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EFFECT OF PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE TO USAGE DECISION GRAB ONLINE TRANSPORTATION SERVICE IN SIDOARJO REGENCY AREA

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Abstract

The rapid advancement of information technology has significantly impacted various aspects of human life. One notable innovation stemming from these technological developments is the online transportation industry. This sector has experienced substantial growth, with the emergence of online transportation booking applications intensifying market competition in recent years. One of the most widely used online transportation service applications in Indonesia is Grab. However, the Grab index value has seen a consistent decline over the past four years. Based on this, the research aims to examine the impact of perceived usefulness and perceived ease of use on the decision to use Grab's online transportation services. The study utilizes primary data collected from respondents residing in the Sidoarjo district. Data analysis is conducted using the partial least squares technique. The findings of the study indicate that perceived usefulness positively influences usage decisions, with a path coefficient of 0.352800 and a T-statistic of 4.247931, which is greater than the critical Z value at α = 0.05 (5%) = 1.96, making the influence statistically significant. Additionally, perceived ease of use also positively impacts usage decisions, with a path coefficient of 0.518550 and a T-statistic of 6.812777, also exceeding the critical Z value, confirming a statistically significant positive influence.
Keywords: Perceived Ease of Use; Perceived Usefulness; Usage Decision

INTRODUCTION

The globalization era has driven the rapid development of technology and the internet. With internet access available, information and communication can happen anytime and anywhere. The internet not only serves as an information resource but also provides access to various features, including online-based transportation. Online transportation has become a valuable tool for the community, significantly aiding daily activities. These services go beyond merely transporting passengers and they also offer options for goods delivery, food delivery, and even shopping. Moreover, the process of placing orders is relatively simple. (Rumaedah et al., 2022)

One of the online transportation service applications that is often used by Indonesians is Grab. Grab has more than 100 million monthly active users across Southeast Asia. The phenomenon of online transportation services is spreading widely to all levels of society in Indonesia. Although Grab does not specifically list the number of users in Indonesia, Grab mentions that Indonesia is the largest market for the company, with the largest network of drivers and a presence in 224 cities throughout Indonesia Sabily, 2023 in (Zahira Haerul, 2024)

However, from theaseanpost.com data, 2021 in Indonesia alone, 56% of the majority of ride hailing application users in Indonesia prefer Gojek compared to Grab, which is only interested by 33% of the majority. Data from App Ape, 2020 shows that the number of downloads and the number of users of the Gojek application from 2018-2020 is more than Grab. From this data, Gojek looks superior compared to Grab in Indonesia. The number of app downloads and Grab's monthly user

numbers, which fell in 2020, can be caused by a decrease in the lack of benefits felt by users and difficulties in using the application which has an impact on the decline in usage decisions. Consumer usage decisions are an important things in determining the extension of a company (Resa and Andjarwati, 2019) in (Pratama et al., 2024)

Table 1.1 Top Brand Index

Name Of Brand	**Years and Index**			
	2020	**2021**	**2022**	**2023**
Gojek	47,30%	53,00%	54,70%	55,00%
Grab	43,50%	39,70%	36,70%	35,30%

Source: topbrand-award.com

The results of table 1.1 show that Grab is a popular online transportation service and even ranks second in the Top Brand Index. However, Grab's index value from year to year continues to decline. In 2020 until 2023. The main cause of this condition is due to the increase in income deductions received by drivers by the application company. This has caused public interest in becoming ojol drivers to decrease and many drivers have resigned. The reduction in drivers makes it difficult for customers to find drivers when using the Grab applications (Tri Susilo, 2023).

One of the key frameworks for understanding technology acceptance is the Technology Acceptance Model (TAM). According to Jogiyanto, as cited in Yuliana (2020), TAM is a model developed to focus on analyzing an individual's psychological behavior towards a particular object. It is widely regarded as a reliable model for predicting and explaining how individuals accept technology. The most critical components of TAM are Perceived Usefulness and Perceived Ease of Use, as noted by Lee et al. (2013) in Nugraha (2021). These two factors play a crucial role in determining a person's decision to adopt a new technology.

