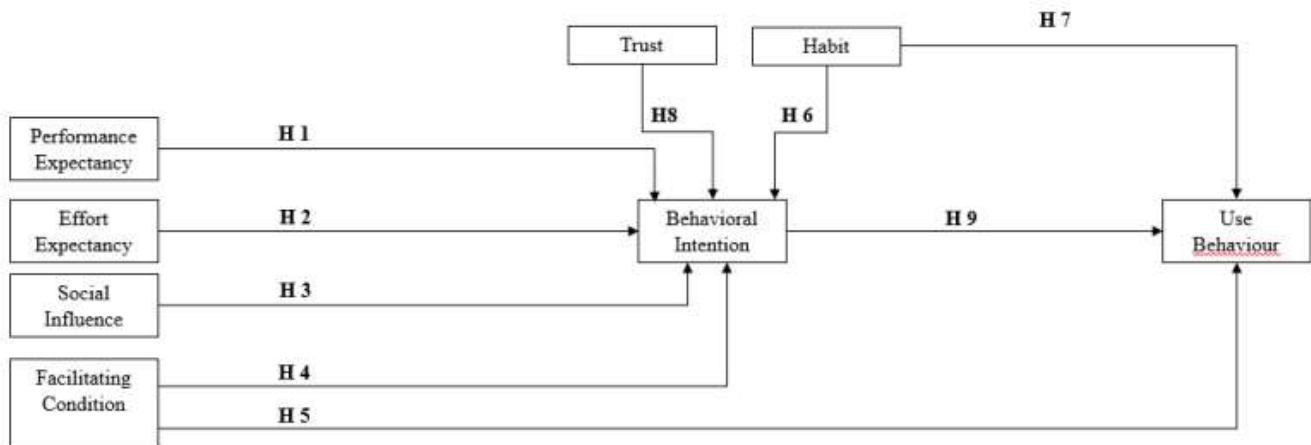


Figure 1. UTAUT 2 Modification Model

**Variable Operationalization**

The following is the operationalization of the variables in this study:

Table 2. Variable Operationalization

| Variables              | Codification | Questionnaire Statements   |
|------------------------|--------------|--|
| Performance Expectancy | PE1          | Using Simpeldesa can help me access village news.  |
|                        | PE2          | Using Simpeldesa can help me access village information.   |
|                        | PE3          | Using Simpeldesa can help me convey aspirations for the Village Government.  |
|                        | PE4          | Using Simpeldesa can help me apply for letter administrative services to the Village Government.                   |
| Effort Expectancy      | EE1          | The SimpleDesa application can be used easily.   |
|                        | EE2          | All the features in the Simpeldesa application can be used easily.   |
|                        | EE3          | The appearance of all the features in Simpeldesa makes it easier for me to use Simpeldesa.                         |
| Social Influence       | SI1          | The social environment around me believes that I should use Simpeldesa to meet the needs of public services daily. |
|                        | SI2          | I will use Simpeldesa if the social environment around me also uses Simpeldesa.                                    |
|                        | SI3          | The social environment around think Simpeldesa is helping in the fulfillment of daily public services              |



| Variables               | Codification | Questionnaire Statements  |
|-------------------------|--------------|---|
| Habit                   | SI4          | The village stakeholder recommend me to use Simpledesa  |
|                         | Hb1          | Using Simpeldesa to digitize public services has become a habit for me.   |
| Trust                   | Tr1          | I believe Simpeldesa has an adequate level of security, so I feel comfortable using Simpeldesa without worrying about data leaks. |
|                         | FC1          | I have a gadget/mobile phone that can be used to access and enjoy Simpeldesa services.  |
| Facilitating Conditions | FC2          | I can easily access the internet needed to use the Simpeldesa application.  |
|                         | FC3          | There is an easy-to-learn guide available to help me use Simpeldesa.  |
|                         | FC4          | A contact person can be easily contacted if you have further questions about using Simpeldesa.                                    |
| Behavioural Intention   | BI1          | I intend to continue using Simpeldesa in public service activities shortly.   |
| Adoption Behaviour      | AB1          | I often use Simpeldesa to fulfill public service needs.   |

