



ANALYSIS OF THE FACTORS OF CONVENIENCE, PRICE, AND QUALITY OF SHOPEE APPLICATION ACCEPTANCE SERVICES FOR STUDENTS OF THE BAKTI NUSANTARA INSTITUTE USING THE TAM MODEL

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Abstract

This study aims to analyze the influence of perceived ease of use, price perception, and service quality on the acceptance of the Shopee application among students of Institut Bakti Nusantara using the Technology Acceptance Model approach with SEM-PLS. This research employs a quantitative method with data collected through questionnaires from 103 respondents consisting of second, fourth, and sixth semester students. Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to examine the relationships among variables. The results indicate that perceived ease of use, price perception, and service quality have a positive and significant effect on application acceptance, both partially and simultaneously. Service quality is identified as the most dominant factor, followed by perceived ease of use and price. The coefficient of determination (R^2) of 0.72 indicates a strong predictive capability of the model. This study contributes theoretically to the extension of TAM by incorporating relevant external variables in the e-commerce context and provides practical implications for digital platform providers to enhance service quality, usability, and competitive pricing strategies.



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I. INTRODUCTION

The development of the digital economy encourages changes in student consumption behavior, especially in the use of marketplace applications such as Shopee. Students as a group of active internet users have a high tendency to

use e-commerce to meet academic needs, lifestyles, daily products, and technology needs. This phenomenon is strengthened by the high internet penetration in Indonesia. (APJII 2024) Indonesia's internet users in 2024 will reach 221,563,479 people with a penetration of 79.5% of the total population, while the Ministry of Communication and Digital also cited that around 212 million people or 80% of the population are active internet users. (Ministry of Communication and Digital Republic of Indonesia 2025) Minister of Communication and Digital, Meutya Hafid, said that 48% of Indonesian internet users are in the age group under 18 years old, which shows the strong dominance of the younger generation in the national digital ecosystem.

In the context of students of the Bakti Nusantara Institute, the use of Shopee is not only influenced by the need for online shopping, but also by the perception of the ease of application, product prices, and quality of services provided. Ease of use is an important factor because students tend to choose applications that are simple, fast, easy to understand, and have efficient transaction features. In addition, price is the main consideration because students generally have budget limitations so they are sensitive to promos, discounts, free shipping, and price comparisons between products. Service quality such as response speed, transaction security, clarity of product information, accuracy of delivery, and handling of complaints also determine the level of student acceptance of the Shopee application.

Research (Davis 1989; Venkatesh and Davis 2000) showed that the acceptance of technology is greatly influenced by the perception of convenience and usefulness as described in the Technology Acceptance Model found that trust and ease of use affect the acceptance of online shopping. (Gefen, Karahanna, and Straub 2003; Pavlou 2003) asserts that the acceptance of e-commerce is influenced by trust, risk, and perception of benefits. (Childers et al. 2001) explain that the user experience in online shopping is influenced by ease of navigation and utilitarian motivation. (Ha and Stoel 2009) proves that the quality of e-shopping affects consumer acceptance. (Al-Debei, Akroush, and Ashouri 2015) show that consumer attitudes towards online shopping are influenced by perceived trust, benefits, and value. (Rita, Oliveira, and Farisa 2019) also emphasized that electronic service quality, satisfaction, and trust play an important role in e-commerce consumer behavior.

Although various studies have discussed the acceptance of e-commerce using TAM, most of them still focus on common variables such as *perceived usefulness*, *perceived ease of use*, *trust*, *security*, and *satisfaction*. There is still limited research that specifically tests the combination of convenience, price, and service quality factors on the acceptance of the Shopee application in university students, especially students of the Bakti Nusantara Institute. This gap is important because the characteristics of students in the campus environment have different consumption patterns, economic limitations, product preferences, and application usage intensities compared to the general public. This study is directed to analyze the influence of convenience, price, and service quality on the acceptance of the Shopee application in students of the Bakti Nusantara Institute using *the Technology Acceptance Model approach*. This research is expected to be able to make an empirical contribution to the development of e-commerce application acceptance models among students, as well as become a basis for recommendations for digital platform managers in improving the experience of young users through easy-to-use applications, competitive prices, and responsive services.