Perceived usefulness plays a significant role in the decision to adopt online transportation. According to Wallace et al. (2014), as cited in Nurhaliza & Sugianto (2022), perceived usefulness refers to the level of trust a person has in a technology, specifically in how well it can optimize their tasks. A system that offers substantial benefits is believed to positively impact users by providing convenience and support in their work. In the context of the Grab application, perceived usefulness is defined as the extent to which the service can effectively meet consumers' daily needs, particularly concerning the transportation services it provides (Arta & Azizah, 2020).

The Technology Acceptance Model also suggests that perceived ease of use influences a person's willingness to adopt new technology. According to Jogiyanto (2019), as cited in Arta & Azizah (2020), perceived ease of use refers to the degree to which a consumer believes that using a technology requires minimal effort, meaning the technology should be easy to use and operate. A survey conducted by Goodstats shows that online transportation services remain popular among the

public. Despite price increases, demand for these services has not diminished. The primary reason people continue to use online transportation is the ease of using the application.

Figure 1 Precentage The Reason of Choosing Online Transportation

Source: GoodStats

From the results of figure 1, it shows that the main reason for choosing online transportation is the ease of ordering and using it. The technology applied to online transportation applications is considered very easy and simple so that consumers rarely experience difficulties in using it.

Arta & Azizah (2020) found in their research that perceived usefulness has a significant impact on usage decisions. This finding is further supported by research conducted by Lucyana Mira Dyas (2024), which also demonstrates that perceived usefulness significantly influences usage decisions. These outcomes align with Rogers' (1962) Innovation Diffusion Theory, which explains that individuals are more likely to adopt a technology that offers greater innovation, as it provides a significant advantage.

Wikantara & Rastini (2021) assert in their research that perceived ease of use positively influences usage decisions. This is corroborated by Mahanani & Sari (2019), whose study also shows that perceived ease of use has a positive effect on usage decisions. The authors explain that the easier a technology is perceived to be, the more likely individuals are to decide to use Grab's transportation services.

The purpose of this study is to examine the impact of perceived usefulness on the decision to use Grab's online transportation services among the community in the Sidoarjo Regency area, as well as to assess the effect of perceived ease of use on the decision to use these services within the same community.

LKTERATUTE REVIEW

Technology Acceptance Model (Tam)

The Technology Acceptance Model (TAM), developed by Davis, Bagozzi, and Warshaw (1989), is one of the most influential frameworks used to explain how individuals accept and adopt information technology systems. The relationships between constructs in the TAM model are derived from the Theory of Reasoned Action (TRA), developed by Fishbein and Ajzen (1980). Apart from being used to predict the use and utilization of technology, TAM can also be used to explain researchers and practitioners to identify why a new technology can be accepted or not by individuals.

Perceived Usefulness

According to Wang et al (2020) Perceived benefits determine the extent to which consumers think that using a service can be useful so that a goal can be achieved and can meet their needs. Agreeing with Wang et al, Marakarkandy et al. (2017) argue that the use value or benefits that can be felt by consumers in the perceived benefit variable is defined as the extent to which consumers can believe that using a technology can improve performance. Perceived benefits can be measured using 6 indicators according to Jogiyanto in (Rana Eka Setyawati, 2020), namely: 1) Work More Quickly, 2) Job Performance, 3) Increase Productivity, 4) Effectiveness, 5) Make Job Easier, 6) Usefull

Perceived Ease of Use

Perceived ease of use is a person's belief that by utilizing a certain technology or system, no effort is required (free effort) or in other words, a system can be easily understood how to use it (Wakhida & Sanaji, 2020) While according to Damayanti (2020) perceived ease of use is the perception obtained by consumers regarding the ease of operating a system or technology designed so that a consumer does not feel difficulty and confusion when using a system. Perceptions of convenience can be measured using 6 indicators according to Davis in(Monica & Japarianto, 2022), namely: 1) Easy to Learn, 2) Controllable, 3) Clear and Understandable, 4) Flexible, 5) Easy to Become Skillful

