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Analysis of the influence of attitude toward using, behavioral intention and actual use of the *Elsimil* application on future brides

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Abstract

Background: The *Elsimil* application is designed as a digital innovation to conduct health screenings for prospective brides and grooms, provide education, and nutritional recommendations three months before the wedding. The main objective is to ensure the couple's readiness to prevent the risk of stunting in children. Based on empirical findings in several regions, the main challenges include limited digital infrastructure, low technological literacy, and a lack of understanding and expertise of users in accessing the application. These problems lead to low levels of compliance and intention to use the application, as indicated in several case studies. This low adoption indicates a gap between sophisticated technological design and actual acceptance by target users. **Objective**: This study aims to analyze the influence of attitudes towards the use, intention to use, and actual use of the Elsimil application on prospective brides and grooms. **Methods:** This study uses a quantitative method with a cross-sectional approach with a sample of 100 female prospective brides and grooms in Jambi. The researcher used primary data as initial data collected through questionnaires. Data analysis was carried out using SEM-PLS software. **Results:** The results of the measurement model test indicate that most indicators have outer loading ≥ 0,7, so that it meets the validity criteria convergent, all latent variables are proven to be reliable with Composite Reliability >0.7 and convergent validity good (AVE >0.5). In addition, the discriminant validity test shows that the square root of the AVE of each variable is greater than the correlation between variables, so that each latent variable has adequate discriminant validity. **Conclusion:** The results of the hypothesis test indicate that attitude toward using (ATU) positively and significantly influences behavioral intention (BI), behavioral intention (BI) positively and significantly influences actual use of system (AU).

Keywords: Attitude toward using; actual use; elsimil, future brides.

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INTRODUCTION

The digitalization phenomenon has penetrated the public service sector in Indonesia, in line with the mandate of Presidential Regulation No. 72 of 2021 concerning the Acceleration of Stunting Reduction. To support this national program, the Ministry of Religious Affairs, through the office of religious affairs (KUA), launched the electronic marriage and pregnancy preparation (ELSIMIL) application. This application is designed as a digital innovation to conduct health screenings for prospective brides and grooms (Catin), provide education, and nutritional recommendations three months before the wedding. The main goal is to ensure the couple's readiness to prevent the risk of stunting in children.

Despite Elsimil's strategic role, its implementation in the field still faces various obstacles that have the potential to hinder the achievement of program targets. Based on empirical findings in several regions, the main challenges include limited digital infrastructure, low technological literacy, and a lack of understanding and expertise of users (including prospective brides and family support teams/TPK) in accessing the application (1). These problems result in low levels of compliance and intention to use the application, as indicated in several case studies (2). This low adoption indicates a gap between sophisticated technological design and actual acceptance by target users (3). To understand the phenomenon of technology acceptance, this study uses a widely tested theoretical model, namely the Technology Acceptance Model (TAM), developed by Davis (1989) (4). TAM postulates that the acceptance and use of technology are predicted by two main constructs: Perceived Usefulness (PU) and Ease of Use (PEOU). These two perceptions then influence Attitude Toward Use (ATU) or a positive attitude towards the application, which in turn will form Intention to Use (BI) or Intention to Use the technology, before finally leading to Actual Use (AU).

Previous studies have identified technical and social barriers to Elsimil use. However, a comprehensive analysis of the causal relationships between the variables Attitude Toward Use (ATU), Intention to Use (IU), and Actual Use (AU) in the context of Elsimil in Jambi city using a quantitative approach still needs to be strengthened. This study aims to fill this gap by testing the complete TAM model in the context of prospective brides and grooms as users. The Structural Equation Modeling - Partial Least Squares (SEM-PLS) method was chosen because of its advantages in analyzing complex relationships, managing data that may not be normally distributed, and being able to predictively model latent constructs such as Attitude and Intention to Use (5). Thus, the results of this study are expected to provide empirical contributions and policy recommendations based on strong data.

METHODS

This research uses a quantitative method with an approach cross sectionalto determine the relationship between independent and dependent variables at the same time. The research was conducted in 11 sub-districts throughout Jambi City. The research population was all prospective brides and grooms (catin). in Jambi City. The sample was determined using the technique proportional simple random to 100 prospective brides. Data through questionnaires contains related statements attitude towards use (Attitude Towards Using), Intention To Use (Behavioral Intention to Use), dan Actual Usage (Actual Use of System) on the Elsimil application. Data analysis was performed using SmartPLS with two main stages, namely measurement model analysis (outer model) to test the validity and reliability of indicators and structural model analysis (inner model) to test the relationship between variables according to the research hypothesis (10).