II. RESEARCH METHODS

2.1. Data Collection Techniques

The data collection technique in this study uses a quantitative approach with a survey method to measure the influence of convenience, price, and service quality factors on the acceptance of the Shopee application in students of the Bakti Nusantara Institute. The survey method was chosen because it was able to obtain structured numerical data and can be analyzed statistically using *the Technology Acceptance Model (TAM)* model with the SEM-PLS approach. The main instrument used was a closed questionnaire with a Likert scale of 1–5, ranging from strongly disagree to strongly agree, thus facilitating the process of quantifying respondents' perceptions of the research variables.

The population in this study is active students of Institut Bakti Nusantara who use the Shopee application, with a sample of 103 respondents consisting of 31 2nd semester students, 42 4th semester students, and 30 6th semester students. The sampling technique used is purposive sampling, which is the selection of respondents based on certain criteria, such as having used Shopee at least three times in the last three months. The sample division based on semesters was carried out to obtain variations in the level of experience of using technology and patterns of digital consumption behavior, so that the results of the study were more representative of student characteristics.

Data collection was carried out through the distribution of online questionnaires using the Google Form digital platform which was distributed through WhatsApp groups. This technique was chosen because it is efficient, accessible, and in accordance with the characteristics of respondents who are active users of digital technology. To improve the validity of the data, the researcher provided a brief explanation of the research objectives and ensured that respondents understood each question item before filling out the questionnaire. The research instrument was developed based on variable indicators in the modified TAM model, namely the variables of *perceived ease of use*, *price perception*, *service quality*, and *application acceptance*. Each variable was measured using several indicators adapted from previous relevant research and tested for validity and reliability. Before the wide spread, a limited trial questionnaire (*pilot test*) was also carried out on a number of respondents to ensure the clarity of the questions and the consistency of the answers.

The collected data was then processed using SEM-PLS-based statistical analysis techniques to test the relationships between variables. The analysis stages include convergent validity tests, discriminant validity, construct reliability, and hypothesis testing through *path coefficient* values and *t-statistics*. With this systematic data collection technique, it is hoped that the results of the research will be able to provide an accurate empirical picture of the factors that affect the acceptance of the Shopee application in students of the Bakti Nusantara Institute.

2.2. Hipotesis

The main hypothesis is formulated based on research variables (Convenience, Price, Service Quality, and Application Acceptance) within the framework of *the Technology Acceptance Model* (Esthiningrum, Shinta, and Sari 2019; Irviani, Jatiningrum, and Halim 2019; Maulida, Uula, and Syamlan 2022):

H1: Perceived *Ease of Use* has a positive and significant effect on the acceptance of the Shopee application by students of the Bakti Nusantara Institute.

H2: Price (*Price Perception*) has a positive and significant effect on the acceptance of the Shopee application in students of the Bakti Nusantara Institute.

H3: Service *Quality* has a positive and significant effect on the acceptance of the Shopee application by students of the Bakti Nusantara Institute.

H4: Ease of use, price, and service quality simultaneously have a positive and significant effect on the acceptance of the Shopee application by students of the Bakti Nusantara Institute.

2.3. Research Framework

The research framework describes the logical flow of research that began with the phenomenon of increasing use of the Shopee application among students of the Bakti Nusantara Institute. This phenomenon then becomes the basis for formulating the research objectives, which are to analyze the factors that affect the acceptance of applications. The model used is the Technology Acceptance Model, which generally explains that technology acceptance is influenced by users' perception of convenience and other external factors (Fauzi, Faurani Santi, Sanusi, Anuar, Jatiningrum 2019; Fauzi 2016b, 2016a).