### Hypothesis Research

The following hypothesis were purposed:

- H1: Performance expectance will have a significant influence on the behavioral intention of the Simpeldesa application.
- H2: Effort expectancy will have a significant effect on the behavioral intention of the Simpeldesa application.
- H3: Social influence will significantly influence the behavioral intention of the Simpeldesa application.
- H4: Facilitating conditions will significantly influence the behavior intention of the Simpeldesa application.
- H5: Facilitating conditions will significantly influence the adoption behavior of the Simpeldesa application.
- H6: Habit will have a significant influence on the behavioral intention of the Simpeldesa application.
- H7: Habit will significantly influence the adoption behavior of the Simpeldesa application.
- H8: Trust will have a significant influence on the behavioral intention of the Simpeldesa application.
- H9: Behavioral intention to use Simpeldesa will significantly influence the adoption behavior of the Simpeldesa application.

### RESEARCH METHODOLOGY

This study uses a quantitative research method. The quantitative method is a type of research in the form of numbers and analysis using statistics on data. This method meets scientific principles consisting of concrete or empirical, objective, measurable, rational, and systematic. The research method with a quantitative type was chosen so that this research can be tested and measured empirically.

Based on the research objectives, the type used is conclusive or causal research. Quantitative research analyzes the relationship of variables to the object under study, which is cause and effect. Quantitative research analyzes how much influence the independent variables have on the dependent variable. The data collection method used in this study was a questionnaire distribution survey.

Based on the type of study analysis, this study uses a causal study. The focus of a causal study is a scientific study approach to examine a variable that causes other variables to change. The unit of analysis for this study includes individuals, namely the people of Cibiru Wetan Village and Pangandaran Village, who use the Simpeldesa application. Researchers did not intervene in the data obtained from the survey results. Thus, from the researchers' involvement, this research's classification is to avoid inverting data.

The population in this research included all early adopters of Simpeldesa users in West Java Province, namely 23,289 villagers. The sample in this study included downloading the Simpeldesa application in Cibiru Wetan Village and Pangandaran Village, namely 268 residents. Residents of Cibiru Wetan Village and Pangandaran Village were selected considering that residents in these two villages were early adopters in the Simpeldesa innovation adoption process, which already had success stories in the form of awards at the national level.





The validity test parameters used in this study include:

**Table 3.** Validity Test Parameters

| Constructs   | Parameters         | Rules   |
|--------------|--------------------|---|
| Convergent   | Loading Factor     | More than 0.7                                 |
|              | AVE                | More than 0.5                                 |
| Discriminant | Square Root of AVE | Square Root AVE > Latent Variable Correlation |
|              | Cross Loading      | More than 0.7 in One Variable                 |

The reliability test was implemented to measure the consistency of the measuring instrument in measuring the concept and the consistency of the respondents in giving answers to the research instruments used in the study. Reliability can show the accuracy, consistency, and accuracy of a measuring tool in conducting studies (Hartono, 2008). The following are the reliability test parameter values:

**Table 4.** Reliability Test Parameters

| Parameters            | Rules         |
|-----------------------|---------------|
| Cronbach's Alpha      | More than 0.7 |
| Composite Reliability | More than 0.7 |

The inner model is a structural model that is used to predict causality relationships between latent variables or variables that cannot be measured directly. The inner model describes the causal relationship between latent variables that have been built based on the substance of the theory. The explanation of each inner model in this study is as follows:

**Table 5.** Inner Model Test Parameters

| Parameters                    | Rules  |
|-------------------------------|--|
| Path Coefficient and T-Value  | T-Statistic / T-Value > 1.96 (5% alpha) for the 2-tailed hypothesis  |
|                               | T-Statistic / T-Value > 1.64 (5% alpha) for the 1-tailed hypothesis  |
| R-Square (R <sup>2</sup> )    | R-square 0.67 identifies that the model is good.   |
|                               | R-square 0.33 identifies that the model is moderate.<br>R-square 0.19 identifies that the model is weak.                               |
| Q-Square (Q <sup>2</sup> )    | Q-Square > 0 indicates that the model has predictive relevance   |
|                               | Q-Square < 0 indicates that the model lacks predictive relevance   |
| Effect Size (f <sup>2</sup> ) | Effect Size 0.35 identifies that the model has a strong influence  |
|                               | Effect Size 0.02 identifies that the model has a moderate influence<br>Effect Size 0.15 identifies that the model has a weak influence |

