

Analysis of the Expectation-Confirmation Model in Continuance Intention to Use the MAXIM Application

Nisrina Hamid

Fakultas Ekonomi dan Bisnis Islam, Universitas Muhammadiyah Kendari.

*e-mail: sherina028@gmail.com

Abstract : *The study focuses on analyzing the impact of the Expectation Confirmation Model (ECM) on the intention to continue using the MAXIM app in Kendari city. With 140 respondents selected using purposive sampling, data on perceived usefulness, confirmation, habit, and intention to continue was collected through a questionnaire. Structural Equation Modeling Partial Least Squares (SEM-PLS) was used for data analysis. Results show confirmation strongly influences perceived usefulness and habit, while its impact on satisfaction is weaker. Perceived usefulness and habit positively affect intention to continue usage, with satisfaction also playing a role, albeit weakly. User experience could be a valuable aspect for future research.*

Keywords : *Confirmation, Continuance Intention, Expectation Confirmation Model, Habit, Perceived Usefulness, Satisfaction.*

I. INTRODUCTION

Globalization has broadened access to diverse human needs and fostered interconnectedness in economics, technology, education, and culture. In Indonesia, the discourse on globalization highlights both positive and negative impacts. Notably, technological advancements have improved efficiency and convenience, with over 221 million internet users reported in 2024 (APJII, 2024).

The digitalization of transportation in Indonesia, a product of global technological advancements, leverages interconnected devices to enhance real-time information exchange among stakeholders. This streamlines interactions for companies, drivers, and users (Hari, 2022). Mobile applications and online platforms enable users to book services, access vehicle information, predict arrival times, and make payments with ease (Magfiroh, 2019)

MAXIM, a leading Russian online transportation provider, has expanded into over 200 Indonesian cities, achieving a 31-fold annual increase in its user base from 2019 to 2020, indicating strong growth and public interest (Taximaxim.com, 2020). Understanding the factors driving continued usage of this service is crucial. The Expectation Confirmation Model (ECM) provides a framework for analyzing user behavior in information systems, focusing on post-acceptance behavior and factors influencing continued usage intention (Kumar, A Kumar, 2020). Several studies have enhanced the

Expectation Confirmation Model (ECM) by introducing variables that clarify user behavior. Research shows that user habits significantly influence the intention to continue using applications. (Nguyen & Ghazali, 2020) found that habits impact sustained mobile app use, while Khan et al (2021) emphasized their role in technology adoption. Huang & Benyoucef, (2022) demonstrated how social media habits affect engagement. These findings underscore habit as a crucial factor in user behavior. Thus, this study introduces habit as a new variable in the ECM model by (Bhattacharjee, 2001)

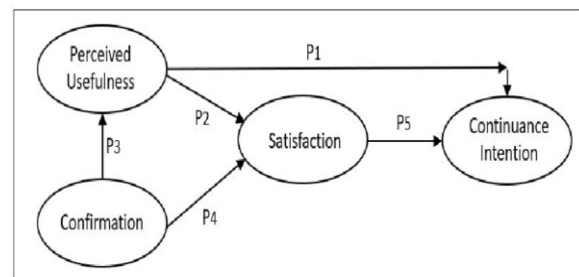


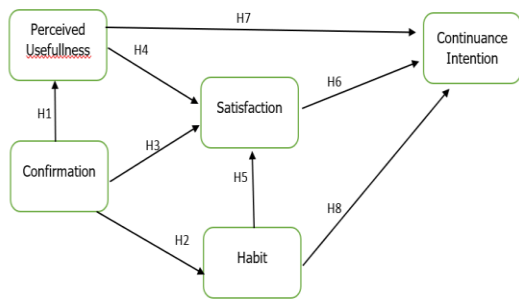
Figure 1. Expectation Confirmation Model (ECM) (Bhattacharjee, 2001)

II. METHODS

The research design

This study employs an explanatory research design with a quantitative approach to test a theory or hypothesis, reinforcing or refuting existing research. Data was collected through questionnaires measuring ECM variables: user

expectations, confirmation, satisfaction, habit, and continuance intention



figur 2. The research model design

According to the research model design, this study posits 8 hypotheses:

H1: Confirmation exerts a significant influence on perceived usefulness.

