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Increasing Grab Customer Satisfaction Through E-Servqual: Efficiency, System Availability, Fulfillment, And Privacy

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ABSTRACT
This study examines the impact of electronic service quality (e-SERVQUAL) on customer satisfaction within the context of the online transportation service, Grab, in Indonesia. The components of e-SERVQUAL encompass efficiency, system availability, fulfillment, and privacy. Data were collected through an online survey targeting users of the Grab application in Indonesia, employing a purposive sampling technique that resulted in a sample of 274 respondents. The analysis, conducted using multiple linear regression, indicates that both system availability and fulfillment significantly influence customer satisfaction. In contrast, the results demonstrate that efficiency and privacy do not significantly affect customer satisfaction.
Keywords: *e-SERVQUAL, efficiency, fulfilment, privacy, satisfaction, system availability*

ABSTRAK
Penelitian ini bertujuan untuk mengkaji bagaimana kualitas layanan elektronik atau *e-SERVQUAL* yang terdiri dari efisiensi, ketersediaan sistem, pemenuhan, dan privasi memengaruhi kepuasan pelanggan transportasi berbasis *online* yaitu Grab di Indonesia. Data primer pada penelitian ini diperoleh dari survei *online*. Populasinya adalah seluruh pelanggan yang pernah menggunakan aplikasi Grab di Indonesia. Dengan menggunakan teknik *purposive sampling*, ukuran sampel final adalah 274 responden. Data penelitian diolah dan dianalisis menggunakan analisis regresi linier berganda. Temuan dari penelitian ini membuktikan bahwa ketersediaan dan pemenuhan sistem berpengaruh signifikan terhadap kepuasan pelanggan. Namun, ditemukan juga bahwa efisiensi dan privasi ternyata tidak memengaruhi kepuasan pelanggan Grab di Indonesia.
Kata Kunci: efisiensi, e-SERVQUAL, pemenuhan, privasi, ketersediaan sistem, kepuasan

Introduction

In response to the advancements in information technology during the digital era, there has been a notable shift in individual lifestyles. People increasingly seek convenience in their daily activities, selecting products and services that align with their needs (Angus & Westbrook, 2019; Paullet et al., 2010). This trend has led to the

emergence of various offline and online service providers that support the community in fulfilling essential requirements (Lee & Chau, 2022). Among these, online transportation applications have become significant, offering enhanced mobility and accessibility to users. Online transportation is one of the fastest-growing businesses today. The results of the Alvara Research Hasanudin Ali survey on the millennial generation stated that 32% of respondents were classified as "heavy users", who use online transportation applications more than once a week (Movanita, 2019). This business model provides prospective customers with easy access to affordable transportation services. Joko Widodo, former President of the Republic of Indonesia, said, "one of the information technology development's products that we cannot avoid is online transportation" (Ihsanuddin, 2017). As a result, online transportation is gaining popularity and acceptance in various cities, benefiting communities overall (Gössling, 2018).

The competition in the online transportation business in Indonesia is highly intense, as companies become increasingly careful and creative in developing their competitive strategies. Prominent online transportation service providers in the Indonesian market include Grab, Gojek, InDrive, Maxim, Lalamove, and Zendo. From national and international origins, these companies and various local transportation services tailored to specific regions operate in a dynamic and competitive environment. Therefore, online service providers need to understand the components of electronic service quality that customers deem important and how this quality is perceived from the customers' perspective. By delivering high-quality electronic services, companies can achieve customer satisfaction and trust (Tran & Vu, 2019; Setó-Pamies, 2012).