**RESULT**

**Measurement Models (Outer Model)**

The outer model is used to evaluate the relationship between the construct and its indicators, divided into two (2), namely convergent validity and discriminant validity. Convergent validity can be evaluated through three (3) stages: validity indicators, construct reliability, and average variance extracted (AVE) values. While discriminant validity can be passed in two (2) stages, namely looking at the cross-loading value and comparing the correlation between the construct and the AVE root. The outer diagram or model in this study can be seen in the Figure as follows:

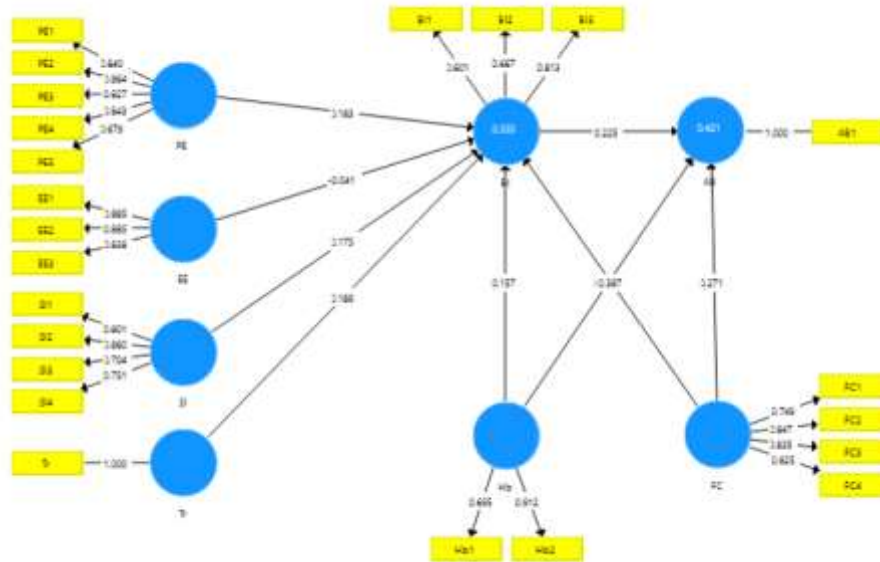


Figure 2. Outer Model

**Convergent Validity**

Convergent validity test in PLS with reflective indicators is considered based on the loading factor (correlation between component item scores and construct scores) indicators that measure the construct. The rule of thumb used for convergent validity is outer loading > 0.7 and average variance extracted (AVE) > 0.5, so the items in these variables have sufficient convergent validity. Based on the results of the researcher's data processing, the results of convergent validity were obtained with the factor loading values as follows:

**Table 6.** Loading Factor Values

| Variables               | Indicator | Loading Factor | Conclusion |
|-------------------------|-----------|----------------|------------|
| Performance             | PE1       | 0.853          | Valid      |
|                         | PE2       | 0.892          | Valid      |
|                         | PE3       | 0.856          | Valid      |
|                         | PE4       | 0.834          | Valid      |
| Effort Expectancy       | EE1       | 0.862          | Valid      |
|                         | EE2       | 0.883          | Valid      |
|                         | EE3       | 0.867          | Valid      |
| Social Influence        | SI1       | 0.746          | Valid      |
|                         | SI2       | 0.849          | Valid      |
|                         | SI3       | 0.732          | Valid      |
|                         | SI4       | 0.797          | Valid      |
| Habit                   | Hb1       | 1.000          | Valid      |
| Trust                   | Tr1       | 1.000          | Valid      |
| Facilitating Conditions | FC1       | 0.754          | Valid      |
|                         | FC2       | 0.842          | Valid      |
|                         | FC3       | 0.832          | Valid      |
|                         | FC4       | 0.828          | Valid      |



| Variables             | Indicator | Loading Factor | Conclusion |
|-----------------------|-----------|----------------|------------|
| Behavioural Intention | BI1       | 1.000          | Valid      |
|                       | AB1       | 1.000          | Valid      |