H2: Confirmation plays a substantial role in habit formation.

H3: Confirmation directly impacts user satisfaction levels.

H4: Increased perceived usefulness correlates with higher satisfaction levels.

H5: Developed habits show a positive correlation with satisfaction levels.

H6: Elevated satisfaction levels motivate the intention to continue use.

H7: Perceived usefulness stands as a primary factor in determining continuation intention.

H8: User habits play a significant role in influencing continuation intention.

The study focuses on recent MAXIM application users in Kendari City, Southeast Sulawesi. Using purposive sampling, 140 active users from the past 3 months were selected. Data analysis with SEM PLS (Partial Least Squares Structural Equation Modeling) explored relationships in the Expectation-Confirmation model, identifying key factors influencing user satisfaction and continuance intention.

III. RESULT

Measurement Model Evaluation (Outer Model)

The evaluation of the measurement model is essential to ensure the accuracy and reliability of the constructs being measured. Measurement model evaluation encompasses three critical aspects. Firstly, internal consistency is assessed using Cronbach's Alpha (CA) and Composite Reliability (CR), which should minimally be 0.6. Subsequently, convergent validity is ascertained by the Average Variance Extracted (AVE), which

should exceed 0.5, with factor loadings ideally above 0.7 (Sarstedt et al., 2021).

Tabel 2. Evaluation Of Data Consistency, Dependability, And Accuracy

Variable	Indicator	OL	CA	CR	AVE
Perceived usefulness (PCU)	PCU1	0,8			
	PCU2	0,9	0,8	0,9	0,7
	PCU3	0,8	58	14	11
Confirmation (CR)	CR1	0,8			
	CR2	0,9	0,8	0,9	0,7
	CR3	0,8	39	02	55
Habit (H)	H1	0,8			
	H2	0,8	0,7	0,8	0,7
	H3	0,8	97	81	71
Satisfaction (S)	S1	0,8			
	S2	0,7	0,8	0,8	0,5
	S3	0,7	63	22	75
	S4	0,7	65		85
	S5	0,7	28		
Continuance Intention	CI1	0,7			
	CI2	0,8	0,8	0,8	0,6
	CI3	0,8	26	85	60
	CI4	0,8	62		

The validity and reliability testing results for the variables Perceived Usefulness (PU), Confirmation (CR), Habit (H), Satisfaction (S), and Continuance Intention are shown in Table 2. Most indicators have factor loadings above 0.7, with Cronbach's Alpha and Composite Reliability exceeding 0.8, indicating good internal consistency. The Average Variance Extracted (AVE) is above 0.5, confirming adequate convergent validity. Overall, the measurement

model shows good validity and reliability for further analysis.

Tabel 3. Discriminant Validity Testing (*Fornell-Larcker Criterion*)

	Habit	Perceived Usefulness	Confirmation	Continuance Intention	Satisfaction
Habit	0,843				
Perceived Usefulness	0,724	0,883			
Confirmation	0,646	0,707	0,869		
Continuance Intention	0,719	0,790	0,671	0,812	
Satisfaction	0,701	0,762	0,691	0,754	0,765

The Fornell-Larcker test checks if different parts of the model are not too similar. By comparing the square root of the Average Variance Extracted (AVE) with correlations between constructs, it ensures the model's accuracy and reliability. In Table 3, the test shows that all constructs meet the criteria, with the AVE square root higher than inter-construct correlations, confirming the model's validity and reliability.

The evaluation of the structural model (Inner Model)

Goodnes Of Fit PLS

The Goodness of Fit (GoF) in the context of Partial Least Squares (PLS) Structural Equation Modeling (SEM) is a measure used to assess how well the proposed model fits the observed data. The evaluation criteria for GoF according to (Kock, 2021) are as follows: GoF ≥ 0.10: Low model fit ; GoF ≥ 0.25: Moderate model fit. ; GoF ≥ 0.36: High model fit.