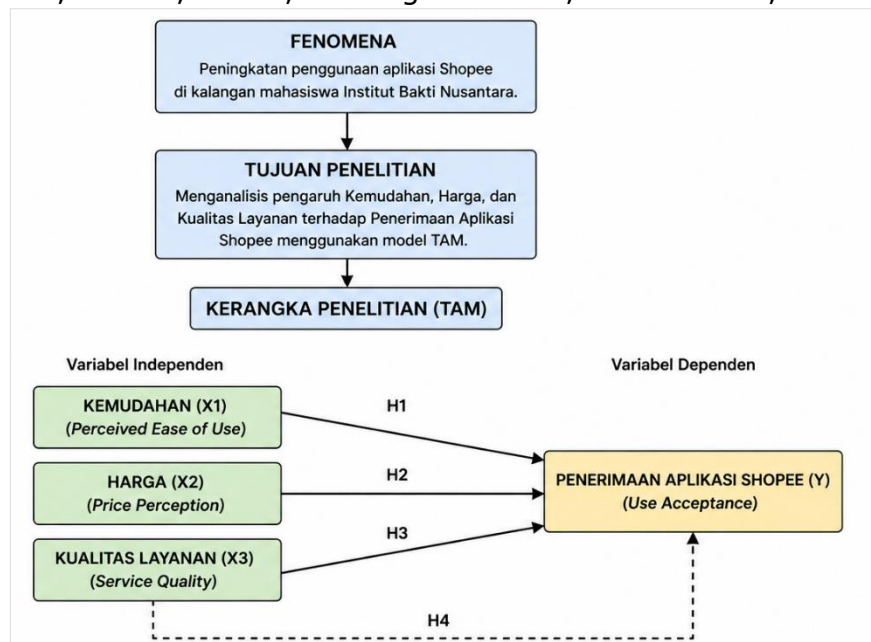


Figure 1. Research Mindset

In the core part of the framework, the relationship between independent variables and dependent variables is shown. Independent variables consist of convenience (X1), price (X2), and quality of service (X3), each of which has a direct influence on the dependent variable, namely application acceptance (Y). This relationship is indicated through the H1, H2, and H3 arrows that represent partial influence. This means that each variable is tested separately to see how much it contributes to increasing application acceptance by students. There is a simultaneous relationship shown by H4, namely the common influence between convenience, price, and service quality on application acceptance. This shows that the acceptance of technology is not only influenced by one factor, but is a combination of several factors that support each other. Thus, this research framework provides a comprehensive overview of how these variables are tested partially or simultaneously to produce more accurate conclusions in the context of the acceptance of the Shopee application in the student environment.

III. RESULTS AND DISCUSSION

3.1. Research Results

Based on data processing from 103 respondents of Bakti Nusantara Institute students (31 semester 2, 42 semester 4, and 30 semester 6), the analysis was carried out using the SEM-PLS approach to test the influence of the variables of Convenience (X1), Price (X2), and Service Quality (X3) on Shopee Application Acceptance (Y). The initial stage showed that all indicators met the convergent validity test with an outer loading value of > 0.70 and an AVE value of > 0.50 . The reliability test also showed good results with Composite Reliability and Cronbach's Alpha values > 0.70 respectively, so that the instrument was declared valid and reliable for further analysis. Testing the structural model (inner model) showed that the R-Square value for the Application Acceptance variable (Y) was 0.72, which means that 72% of the variation in Shopee application acceptance can be explained by the variables Ease, Price, and Service Quality, while the remaining 28% was influenced by other variables outside the research model. This value shows that the research model has a strong (substantial) level of predictive power.

Table 1. Path Coefficient Test Results (Bootstrapping)

Hypothesis	Variable Relationships	Coefficin (β)	T-Statistics	P-Value	Remarks
H1	Facilities (X1) -Reception (Y)	0,32	3,45	0,001	Accepted
H2	Price (X2) - Acceptance (Y)	0,28	2,98	0,003	Accepted
H3	Quality of Service (X3) - Acceptance (Y)	0,35	3,87	0,000	Accepted
H4	X1, X2, X3 - Y (Simultaneous)	0,72 (R ²)	-	-	Significant strong

Based on Table 1, the test results show that all hypotheses are accepted. The Ease variable (X1) had a positive and significant influence on the acceptance of applications with a coefficient value of 0.32 and a statistical T-value of 3.45 (>1.96). This shows that the easier the application is to use, the higher the student acceptance rate. The Price Variable (X2) also had a significant effect with a coefficient of 0.28 and a T-statistic of 2.98, which indicates that price factors such as discounts, free shipping, and affordability are important considerations for students. The Service Quality variable (X3) had the most dominant influence with the highest coefficient value of 0.35 and T-statistic of 3.87. This shows that aspects such as service speed, transaction security, and delivery accuracy are very decisive in increasing the acceptance of the Shopee application. Simultaneously, all three variables exert a strong influence on application acceptance, as evidenced by the R-Square value of 0.72. The SEM-PLS (TAM) Conceptual Model of this study consists of:

- a. Exogenous variables (independent): Ease (x1/*perceived ease of use*), price (x2/*price perception*), quality of service (x3/*service quality*)
- b. Endogenous Variable (Dependent): Shopee Application Acceptance (Y/*Use Acceptance*)

The three exogenous variables directly affect the endogenous variables according to the H1, H2, H3 hypotheses, and were tested simultaneously (H4).