According to Parasuraman et al. (2005), the quality of electronic services is defined as a website or mobile application that can facilitate effective and efficient shopping, purchasing, and delivery. This definition emphasizes the three essential components of electronic services: service providers, who deliver the services; service recipients, the individuals or organizations that utilize these services; and service channels, the technological platforms through which the interactions occur (Cardoso & Fromm, 2015). These elements create a dynamic ecosystem facilitating efficient and effective service delivery in the digital age. The quality of electronic services is measured by the convenience provided by the company through the internet or the company's website. Parasuraman, et al. (2005) then identified four components of electronic service quality, or e-SERVQUAL, namely (1) efficiency, indicating the ease and speed for users to access the website; (2) system availability, indicating the correct technical function of the website; (3) fulfillment, indicating the website ability to fulfill service promises; and (4) privacy, indicating the security and protection of customer information. Companies can form customer assessments of the quality of

provided services by using these four e-SERVQUAL components.

In addition to providing good e-service quality, it is also essential to increase customer satisfaction because customer satisfaction is a crucial factor in business interactions and a necessary aspect of online companies (Laurent, 2016). Customer satisfaction is defined as an individual's emotional response, whether of pleasure or disappointment, resulting from the evaluation of a product or the perceived performance of a service, relative to established expectations (Kotler et al., 2021). This means that when expectations are not fulfilled in reality, customers will be dissatisfied. In other words, when the quality of service is as expected, customers will be satisfied. Customer satisfaction can be seen from good service quality. Satisfaction with an online business can be accumulated from customers' satisfaction in each transaction and the time-to-time experience of customers with goods or services on online sites (Kim et al., 2008).

Previous studies have explored how e-service quality affects customer satisfaction. The quality of e-service is important because it directly impacts customer satisfaction, which will finally improve the company's image (David, 2018). Fauziah and Syahputra (2018) found that e-service quality significantly affects customer satisfaction for the Gojek application in Bandung. Another study by Sheng and Liu (2010) found that efficiency, fulfillment, and privacy, as e-SERVQUAL components, significantly affect customer satisfaction in online commerce. However, they found that system availability does not significantly affect customer satisfaction. Supriyantini et al. (2014) found that efficiency, system availability, fulfillment, and privacy significantly and positively influence online customer satisfaction of D'One application users. Previous research by Fauzi (2018) also found that e-service quality positively affects customer satisfaction with online transportation services (Gojek, Grab, and Uber) in Indonesia. Ma Sabiote et al (2012) found that availability, efficacy, privacy, and relevant information have a significant influence on online satisfaction, but one dimension of e-service quality, namely ease of use (efficiency), does not significantly influence online satisfaction in online purchases of tourism products. Research conducted by Utami (2017) found that efficiency, system availability, and fulfillment positively affected online satisfaction, while privacy did not positively affect online satisfaction for online shopping site customers. The difference in research objects and setting, and inconsistency of empirical findings from prior studies, open more opportunities for future studies to prove whether e-SERVQUAL components affect customer satisfaction, especially towards online-based service delivery.

Grab is one of the biggest online transportation service providers operating in Indonesia. It was established and headquartered in Singapore. Grab pioneered Southeast Asia's largest on-demand and non-cash transportation service provider

platform (Grab.com, 2017). Grab makes it easy for its users to use cash and non-cash payments through e-wallet services such as OVO. After Grab acquired Uber in 2018, Grab became Southeast Asia's first and largest super app and Southeast Asia's first decacorn (Pratama, 2019). Therefore, Grab should provide satisfactory services as an online transportation service provider (Paskalis, 2018). To gain a deeper understanding of customer satisfaction with the Grab application, it is essential to explore and analyze the effects of several key factors of its e-SERVQUAL: efficiency, system availability, fulfillment, and privacy. Each of these elements plays a crucial role in shaping the overall user experience, influencing how customers perceive the reliability and value of the service. By examining these aspects in detail, we can uncover valuable insights into what drives customer satisfaction and loyalty in this competitive market. Therefore, this study aims to examine the impact of e-SERVQUAL on customer satisfaction within the context of the online transportation service, Grab, in Indonesia. The components of e-SERVQUAL encompass efficiency, system availability, fulfillment, and privacy.