Formula :

$$GoF = \sqrt{AVE \times R^2}$$

Based on the formula above, the value of GoF is obtained.

$$Gof = \sqrt{0,578 \times 0,697} = 0,636$$

The Goodness of Fit (GoF) PLS score of 0.636 shows that the model fits well. Based on GoF assessment standards, this result indicates a strong fit, implying that the model accurately elucidates the data.

Coefficient of Determination (R2)

Tabel 4. Coefficient of Determination (R2)

	R Square	R Square Adjusted
Habit	0,417	0,413
Perceived Usefulness	0,500	0,496
continuance intention	0,744	0,739
satisfaction	0,654	0,646

The table presented above illustrates the values of R Square (R²) and Adjusted R Square for the constructs Habit, Perceived Usefulness, Continuance Intention, and Satisfaction. R² elucidates the proportion of variance expounded by the independent variables, with the utmost value observed for Continuance Intention (74.4%). The Adjusted R² similarly portrays consistent outcomes, signifying the model's efficacy in explicating variance. In its entirety, this model demonstrates commendable performance, notably in the realm of Continuance Intention.

Hypotheses

The direct influence between variables can be assessed through the path coefficient, where a positive value signifies a positive impact, and conversely, a negative value indicates a negative impact. P-Value < 0.05 or t-statistic more than 1,96 denotes a significant influence. The F-square delineates the influence of independent variables on the dependent variable categorized as: low (0.02), moderate (0.15), and high (0.35)

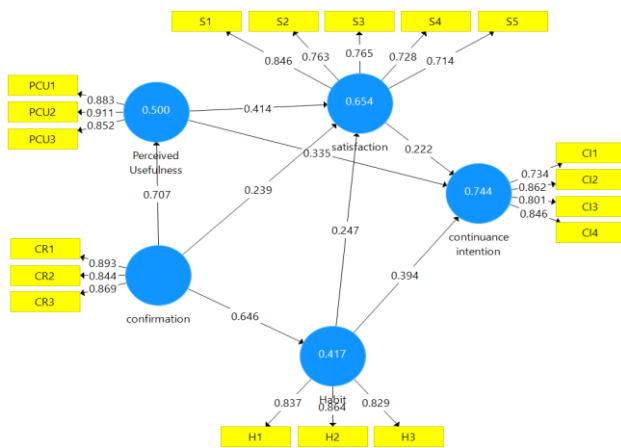


Figure 3. Research Model Analysis SEM PLS

Tabel 5. Hypothesis

Hypothesis	Path Coefficient	T-Statistic	P-Value	F-Square	Hasil
H1. confirmation -> Perceived Usefulness	0,707	14,724	0,000	0,999	Accepted
H2. confirmation -> Habit	0,646	14,380	0,000	0,716	Accepted
H3. confirmation -> satisfaction	0,239	3,401	0,001	0,076	Accepted
H4. Perceived Usefulness -> satisfaction	0,414	4,426	0,000	0,186	Accepted
H5. Habit -> satisfaction	0,247	3,015	0,003	0,078	Accepted
H6. satisfaction -> continuation intention	0,222	2,546	0,011	0,072	Accepted
H7. Perceived Usefulness -> continuation intention	0,335	3,417	0,001	0,153	Accepted
H8. Habit -> continuation intention	0,394	4,573	0,000	0,257	Accepted

Data in Table 5 confirms that all eight hypotheses meet statistical requirements, with favorable effects indicated by a P-value < 0.05 and T-statistic > 1.96. Hypotheses H1 to H8 are accepted, showing significant contributions to each variable. Notably, H1 and H2 have the most substantial impacts, while H6 has a lesser effect. The F-square values vary, demonstrating strong, moderate, or weak influences across different variables.

IV. DISCUSSION

Confirmation exerts a significant influence on perceived usefulness.

Confirmation significantly impacts users' perceived usefulness of the MAXIM app. Higher confirmation levels lead to increased perceived utility, supported by a strong F-Square value of 0.999. Clear and consistent information plays a crucial role in enhancing user experience and shaping utility evaluations. Recent studies emphasize the positive influence of confirmation on perceived usefulness across various technological contexts, highlighting its importance in enhancing satisfaction, intention to use, and overall technology adoption (Al-Qeisi et al., 2021; Kim & Lee, 2022; Zhang et al., 2023)

Confirmation plays a substantial role in habit formation.