Usage Decision

Jamilah and Hadi (2018) in (Perkasa, 2023) state that usage decisions are a decision process where consumers actually decide to use one of the products or services among a variety of alternative choices. There are various factors that consumers pay attention to before making usage decisions in using online-based applications, namely the ease of use of the application to be used, the benefits felt when using. as well as the security risks of the information provided, if these factors are met, consumers will have a tendency to make transactions and use the application (Nurhaliza & Sugianto, 2022) Usage decisions can be measured using 4 indicators according to Kotler (2004) in (Arta &

Azizah, 2020). 1) Stability, 2) The Habbit of using the product, 3) Give recommend to other, 4)Reuse

Conceptual Framework

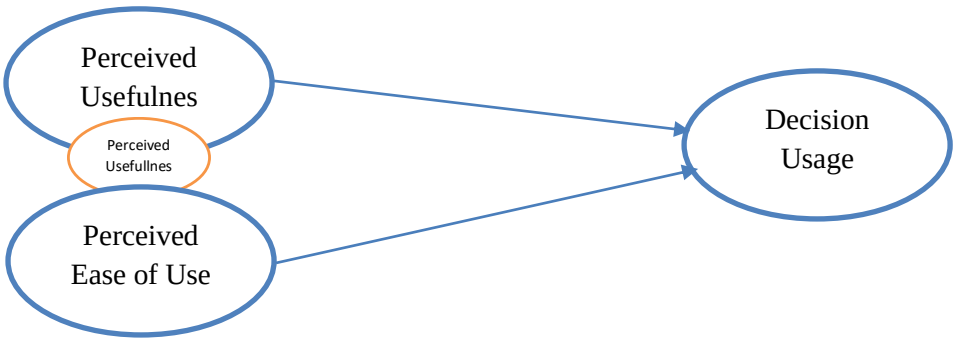
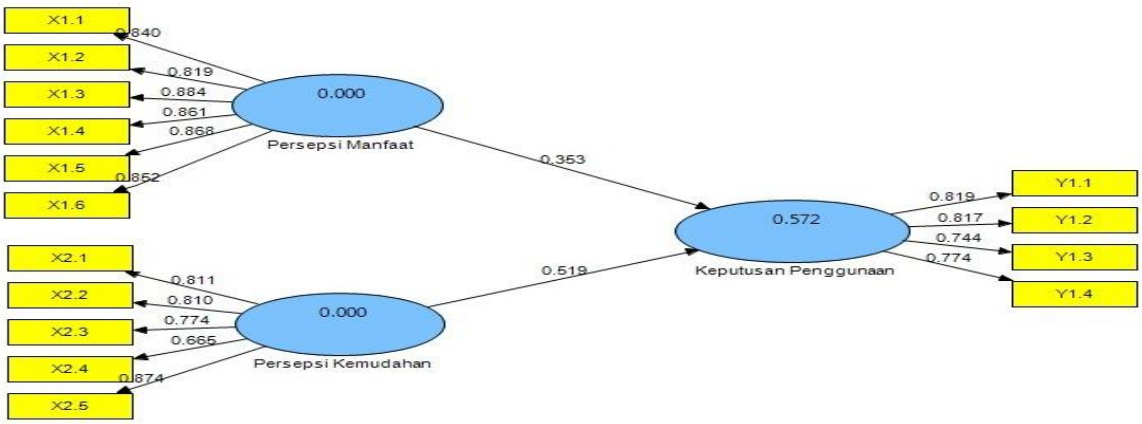


Figure 2 Framework

METHOD

This study employs a quantitative research approach. The sampling method used is non-probability sampling, specifically purposive sampling. The sample size was determined using the formula provided by Hair et al. (2017), as cited in Lukitaningsih & Lestari (2023), which is appropriate when the population size is unknown. The formula suggests that the sample size should be 5 to 10 times the number of indicators for the variables. In this study, with 15 indicators, a multiplier of 8 was chosen, resulting in a sample size of 120 respondents from the Sidoarjo Regency area. The study utilizes both primary and secondary data. Primary data were collected through questionnaires distributed to respondents, using a Likert scale ranging from 1 to 5 for measurement. Secondary data were gathered from various reference journals to support the research. The collected data were analyzed using Partial Least Squares (PLS) along with Validity, Reliability, and Hypothesis Testing.