RESULTS AND DISCUSSION

Outer model analysis is conducted to ensure that the measurements used are valid, reliable, and free from multicollinearity. This analysis describes the relationship between latent variables and their indicators. outer model carried out through 4 stages of testing, namelyindividual item reliability, internal consistency realibility, average variance extracted (AVE) dan discriminant validity.

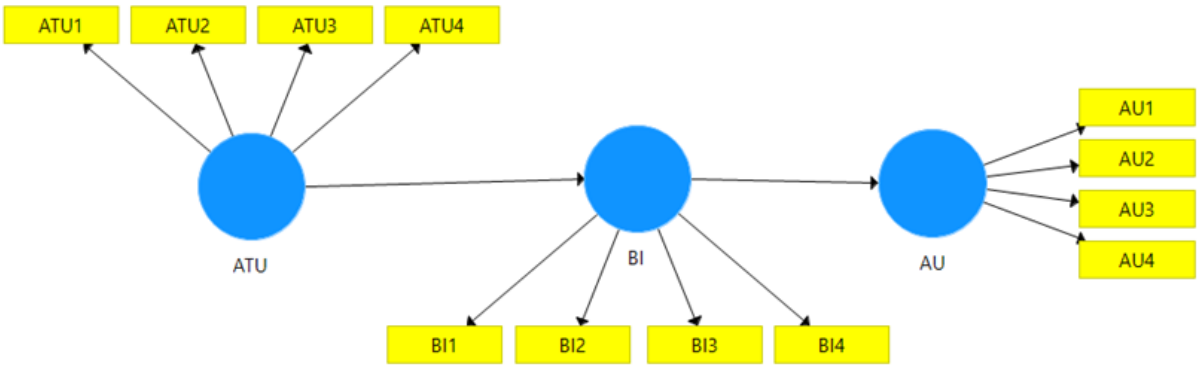

Figure 1. Conceptual Path Diagram

The framework model in this study involves 3 latent variables and 12 indicators as outlined in the figure above. In PLS-SEM analysis, one of the important steps before testing the hypothesis is validating the measurement model, which includes evaluating theouter model. One of the main aspects in evaluationouter model is convergent validity, which measures the extent to which indicators can explain the variance of the latent variables they represent. Convergent, validitycan be assessed by checking the valueloading factor (λ) between each indicator and the latent variable being measured.

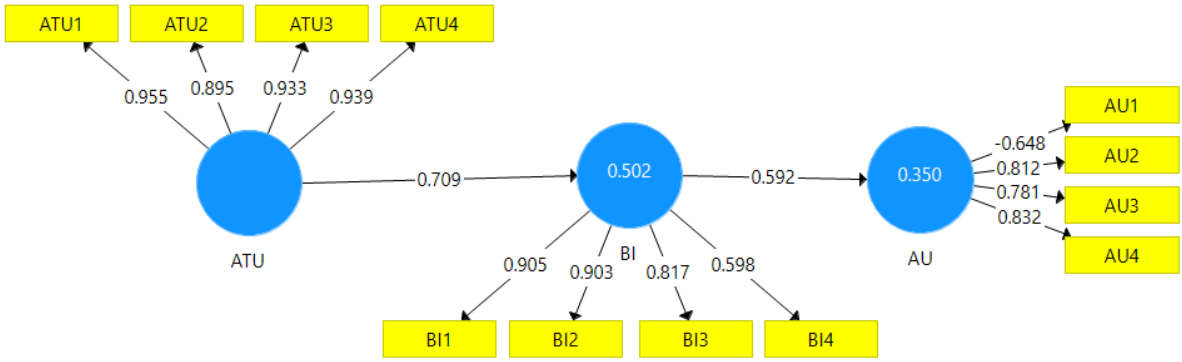

Figure 2. Path diagram with Loading Factor

The results of the analysis shown in the diagram above reveal that each indicator has a valueouter loading which represents its contribution to the latent variable. The valueouter loadingconsidered valid if it reaches ≥0.7.(11) Based on the test resultsOuter Loading In the measurement model shown in the figure above, most indicators have met the criteria for an external loading value of ≥0.7, so they can be said to have strong convergent validity. However, there is one indicator, BI4 (0.598), whose value is slightly below the ideal threshold. However, this indicator is still maintained in the model because it refers to the Fornell and Larcker (1981) criteria, which states that a latent variable remains convergently valid if the valueAverage