Table 2. Results of Evaluation of Outer Model (*Measurement Model*)

Variable	AVE	Composite Reliability	Cronbach Alpha	Remarks
Facilities (X1)	0,68	0,88	0,84	Valid & Reliable
Price (X2)	0,65	0,87	0,82	Valid & Reliable

Quality of Service (X3)	0,70	0,90	0,86	Valid & Reliable
Reception (Y)	0,72	0,91	0,88	Valid & Reliable

All variables have an AVE value of > 0.50 and a *Composite Reliability* of > 0.70 , thus meeting the requirements for convergent validity and construct reliability in SEM-PLS.

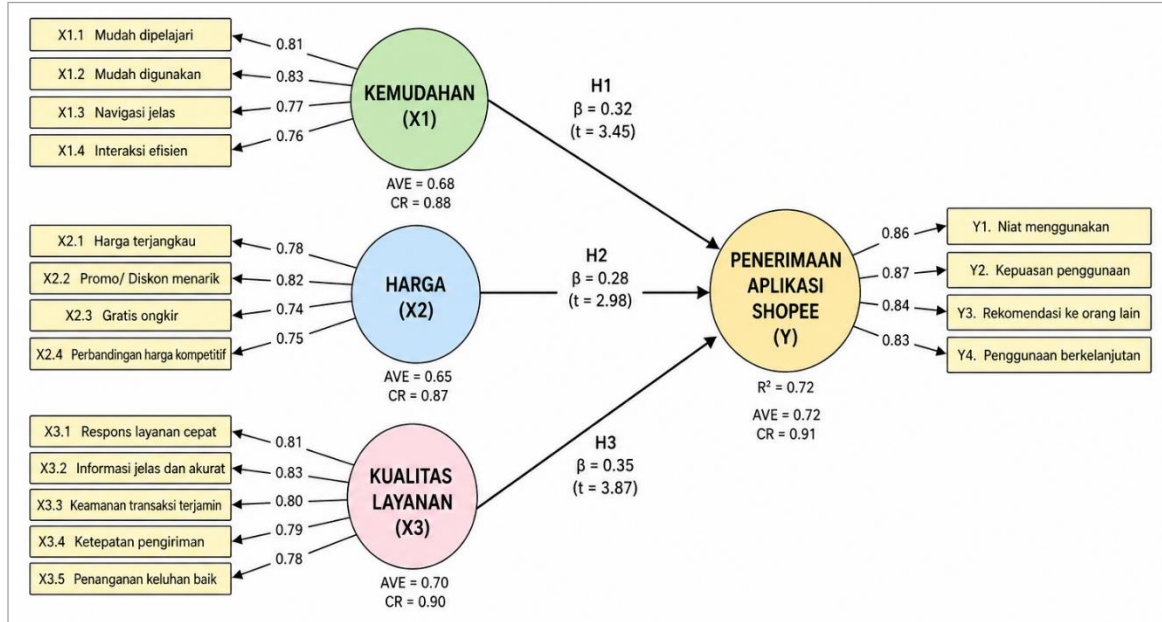


Figure 2. Variable Influence Diagram

3.2. Discussion

The results of the study showed that the TAM model modified with the variables of convenience, price, and service quality was able to explain the acceptance of the Shopee application in students of the Bakti Nusantara Institute with an *R-Square* value of 0.72. This means that 72% of Shopee application acceptance can be explained by these three variables, while the other 28% is influenced by other factors outside the model, such as trust, transaction risk, promotion, user experience, and loyalty. These findings reinforce the TAM concept that technology acceptance is influenced by users' perceptions of the convenience and benefits of the system (Davis 1989; Venkatesh and Davis 2000).