The data in Table 5 reveals a significant association between confirmation and MAXIM app usage habits. Users who feel confirmed about the app's value are more likely to make it a regular part of their daily activities. The F-Square value of 0.716 provides compelling evidence for this relationship. These findings corroborate previous research by Zhao & Li (2022), suggesting that confirmation is a vital factor in shaping digital habits and fostering app adoption.

Confirmation directly impacts user satisfaction levels.

The research emphasizes the crucial significance of confirmation in enhancing user satisfaction. While a clear confirmation of MAXIM app benefits correlates with increased satisfaction levels, its influence appears to be somewhat constrained (F-Square = 0.706). While several studies suggest that confirmation boosts satisfaction, other factors such as service quality and user experience may overshadow its impact. Research has identified variations in context and differing viewpoints on confirmation's effect on satisfaction (Kumar & Gupta, 2022; X. Zhang & Zhao, 2021).

Increased perceived usefulness correlates with higher satisfaction levels.

The research results indicate that perceived usefulness has a positive impact and plays a crucial role in satisfaction. This implies that users perceive the benefits of the MAXIM application, resulting in heightened satisfaction levels. A F-Square value of 0.186 demonstrates a strong influence of perceived usefulness on satisfaction. These findings align with prior research, underscoring the significant role perceived usefulness plays in molding user satisfaction. Users who perceive the benefits of a product or service are inclined towards greater satisfaction, emphasizing the importance of enhancing perceived usefulness (Khan & Qureshi, 2020 ; Rahi, S Ghani, 2020)

Developed habits show a positive correlation with satisfaction levels.

The statistical analysis in Table 5 shows a significant and positive correlation between habit and satisfaction. Increasing user habits with the MAXIM app tends to boost satisfaction. However, habit's influence on satisfaction is weak (F-Square = 0.078), suggesting other factors impact user satisfaction beyond habit. Research by Omar & Hossain (2021) indicates positive effects of user habits on technology satisfaction, influenced by quality. Other studies suggest habits can enhance satisfaction with technology use, yet system quality and technical support should be considered by service providers (Alharbi & Drew, 2020)

Elevated satisfaction levels motivate the intention to continue use.

The hypothesis results reveal user satisfaction's key role in continuance intention with the MAXIM app. Higher satisfaction leads to increased usage intention, although its direct impact is weak (F-Square = 0.072). Previous studies by Liu & Li (2020) and Bai & Wang (2021) support this, showing user satisfaction influences usage intentions along with other factors also found a positive link between user satisfaction with IT and continued intentions.

Perceived usefulness stands as a primary factor in determining continuation intention

The study indicates that perceived usefulness strongly influences users' intention to continue using the MAXIM app. Higher perceived usefulness leads to increased usage likelihood. Users are more inclined to continue when benefits outweigh costs. With an F-Square value of 0.153,

perceived usefulness moderately impacts continuance intention. Recent research emphasizes enhancing perceived usefulness to drive sustained technology usage (Mansour & Al-Azzam, 2022 ; Rahi, S Ghani, 2020)

User habits play a significant role in influencing continuation intention.

Research highlights the pivotal role of habits in MAXIM app continuance intention. Strong habits correlate with increased usage persistence. Notably, habits significantly influence continued intention. Emphasizing positive habit formation can enhance loyalty and sustained usage (O'Brien & Toms, 2021; Suh & Lee, 2022)

V. CONCLUSION

This study examines how the Expectation Confirmation Model (ECM) influences users' intentions to continue using the MAXIM app in Kendari City. Our findings suggest that confirmation plays a crucial role in shaping perceived usefulness and habits, while its impact on satisfaction is less pronounced but still positive. Perceived usefulness and habit are strong predictors of continuance intention, with satisfaction also making a minor contribution. These results highlight the importance of ensuring positive user experiences and clear communication of benefits to foster satisfaction and loyalty.

VI. ACKNOWLEDGMENT

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