Variance Extracted(AVE) is above 0.50.(12) In the BI4 latent variable, the AVE value is proven to exceed the 0.50 limit, so that indicators with loading above 0.50 are still acceptable, especially if the indicator has a strong theoretical basis in defining the latent variable.(12)

In contrast, the AU1 indicator showed a negative outer loading value of -0.648. This negative value indicates a fundamental measurement problem, namely the direction of the indicator's relationship is opposite to the latent variable. In accordance with the recommendations of Hair et al. (2017), indicators with negative loadings cannot be retained in the model because they can cause interpretation bias. (11) Therefore, the AU1 indicator was removed from the measurement model. Overall the measurement model still meets the criteria for convergent validity, although there are indicators that were removed because they did not meet the requirements. After retesting, a new path diagram was obtained which is described in Figure 3.

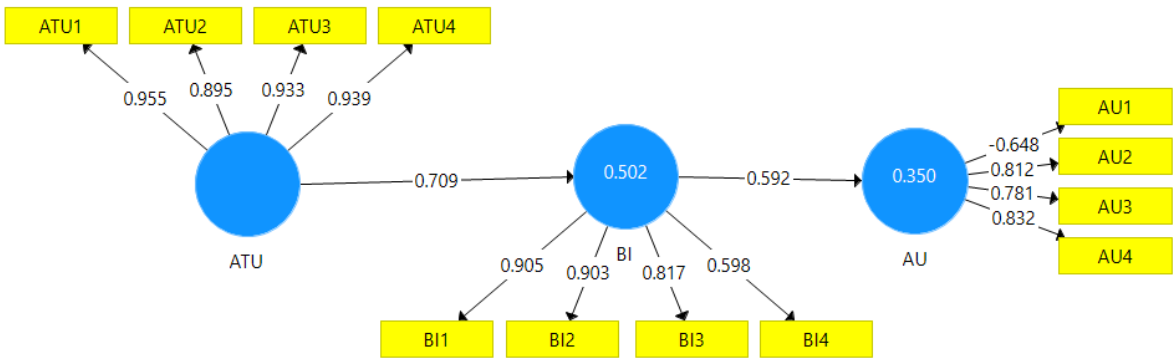

Figure 3. The elimination pathway diagram is accompanied byLoading factor

The results obtained after re-testing showed that the valueouter loadingsfor all indicators has exceeded 0.7. This means that all indicators in the model have met the convergent validity standards that recommend the valueouter loadingsabove 0.7. Thus, the measurement model used has good convergent validity. Composite Reliability And Average Variance Extracted (AVE) is an important indicator in SEM to assess the quality of latent variables. Composite reliability measures the level of internal consistency between indicators with a recommended minimum value of 0.7, which indicates that the indicators consistently represent the same latent variable. Meanwhile, AVE is used to assess convergent validity by calculating the proportion of indicator variance that can be explained by the latent variable. An AVE value of more than 0.5 indicates that the latent variable is able to explain more than half of the indicator variance it has (13)

Table 1. Mark Composite Reliability And Average Variance Extracted (AVE).

Variable Latent	*Composite Reliability*	*Average Variance Extracted* (AVE)
Attitude (ATU)	0.963	0.866
Actual Use of System (AU)	0.866	0.683
Behavior (BI)	0.886	0.666

Based on the calculation results in the table above, all latent research variables have Composite Reliability Value greater than 0.70, so it can be stated as reliable and able to measure latent variables consistently. In addition, the value Average Variance Extracted (AVE) for each variable also exceeds 0.50, which means that each latent

variable has met the convergent validity criteria. Next using the testFornell-Larker Criterion And Cross Loading testing was carried out Discriminant Validity. Test Fornell-Larker Criteriontesting the square root value of the AVE of a latent variable with the value of another latent variable, which means that the square root value of the AVE of a latent variable must be greater than that of another latent variable. By looking at each column of variables, it shows the diagonal and vertical directions.

Table 2. Mark Fornell Larker Criterion

Variable Let	ATU	AU	BI
Attitude (ATU)	0.931		
Actual Use of System (AU*)*	0.728	0.826	
Behavior (BI)	0.706	0.595	0.816

Based on the table, the results of the discriminant validity test with the criteria are known. Fornell–Larcker, it can be seen that the square root of the AVE value located on the diagonal (ATU = 0.931; AU = 0.826; BI = 0.816) is greater than the correlation between latent variables located off the diagonal. This condition indicates that each latent variable in the model has good discriminant validity, because the square root of its AVE value is higher than the correlation value with other latent variables. This analysis aims to assess the extent to which the research model is acceptable and the relationships between the variables within it. This analysis was conducted using the methodbootstrappingwith a significance level of 5%. Hypothesis testing through comparison of t-statistics using bootstrap resampling. The obtained t-statistic value must be above the t-table value (1.65) or, if using a p-value, it is expected to be below the significance level of 0.05.