The table above shows that all indicators/items have a loading factor value of more than 0.7, so they can be declared valid. In addition, convergent validity can also be measured by calculating each indicator on the average variance extracted (AVE). The following is the result of the AVE value in this study:

Table 7. AVE Values

| Variables               | Average Variance Extracted (AVE) |
|-------------------------|----------------------------------|
| Performance Expectancy  | 0.738                            |
| Effort Expectancy       | 0.758                            |
| Social Influence        | 0.612                            |
| Habit                   | 1.000                            |
| Trust                   | 1.000                            |
| Facilitating Conditions | 0.664                            |
| Behavioural Intention   | 1.000                            |
| Adoption Behaviour      | 1.000                            |

Based on the table above, the results of the calculation of convergent validity with AVE obtained that the AVE value of each variable has a value of > 0.5. So it can be stated that the data in this study have met the convergent validity criteria.

**Discriminant Validity**

The model has sufficient discriminant validity if the AVE root for each construct is greater than the correlation between the construct and the other constructs in the model. Then the construct is declared to have discriminant validity. Based on the results of the researcher's data processing, the results of discriminant validity with cross-loading were obtained, which can be known through the Figures as follow:

|     | AB    | BI    | EE    | FC    | Hb    | PE    | SI    | Tr    |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| AB1 | 1.000 | 0.627 | 0.133 | 0.549 | 0.544 | 0.169 | 0.314 | 0.281 |
| BI3 | 0.627 | 1.000 | 0.243 | 0.637 | 0.576 | 0.182 | 0.385 | 0.292 |
| EE1 | 0.161 | 0.219 | 0.862 | 0.536 | 0.142 | 0.178 | 0.196 | 0.060 |
| EE2 | 0.076 | 0.193 | 0.883 | 0.427 | 0.153 | 0.102 | 0.159 | 0.036 |
| EE3 | 0.105 | 0.221 | 0.867 | 0.426 | 0.177 | 0.110 | 0.320 | 0.118 |
| FC1 | 0.394 | 0.460 | 0.448 | 0.754 | 0.342 | 0.097 | 0.101 | 0.192 |
| FC2 | 0.360 | 0.427 | 0.575 | 0.842 | 0.381 | 0.178 | 0.264 | 0.201 |
| FC3 | 0.503 | 0.578 | 0.370 | 0.832 | 0.435 | 0.217 | 0.303 | 0.248 |
| FC4 | 0.501 | 0.573 | 0.388 | 0.828 | 0.500 | 0.157 | 0.227 | 0.136 |
| Hb2 | 0.544 | 0.576 | 0.181 | 0.517 | 1.000 | 0.194 | 0.418 | 0.270 |
| PE1 | 0.132 | 0.143 | 0.131 | 0.211 | 0.141 | 0.853 | 0.366 | 0.264 |
| PE2 | 0.114 | 0.151 | 0.179 | 0.229 | 0.126 | 0.892 | 0.405 | 0.264 |
| PE3 | 0.190 | 0.178 | 0.042 | 0.110 | 0.190 | 0.856 | 0.365 | 0.242 |
| PE4 | 0.135 | 0.147 | 0.184 | 0.158 | 0.204 | 0.834 | 0.388 | 0.200 |
| SI1 | 0.181 | 0.257 | 0.170 | 0.158 | 0.246 | 0.505 | 0.746 | 0.443 |
| SI2 | 0.313 | 0.353 | 0.207 | 0.279 | 0.398 | 0.423 | 0.849 | 0.312 |
| SI3 | 0.104 | 0.227 | 0.272 | 0.196 | 0.289 | 0.209 | 0.732 | 0.182 |
| SI4 | 0.327 | 0.340 | 0.192 | 0.223 | 0.349 | 0.249 | 0.797 | 0.204 |
| Tr  | 0.281 | 0.292 | 0.084 | 0.238 | 0.270 | 0.282 | 0.361 | 1.000 |