RESULTS AND DISCUSSION



Gogire 3 Outer Model ,factor loading,Path Coefficient dan R-Square

Source**:** Results PLS Processing

The PLS output results reveal the factor loading values for each indicator. The highest factor loading for the perceived benefit variable is 0.884, while the highest factor loading for the perceived ease of use variable is 0.874. For the usage decision variable, the factor loading value is 0.819. Additionally, the output includes path coefficients between variables and the R-square value for the endogenous variable, which is the usage decision.

Table 2 Outer Loading

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
X1.1 <- Perceived Usefulness	0.840206	0.828022	0.044494	0.044494	18.883382
X1.2 <- Perceived Usefulness	0.818565	0.810976	0.052517	0.052517	15.586595
X1.3 <- Perceived Usefulness	0.884289	0.882106	0.028575	0.028575	30.945735
X1.4 <- Perceived Usefulness	0.861237	0.856225	0.031557	0.031557	27.291046
X1.5 <- Perceived Usefulness	0.867517	0.864061	0.033795	0.033795	25.670113
X1.6 <- Perceived Usefulness	0.852019	0.852716	0.033201	0.033201	25.662323
X2.1 <- Perceived ease of Use	0.811401	0.803323	0.049430	0.049430	16.415244
X2.2 <- Perceived Ease of Use	0.809631	0.809410	0.055029	0.055029	14.712799
X2.3 <- Perceived Ease	0.773941	0.768985	0.061086	0.061086	12.669677

of Use					
X2.4 <- Perceived Ease of Use	0.665296	0.663498	0.069161	0.069161	9.619525
X2.5 <- Perceived Ease of Use	0.874270	0.873544	0.027283	0.027283	32.044152
Y1.1 <- Usage Decision	0.818840	0.823839	0.033324	0.033324	24.572073
Y1.2 <- Usage Decision	0.817441	0.820539	0.040359	0.040359	20.254460
Y1.3 <- Usage Decision	0.743830	0.740080	0.070417	0.070417	10.563174
Y1.4 <- Usage Decision	0.774046	0.774094	0.046460	0.046460	16.660438

Source: Result PLS Processing

Based on the outer loadings, all reflective indicators have original sample values greater than 0.70. Additionally, the T-statistics for these indicators exceed 1.96. Consequently, the estimation results for all reflective indicators are deemed valid and satisfy the criteria for convergent validity.

Table 3 Result Average Variance Extracted

	AVE
Perceived Usefulness	0.729702
Perceived Ease of Use	0.623965
Usage Decision	0.622785

Source: Result PLS Processing

According to the table, the Average Variance Extracted (AVE) results for all variables are greater than 0.50, indicating good validity overall. The AVE values are as follows: the perceived usefulness variable (X1) is 0.729, the perceived ease of use variable (X2) is 0.623, and the usage decision variable (Y) is 0.622.

Table 4 Composite Reliability

	Composite Reliability
Perceived Usefulness	0.941820

Perceived Ease of Use	0.891700
Usage Decission	0.868309

Source: Result PLS Processing

According to the table, the composite reliability values for each construct in this study are greater than 0.70, indicating that the la

tent variables are consistently measured by their indicators. Specifically, the composite reliability values are as follows: perceived usefulness (X1) is 0.941, perceived ease of use (X2) is 0.891, and usage decision (Y) is 0.868. Since all three variables exhibit composite reliability values above 0.70, it can be concluded that the variables in this study are reliable.

Table 5 Latent Variable Correlations

	Usage Decision	**Perceived Ease of Use**	**Perceived usefulness**
Decision Usage	1.000000		
Perceived Ease of Use	0.691137	1.000000	
Persepsi Usefulness	0.606471	0.489194	1.000000

Source: Result PLS Processing

In Partial Least Squares (PLS), statistical significance tests assess the correlations between latent variables to evaluate their relationships. The correlation between variables ranges up to a maximum value of 1, with values closer to 1 indicating stronger correlations. In Table 5, the highest correlation value is 0.691, which is between perceived ease of use (X2) and usage decisions (Y). This indicates that perceived ease of use and usage decisions have a stronger relationship compared to their correlations with other variables.