Literature Review

E-service Quality (e-SERVQUAL)

Service quality is an attitude formed through a long-term, overall evaluation of the company's performance (Hoffman & Bateson, 2011). The emergence of internet-based services has changed the way companies and customers interact. That used to be face-to-face, but now companies and customers interact online via smartphones, the internet, or mobile applications. Offline service quality is then completed or changed into online or electronic service quality (e-SERVQUAL). E-SERVQUAL measures how well a website or app provides services. This concept builds on traditional service quality models (Tjiptono & Chandra, 2016, p. 303). According to Parasuraman et al. (2005), it assesses how effectively a website or application helps customers shop, buy, and receive products. Chase et al. (2006) describes it as an online service supporting smooth delivery. Collier and Bienstock (2006) state that electronic service quality relates to customer perceptions of service results and improvements after problems. It includes customer experience during and after buying. Yen (2008:129) states that e-service quality reflects how customers evaluate delivery services online. In summary, it shows how a company commits to effective online service and delivery for its customers.

Parasuraman et al. (2005) identified four components of e-SERVQUAL:

a. Efficiency shows how quickly and easily customers can use a website or app to find their needs. Key points include: 1. Accessible from anywhere. 2. Quick transaction completion. 3. Well-organized information. 4. Fast loading times. 5. User-friendly design. 6. Clear structure. 7. Easy to find needed items

b. System availability refers to a website's functionality, focusing on accessibility and performance. The key indicators include: 1. Consistent accessibility for transactions. 2. User-friendly navigation. 3. Minimal disruptions during the transaction process. 4. Optimal performance without congestion.
c. Fulfillment refers to a platform's ability to meet commitments related to service, product availability, and timely delivery. Key performance indicators include: 1. Transactions that align with customer expectations, 2. An efficient transaction process that provides prompt order information, 3. Transaction prices that correspond to the displayed information, and 4. Transparency and honesty in all customer offers.
d. Privacy refers to a website's ability to protect customer buying behavior information from third parties. Key indicators include: 1. safeguarding customer purchasing data, 2. not sharing personal information, and 3. securing users' financial data during transactions.

Customer Satisfaction

According to Kotler et al. (2021), satisfaction is a feeling of pleasure or disappointment that a person feels from comparing a product or service's performance perception to expectations. Therefore, desires must be created before fulfilling motives. The source of the formation of desires varies for each individual, depending on the environment. Tiptono and Chandra (2016:24) stated that customer satisfaction or dissatisfaction is a customer's response to the perceived disconfirmation of previous expectations. Customer satisfaction in the scope of online business, also known as electronic satisfaction (e-satisfaction), is the satisfaction (contentment) felt by the customer regarding their previous purchase experience with an electronic-based provider company (Anderson & Srivinasan, 2003). As a result of customers' comprehensive assessment of the product performance, including the service provided, satisfaction can be measured by three indicators, i.e., conformity to expectations, interest to keep using the product and services, and the willingness to give recommendation to others (Irwansyah & Mappadeceng, 2018; Setiawan, 2018; Ahmad et al., 2017).

Research Framework

This study was conducted to measure the effect of efficiency, system availability, fulfillment, and privacy, as part of e-SERVQUAL, on the customer satisfaction of the Grab application. The conceptual framework in this study is presented as follows:

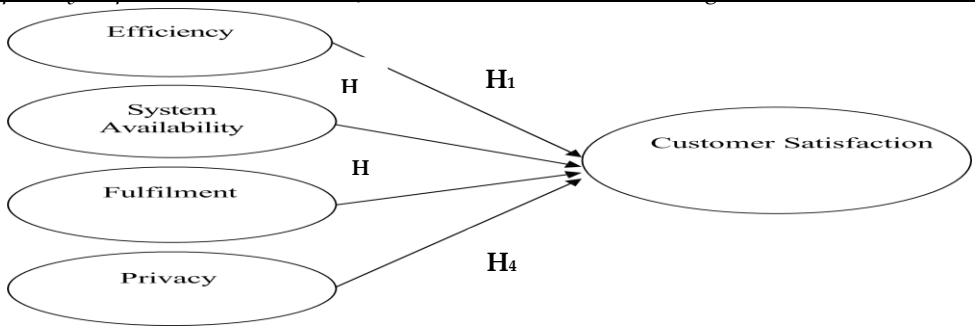

Figure 1. Conceptual Framework

Based on the conceptual framework, the proposed hypotheses are:

a. The impact of efficiency on customer satisfaction

Efficiency refers to how quickly and easily a website or app can be accessed (Parasuraman et al., 2005). It plays a crucial role in online business, as convenience and time savings are typically the primary reasons people use online services (Ranganathan & Ganapathy, 2002). Therefore, if customers can easily find what they are looking for, their satisfaction will likely increase. The greater the efficiency, the more a company can achieve customer satisfaction. According to Sheng and Liu (2010), efficiency significantly impacts customer satisfaction in online commerce. Therefore, the hypothesis proposed is as follows:

H_1: Efficiency of e-SERVQUAL has a significant impact on customer satisfaction

b. The impact of system availability on customer satisfaction

System availability is a critical measure of how effectively a website performs its technical functions (Parasuraman et al., 2005). This concept is vital to electronic service quality and directly correlates with customer satisfaction. Companies that consistently deliver high-quality services are positioned to cultivate strong relationships with their clientele (Tjiptono & Chandra, 2016). When the technical functionalities of the Grab application operate seamlessly, it enhances user experience, ultimately fostering greater satisfaction among users. In general, satisfaction can be interpreted as comparing the results received by customers with customer expectations. The results obtained must at least be the same as customer expectations and even exceed them. Thus, the better the Grab system is available, the more satisfied customers will be. This is supported by the research of Supriyantini et al. (2014), which found that system availability had a significant effect on user satisfaction with the D'one application. Based on this explanation, the researchers proposed the following hypothesis:

H_2: System availability of e-SERVQUAL has a significant impact on customer satisfaction

c. The impact of fulfillment on customer satisfaction

Fullfillment is one of the most critical factors for assessing the quality of an online business because it keeps service promises. Promises of the company that are appropriate and kept will increase customer satisfaction because the quality provided is correct. In this study, fulfillment refers to the satisfaction of promises given by the Grab system regarding transactions made by customers. According to the research of Sheng and Liu (2010), fulfillment significantly affects the satisfaction of online trading users. In light of the provided explanation, the researchers have formulated the following hypothesis:

H_3: Fulfillment of e-SERVQUAL has a significant impact on customer satisfaction

d. The impact of privacy on customer satisfaction

Research indicates that privacy is a critical component in influencing customer satisfaction regarding the quality of services rendered in online transactions (Chang & Wang, 2011). This perspective is consistent with findings by Fauzi (2018) and the research conducted by Paramita and Nugroho (2014), who underscore privacy's substantial effect on user satisfaction within online businesses. Therefore, Grab's robust commitment to safeguarding customer information is anticipated to increase customer satisfaction. In light of this analysis, the following hypotheses are proposed for examination in this study:

H_4: Privacy of e-SERVQUAL has a significant impact on customer satisfaction

Research Method

This research is categorized as an explanatory study, seeking to clarify the relationships among variables through hypothesis testing (Sudaryono, 2018:13). The population of this study is all customers of Grab in Indonesia. The study employs a non-probability sampling method, specifically purposive sampling. This method allows the sample to be selected based on specific criteria (Sugiyono, 2013, p. 156). Research respondents are Grab's customers over the age of 17 years old and have made transactions using the Grab application at least once in the period of one year. The age consideration criterion is based on the fact that customers aged over 17 years old can show how to use media and products, shop, feel the experience of marketing activities, and make a rational purchase decision (Hawkins & Mothersbaugh, 2010). In addition, Arnett and Mitra (2020) state that respondents within this age group offer more stable and considered responses when completing the research questionnaire. While a minimum number of transactions using the Grab application criterion is considered, the attained respondents are the customers who already know and understand the Grab application. Therefore, they are eligible to assess the strengths and weaknesses of the quality of the Grab application electronic service. In addition,

the respondent's span of time period of usage of the Grab application is also considered. This is based on considerations to reduce errors due to memory loss (recall effect). Thus, respondents are still able to remember their previous experiences of buying or using the products and services (Chang & Wang, 2011; Paramita & Nugroho, 2014).