Figure 3. Cross Loading Values





Based on the figures above, the result is that each item has the highest correlation value compared to the other constructs. Another criterion used to test the validity of the shipment can be seen from the Root Square AVE value. Suppose the square root value of each AVE variable is greater than the correlation between the two variables in the model. In that case, the research questionnaire has a discriminant validity value or is said to be valid. The results of the Fornell - Larcker criteria values can be seen in the following Figures:

|    | AB    | BI    | EE    | FC    | Hb    | PE    | SI    | Tr    |
|----|-------|-------|-------|-------|-------|-------|-------|-------|
| AB | 1.000 |       |       |       |       |       |       |       |
| BI | 0.627 | 1.000 |       |       |       |       |       |       |
| EE | 0.133 | 0.243 | 0.871 |       |       |       |       |       |
| FC | 0.549 | 0.637 | 0.534 | 0.815 |       |       |       |       |
| Hb | 0.544 | 0.576 | 0.181 | 0.517 | 1.000 |       |       |       |
| PE | 0.169 | 0.182 | 0.151 | 0.202 | 0.194 | 0.859 |       |       |
| SI | 0.314 | 0.385 | 0.262 | 0.280 | 0.418 | 0.443 | 0.782 |       |
| Tr | 0.281 | 0.292 | 0.084 | 0.238 | 0.270 | 0.282 | 0.361 | 1.000 |

Figure 4. Fornell Larcker Values

Based on the Figures above, discriminant validity with the Fornell-Larcker criteria shows the AVE root value of each construct or variable. Each variable's AVE square root result is greater than the correlation between the two variables in the model. Therefore, the variables in this study can be stated to meet the discriminant validity criteria.

**Reliability Test**

Based on the results of research data processing, reliability results were obtained with Cronbach's Alpha and Composite Reliability which can be seen in the following table:

Table 8. Reliability Test

| Variables               | Cronbach's Alpha | Composite Reliability |
|-------------------------|------------------|-----------------------|
| Performance Expectancy  | 0.882            | 0/918                 |
| Effort Expectancy       | 0.841            | 0/904                 |
| Social Influence        | 0.790            | 0.863                 |
| Habit                   | 1.000            | 1.000                 |
| Trust                   | 1.000            | 1.000                 |
| Facilitating Conditions | 0.832            | 0.887                 |
| Behavioural Intention   | 1.000            | 1.000                 |
| Adoption Behaviour      | 1.000            | 1.000                 |

Based on the table above, the reliability test results show that almost all variables in this study have Cronbach's Alpha value and Composite Reliability > 0.7. All these variables have fulfilled the reliability test criteria.

**Measurement Models (Inner Model)**

The second test that was carried out was the inner model test. The inner model test has four types of evaluation, namely R-square, Q-square, effect size, and path coefficient, using the SmartPLS application. The inner model path diagram in this study can be seen in the figure below:

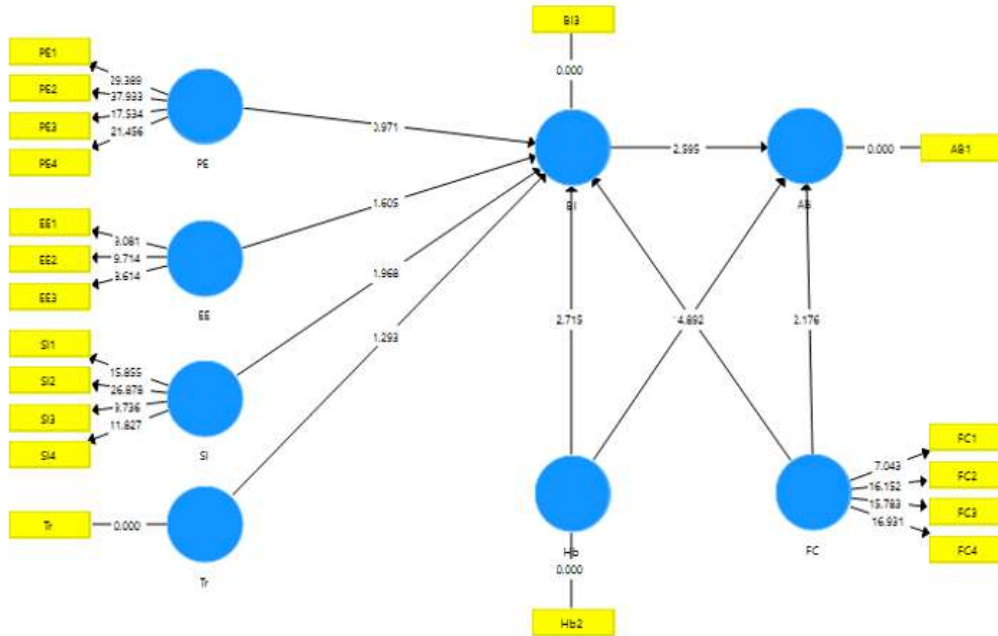


Figure 5. Inner Model

**R-Square (R<sup>2</sup>)**

R-Square measures the level of variation in the independent variable changes to the dependent variable. R-Square results > 0.67 for endogenous latent variables in the structural model, indicating the effect of exogenous variables on endogenous variables in the excellent category. If the result is 0.33 - 0.67, it is in the medium category. Meanwhile, if the result is 0.19 - 0.33, it is in the weak category. Based on the results of processing the researcher's data, the R-Square results are obtained in the following table:

Table 9. R-Square (R<sup>2</sup>) Values

| Variables             | R-Square (R <sup>2</sup> ) |
|-----------------------|----------------------------|
| Behavioural Intention | 0.520                      |
| Adoption Behaviour    | 0.464                      |

The results of the R-Square value for the Behavioral Intention variable were obtained at 0.520, which can be stated to be in the medium category; this shows that 52.0% contributed to the influence of the Performance Expectancy, Effort Expectancy, Social Influence, Trust, and Habit variables, while the remaining was 48.0% is a contribution to Behavioral Intention outside of this study. Furthermore, the R-Square value for the Adoption Behavioral variable is obtained at 0.464, which can be stated to be in the medium category. This shows that 46.4% contributed to the influence of the Behavioral Intention, Habit, and Facilitating Conditions variables, while the remaining 53.6% contributed to Behavioral Adoption outside this study. The R-Square value for these two variables is in the medium category, so the research is valid.

**Q-Square (Q<sup>2</sup>)**

Q-Square is used to test how good the values produced by the model are and to find out the parameter estimates. The Q-Square of the PLS model can be evaluated by looking at the Q-Square predictive relevance for the variable model. Q-Square measures how well the model produces the observed values and parameter estimates. A Q-Square value greater than 0 (zero) indicates that the model has a predictive relevance value. In contrast, a Q-Square value less than 0 (zero) indicates the model has less predictive relevance. The results of calculating the Q-Square value in the table are as follows:



**Table 10.** Q-Square ( $Q^2$ ) Values

| Variables             | Q-Square ( $Q^2$ ) |
|-----------------------|--------------------|
| Behavioural Intention | 0.437              |
| Adoption Behaviour    | 0.385              |

The largest Q-square results are the Behavioral Intention variable of 0.437 or 43.7% and Behavioral Adoption of 0.385 or 38.5%, so that it can be concluded that the magnitude of the value of the Behavioral Intention and Behavioral Adoption variables has a Predictive Relevance value.

**Model Fit**

The Goodness of Fit (GoF) test measures model fit (fit indexes) to evaluate the measurement and structural models. Also, it provides a simple measure for the overall prediction of the model (overall fit index). Following are the results of this goodness of fit test in the following table:

**Table 11.** Model Fit Values

| Parameters | Saturated Model | Estimated Model |
|------------|-----------------|-----------------|
| Chi-Square | 699.454         | 710.539         |
| NFI        | 0.753           | 0.749           |

The GoF value obtained in this study was 0.749, which is included in the large classification because it has a value greater than 0.36. This shows that the measurement and structural models in this study are strong enough to predict.