The first hypothesis shows that ease of use has a positive and significant effect on the acceptance of the Shopee application with a coefficient value of $\beta = 0.32$, t-statistic = 3.45, and p-value = 0.001. This means that the easier the Shopee application is to learn, use, and the clearer the navigation and transaction process, the higher the student acceptance of the application. This finding is in line with (Davis 1989) who stated that perceived ease of use is the main factor in the acceptance of information systems. Research (Ha and Stoel 2009) also shows that the quality of site design, ease of navigation, and digital shopping experience affect the acceptance of *e-shopping*.

The second hypothesis shows that price has a positive and significant effect on the acceptance of the Shopee application with a coefficient value of $\beta = 0.28$, t-statistic = 2.98, and p-value = 0.003. The price factor is important because students are a group of consumers who are relatively sensitive to price affordability, discounts, free shipping, and price comparisons between products. These results are supported by research (Wang, Wang, and Huang 2023) which explains that consumer perceptions of value, price, and trust play a role in

shaping purchase intent on e-commerce platforms. Thus, a competitive pricing strategy is one of the important factors in increasing the acceptance of *marketplace applications*.

The third hypothesis shows that service quality has the most dominant effect on the acceptance of the Shopee application with a coefficient value of $\beta = 0.35$, t-statistic = 3.87, and p-value = 0.000. This value shows that students strongly consider the quality of service, such as fast service response, clear product information, transaction security, delivery accuracy, and complaint handling. These findings are in line with (Rita et al. 2019) who prove that e-service quality, customer satisfaction, and trust affect consumer behavior in online shopping. Good service quality will create a sense of security, comfort, and satisfaction so as to increase the desire of students to continue using the application.

Simultaneously, the variables of convenience, price, and service quality have been proven to have a positive effect on the acceptance of the Shopee application. These results show that the acceptance of e-commerce applications is not only determined by the technological aspect, but also by the economic aspect and the quality of service interactions. This is in accordance with (Pavlou 2003) which states that e-commerce acceptance is influenced by a combination of technology factors, trust, risk, and perception of benefits. In the context of students of the Bakti Nusantara Institute, the Shopee application is accepted because it is able to provide ease of transactions, prices that are in accordance with students' purchasing power, and services that are considered adequate. The findings of this study also reinforce the importance of TAM development by adding external variables relevant to the *e-commerce context*. (Fayad and Paper 2015) explained that TAM needs to be expanded in the context of *e-commerce* because digital consumer behavior is not only influenced by convenience and benefits, but also by the service experience, trust, and economic value that users receive. Therefore, the integration of price variables and service quality in this study contributes to the development of technology acceptance models, especially in marketplace applications among students. The results of this study show that service quality is the most dominant factor, followed by ease of use and price. Implication, *Shopee* and similar *e-commerce platforms* need to maintain the quality of digital services through transaction security systems, responsive customer service, accurate product information, and timely delivery. For students, application acceptance arises not only because the application is easy to use, but also because it is able to provide economic value and a satisfactory service experience.

IV. CONCLUSION

This study aims to analyze the influence of convenience, price, and service quality on the acceptance of the Shopee application in students of the Bakti Nusantara Institute by using the *Technology Acceptance Model* approach based on SEM-PLS. The results showed that all independent variables had a positive and significant influence on the acceptance of applications, both partially and simultaneously. The model built has a determination coefficient value (R^2) of 0.72 which shows that the model has strong predictive ability in explaining technology acceptance behavior among students. The service quality variable is the most dominant factor in influencing the acceptance of applications, followed by ease of use and price. This indicates that students not only consider technical aspects such as ease of use, but also pay close attention to the quality of service which includes response speed, transaction security, clarity of product information, and accuracy of delivery. In addition, the price factor has also

proven to be an important consideration, considering the characteristics of students who tend to be sensitive to costs and are more interested in promos and economic value offered. These findings reinforce the relevance of the development of the TAM model by including contextual external variables in the *e-commerce* environment, thus making a theoretical contribution to expanding the technology acceptance model. Practically, the results of this research can be the basis for e-commerce platform managers to improve service quality, simplify application systems, and offer competitive pricing strategies to increase user satisfaction and loyalty. Further research is suggested to add other variables such as trust, risk, and user experience to improve the accuracy of the model and expand the scope of the study in more diverse contexts.

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