Table 6 R – Square

	R Square
Perceived Usefulness	
Perceived Ease of Use	
Usage Decision	0.572352

Source: Result PLS Processing

Based on the table, the R^2 value of 0.572 for the Usage Decision (Y) indicates that 57.2% of the variance in usage decisions is explained by perceived usefulness (X1) and perceived ease of use (X2).

This means that 42.8% of the variance in usage decisions is influenced by other factors not included in this study.

Table 7 Path Coefficients

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**Standard Error (STERR)**	**T Statistics (|O/STERR|)**
Perceived Usefulness -> Usage Decision	0.352800	0.354395	0.083052	0.083052	4.247931
Perceived Ease of Use -> Usage Decision	0.518550	0.520111	0.076114	0.076114	6.812777

Source: Result PLS Processing

Based on the table, the analysis reveals that perceived usefulness has a positive impact on usage decision, with a path coefficient of 0.352800 and a T-statistic value of 4.247931. This T-statistic is significantly higher than the Z value of 1.96 at $\alpha = 0.05$ (5%), indicating that the effect is statistically significant and positive. Similarly, perceived ease of use also exerts a positive influence on usage decision, with a path coefficient of 0.518550 and a T-statistic value of 6.812777. This value is well above the Z value of 1.96 at $\alpha = 0.05$ (5%), confirming that the effect is both significant and positive.

The effect of Perceived Usefulness on Usage Decisions

The research findings indicate that the perceived convenience variable significantly influences usage decisions. This implies that the greater the perceived usefulness and productivity enhancement of an application, the stronger its impact on the decision to use it. Specifically, the analysis of factor loadings reveals that the most influential indicator for the perceived benefit variable is X1.3, which relates to increasing productivity. This suggests that improvements in application mobility and productivity can enhance work and daily activities. For example, when faced with traffic jams while driving, using Grab Bike can help users reach their destinations on time, illustrating the practical benefits of Grab's transportation services.

These results align with research conducted by Arta & Azizah (2020) titled “The Effect of Perceived Usefulness, Perceived Ease of Use and E-Service Quality on Decisions to Use the Go-Food Feature in the Gojek Application.” Their study also found that perceived benefits positively impact usage decisions, particularly for the Go-Food feature in the Gojek application. The Role of organizational climate in Improving Performance

The Effect of Perceived Ease of Use on Usage Decision

The research findings reveal that the perceived ease of use variable significantly impacts usage decisions. This indicates that the more user-friendly an application is, the stronger its influence on the decision to use it. The factor loading analysis shows that the most impactful indicator for perceived ease of use is the ease of operating the application. This highlights that the simplicity of using an application is a crucial factor in determining whether or not users choose to adopt an online transportation service.

These results are consistent with research conducted by Ardana (2023) titled "Pengaruh Persepsi Manfaat, Persepsi Kemudahan Dan Brand Image Terhadap Keputusan Penggunaan E-Wallet Dana Dompet Digital Oleh Generasi Y Dan Generasi Z." Their study also found that perceived ease of use has a positive effect on usage decisions, particularly regarding the use of E-Wallet Dana by Generation Y and Generation Z.

CONCLUSION

Based on the analysis and discussion of the tests conducted, this study investigates the impact of perceived benefits and perceived ease of use on the decision to use Grab transportation services in the Sidoarjo Regency area. The research examines how these factors influence users' choices to adopt and utilize Grab's services. based on the test results using the Partial Least Square method, the following conclusions are drawn:

1. Perceived Usefulness contribute to the Usage decision Grab transportation services. This is indicated by several benefits felt by Grab users, resulting in an increase in the intensity of use of the Grab application.
2. Perceived Ease of Use contributes to the Usage Decision Grab transportation services. This is indicated by the existence of features that are easy to remember and easy to learn how to operate, making it easier for users to use the application when needed. so that this causes an increase in the intensity of use of the Grab application.

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