**Effect Size ( $F^2$ )**

Effect Size ( $F^2$ ) determines the effect of the predictor variable on the dependent variable. Effect Size ( $F^2$ ) is obtained by comparing the  $R^2$  value when all exogenous variable modifiers are involved in the path model analysis with the  $R^2$  value and when one of the exogenous variable modifiers is omitted in the path model analysis. Values of 0.02, 0.15, and 0.35 describe small, medium, and large influences. Based on the data processed by the researcher, the Effect Size ( $F^2$ ) results are obtained in the following table:

**Table 12.** Effect Size ( $F^2$ ) Values

| Variables               | Behaviour Intention | Adoption Behaviour |
|-------------------------|---------------------|--------------------|
| Performance Expectancy  | 0.003               | -                  |
| Effort Expectancy       | 0.020               | -                  |
| Social Influence        | 0.035               | -                  |
| Trust                   | 0.007               | -                  |
| Habit                   | 0.084               | 0.062              |
| Facilitating Conditions | 0.291               | 0.040              |
| Behavioral Intention    | -                   | 0,131              |

The effect of Facilitating Conditions on Behavioral Intention has the greatest contribution, followed by the effect of Behavioral Intention on Adoption Behavior. However, the effect of other variables is still below average and has a small effect size ( $F^2$ ). Among the variables that have the smallest effect or contribution is Performance Expectancy on Behavioral Intention.

**Hypothesis Test**

The hypothesis in this study can be known from calculating the model using the PLS bootstrapping technique. The results of the bootstrapping calculation will obtain the t-statistic value of each relationship or path. Testing this hypothesis is set at a significance level of 0.05 or 5% and a one-sided significance level, with degrees of freedom:  $268-8=260$ . The T-table of this study obtained a result of 1.65011. The hypothesis can be accepted if the t-statistic value exceeds the t-table. The calculation results for testing the hypothesis in this study will be described as follows:



|   | Original Sample (O) | T Statistics | P-Values | Hasil    |
|---|---------------------|--------------|----------|----------|
| Performance Expectancy → Behavioural Intention  | -0.044              | 1.001        | 0.317    | Rejected |
| Effort Expectancy → Behavioural Intention       | -0.121              | 1.657        | 0.098    | Accepted |
| Social Influence → Behavioural Intention        | 0.162               | 2.087        | 0.037    | Accepted |
| Facilitating Conditions → Behavioural Intention | 0.518               | 5.203        | 0.000    | Accepted |
| Facilitating Conditions → Adoption Behaviour    | 0.195               | 2.187        | 0.029    | Accepted |
| Habit → Behavioural Intention                   | 0.254               | 2.793        | 0.005    | Accepted |
| Habit → Adoption Behaviour                      | 0.229               | 1.898        | 0.058    | Accepted |
| Trust → Behavioural Intention                   | 0.064               | 1.286        | 0.199    | Rejected |
| Behavioural Intention → Adoption Behaviour      | 0.371               | 2.569        | 0.010    | Accepted |

Figure 6. Bootstrapping Result

Conclusions obtained from the results of hypothesis testing by comparing the results of the t-statistic with t-table (1.65011) and a significance level of 0.05, the results of the conclusions are as follows:

- H1: Performance expectancy has no significant effect on the behavioral intention of the Simpeldesa application.
- H2: Effort expectancy significantly affects the behavioral intention of the Simpeldesa application.
- H3: Social influence significantly influences the behavioral intention of the Simpeldesa application.
- H4: Facilitating conditions have a significant influence on the behavioral intention of the Simpeldesa application.
- H5: Facilitating conditions significantly influence the adoption behavior of the Simpeldesa application.
- H6: Habit significantly influences the behavioral intention of the Simpeldesa application.
- H7: Habit significantly influences the adoption behavior of the Simpeldesa application.
- H8: Trust has no significant effect on the behavioral intention of the Simpeldesa application.
- H9: Behavioral intention to use Smart Village Nusantara-Simpeldesa significantly influences the adoption behavior of the Simpeldesa application.