Table 3. Mark path coeffition

Relationship between variables	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	p-Values
ATU -> BI	0.706	0.075	9.363	0
BI -> AU	0.595	0.087	6.858	0

Based on the results of the inner model path coefficient test, it shows that each variable has a different influence. Based on the test results inner model SEM-PLS, attitudes towards the use of (Attitude Towards Using) influential positive and very significant on Intention to Use (Behavioral Intention to Use) (β=0.706; p=0.000), which indicates that the more positive the user's attitude, the higher their intention to use the system. Intention To Use (Behavioral Intention to Use) also has an impact positive and significant tagainst Actual Usage (Actual Use of System) (β=0.595; p=0.000). Next to measure R-Square, the proportion of variation in the dependent (endogenous) variable that can be explained by the independent (exogenous) variables. This is used to evaluate the quality of the model used, whether it is good or bad. Based on the guidelines of Hair et al., the R-value Square of 0.75 is considered strong, 0.50 is considered moderate, and 0.25 is considered weak. (11) The following are the R-valuesSquarein this study.

Table 3. *R-value Square*

Variables	R^2	Category
Attitudes Towards Use *(Attitude Towards Using)*	0.63	Moderate
Actual Usage *(Actual of Use System)*	0.348	Weak
Intention To Use *(Behavioral -Intention to Use)*	0.493	Moderate

The results of the analysis show that the construct AttitudeToward Using (attitude towards use) has an R^2 value of0,630 (moderate–strong category). This means that attitudes toward use can explain 63% of the variation in attitudes of prospective brides and grooms. In other words, the easier and more useful the application is perceived to be, the more positive their attitudes toward Elsimil will be. Furthermore, the construct Behavioral Intention to Use (intention to use) obtain an R^2 value of 0,493(medium category).

This means that a positive attitude toward Elsimil can explain almost half of the prospective bride and groom's intention to use this application. This indicates that the attitude formed plays an important role in driving the intention to use. Finally, the construct Actual Use of System (actual use) has an R^2 value of 0,348 (weak–moderate category). This finding indicates that intention to use only explains about 34.8% of the variation in actual Elsimil use. Thus, even if intention is formed, other factors outside the model (e.g., internet availability, staff support, or personal motivation) may have a greater influence on driving actual use of the Elsimil app.

Influence of Attitudes on Use against Intention To Use (Accepted): The relationship of Attitude Towards Using (ATU) against Behavioral Intention To Use (BI) is positive and highly significant (β=0.706; p -value=0.000). A positive attitude toward the Elsimil application is the strongest predictor of whether a prospective bride or mother will intend to use it. The more respondents feel happy and confident about Elsimil, the stronger their intention to enter health data and use it as a stunting prevention tool. These results are in line with the basic concept of the Technology Acceptance Model (TAM) proposed by Davis (1989) where Attitude Towards Using is a direct determinant of Behavioral Intention to Use (11).

Influence of Intention to Use to Actual Use (Accepted): There is a positive and very significant influence from Behavioral-Intention to Use (BI) terhadap Actual Use of System (AU) (β=0.595; p-value=0.000). The results of this study are very much in line with the research conducted by Rido, et al. (2020) which stated that the intention to use has a positive effect on actual use. (14) These results confirm that the intention that has been formed is the main driver for the actual behavior of using Elsimil continuously. When respondents already have a strong intention, they tend to actually use the application features to monitor their nutritional status and stunting risk.

CONCLUSIONS

The results of the hypothesis test show that Attitude Toward Using (ATU) positively and significantly influencesBehavioral Intention (with A), Behavioral Intention (BI) positively and significantly influencesActual Use of System (AT). This shows that positive attitudes are formed from the ease and benefits of the application, these attitudes encourage usage intentions, but intentions alone are not enough to fully explain actual usage behavior, because other factors also play a role.

CONFLICT OF INTEREST

The research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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DECLARATION OF ARTIFICIAL INTELLIGENCE USE

This study used artificial intelligence (AI) tools and methodologies in the following capacities in manuscript writing support in language refinement (improving the grammar, sentence structure, and readability of the manuscript). We confirm that all AI-assisted processes were critically reviewed by the authors to ensure the integrity and reliability of the results. The final decisions and interpretations presented in this article were solely made by the authors.

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