**CONCLUSION AND DISCUSSION**

Based on the results of the research and discussion in the previous chapter, the following conclusions can be drawn:

- 1) Performance expectancy has a positive but not significant effect on the behavior intention of the Simpeldesa application.
- 2) Effort expectancy has a positive and significant effect on the behavior intention of the Simpeldesa application.
- 3) Social Influence has a positive and significant effect on the behavior intention of the Simpeldesa application.
- 4) Facilitating Conditions have a positive and significant effect on the behavior intention of the Simpeldesa application.
- 5) Facilitating Conditions have a positive and significant effect on the adoption behavior of the Simpeldesa application.
- 6) Habit has a positive and significant effect on the behavior intention of the Simpeldesa application.
- 7) Habit has a positive and significant effect on the adoption behavior of the Simpeldesa application.
- 8) Trust has a positive but not significant effect on the behavior intention of the Simpeldesa application.
- 9) Behavior intention has a positive and significant effect on the adoption behavior of the Simpeldesa application.

Twenty percent of Simpeldesa users are in the West Java area; other users are spread across 20 other provinces. The success story of the Simpeldesa implementation comes from the West Java region. Identifying research results on early adopters in West Java Province can be a reference for formulating relevant strategies to increase user acceptance of the Simpeldesa application. Some suggestions that can be submitted to Simpeldesa application service providers are:

- The thing that needs to be the main concern is the component in the facilitating condition variable which is included in the application provider's role map. These components include guides that application users can learn easily in using the application and contact persons who can be contacted and quickly respond if application users experience other information or problems. This is, of course, related to the significance of the facilitating condition variable on the behavioral intention



and usage behavior of the Simpeldesa application

- The Simpeldesa application provider must have a good relationship with the village government or community leaders who culturally influence the social structure of village community life. This is related to the significance of the social influences variable in the results of this study. A good relationship between the Simpeldesa application service provider and strategic stakeholders can have a positive influence on village communities to use Simpeldesa
- Considering the open feedback that was conveyed when distributing the questionnaires, it is hoped that the application provider will be able to conduct socialization again regarding the use of Simpeldesa as a form of knowledge refreshment to encourage the level of acceptance and use of the Simpeldesa application. This can indirectly affect the habit variable, which significantly influences behavioral intention.
- Simpeldesa application service providers must consider the UI/UX and ease of use of the Simpeldesa application. This is related to the effort expectancy variable.
- Simpeldesa application service providers can develop Open API services to open space for integration with other village digitalization applications. This is in line with the Smart Region theory, namely how all regions can interact digitally with other regions without being constrained by village digitization platforms that differ from one region to another.

Suggestions for the village government are closely related to research results on facilitating condition variables and social influences, which significantly affect the acceptance of Simpeldesa application services. The local village government can take a role in increasing the use of the Simpeldesa application because effective use can improve the quality of smart government. The village government can provide these smart social and smart economy services in that area. Here are some suggestions that can be submitted:

- The village government can apply for a partnership with a state-owned telecommunication company to withdraw fiber optic cables or other supporting infrastructure that can make it easier for the community to access the internet. This is a fundamental matter considering that the internet is the basic infrastructure needed in village digitization. The suggestions in this section are closely related to the results of research on the facilitating condition aspect.
- In addition to the cooperation plan related to the withdrawal of fiber optic cables, cooperation can be encouraged with the government vertically to provide facilities that can be used together to support the use of Simpeldesa. For example, the provision of computers or gadgets that can be used jointly by the village community.
- Efforts to massively use Simpeldesa can be initiated by the Village Government and community leaders who provide examples for other communities to use Simpeldesa. Environmental factors have a significant influence on driving the level of acceptance of the village community. Based on the research results, this method effectively influences the village community's acceptance level for the Simpeldesa application service. This is related to social influences and habit variables, which significantly affect behavioral intention. In addition, habit also has a significant relationship with adoption behavior. Thus, the habituation of using the Simpledesa application is one of the keys to success in increasing the intensity of using SimpleDesa.

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