The primary data utilized in this study were gathered through a series of questionnaires. An online survey method was employed, wherein respondents were provided with a link to participate. The online questionnaire was distributed via WhatsApp, Facebook, Line, and Instagram. This survey was conducted as a cross-sectional study, capturing data at a single point in time. The questionnaire was developed using Google Forms and comprised several statements addressing key areas such as efficiency, system availability, fulfillment, privacy, and customer satisfaction among users of the Grab application. Responses were measured using a five-point Likert scale. Ultimately, data were collected from a total of 274 respondents.

The research instrument used in this study underwent evaluations for validity and reliability. Validity was assessed using Pearson's Product-Moment correlation coefficient (r), while reliability was evaluated through Cronbach's Alpha. Each variable's value was compared against an established threshold of greater than 0.60 (Ghozali, 2016:78). Data analysis was conducted using multiple linear regression analysis, run by SPSS 24 software, to evaluate the impact of various factors on customer satisfaction with Grab. According to Ghozali (2016), multiple linear regression aims to determine how one variable influences others. In this study, we specifically assess the effects of efficiency (X_1), system availability (X_2), fulfillment (X_3), and privacy (X_4) on Grab customer satisfaction (Y). To determine if the data followed a normal distribution, the study utilized the Kolmogorov-Smirnov test, setting a significance level (α) at 0.05 (5%). Subsequently, several statistical assumptions were checked to ensure reliable regression results, including tests for multicollinearity and heteroscedasticity. The next phase involved hypothesis testing to evaluate the significance of the independent variables (X_1, X_2, and X_3) concerning the dependent variable (Y). A partial t-test was used to assess the influence of each independent variable on the dependent variable (Ghozali, 2016:884). Finally, the study performed the coefficient of determination (R^2) test to evaluate how effectively the regression model explained the changes in the dependent variable (Ghozali, 2016:95).

Results and Discussion

Respondent Characteristics

The data collection results indicate that 274 respondents, all customers of the

Grab application in Indonesia, participated in the survey. These respondents were analyzed based on several key characteristics, which include gender, age, domicile, occupation, and income level (monthly). The classification of these characteristics provides a detailed overview of the diverse demographic landscape of Grab users and is outlined as follows:

Table 1. Respondent Demographic Characteristics

Demographic Characteristics	Category	Frequency	Percentage
Gender	Female	185	67.5%
	Male	89	32.5%
Age	17-23 years old	176	64.2%
	24-29 years old	56	20.4%
	30-35 years old	12	4.4%
	36-41 years old	14	5.2%
	>41 years old	16	5.8%
Domicile	East Java	177	64.5%
	Yogyakarta	29	10.6%
	Jakarta	27	9.9%
	West Java	13	4.7%
	Bali	8	2.9%
	North Sulawesi	4	1.4%
	South Sumatra	3	1.1%
	North Sumatra	3	1.1%
	Riau	3	1.1%
	Bengkulu	3	1.1%
	Riau Islands	2	0.7%
	South Sulawesi	2	0.7%
Occupation	Student	157	57.3%
	Employee of Private Enterprises	60	21.9%
	Civil Servant/Employee of State-Owned Enterprises	24	8.8%
	Entrepreneur	20	7.3%
	Housewife	10	3.6%
	Army/Police	3	1.1%
Monthly	IDR 0 – 2,000,000	183	66.8%

Income	IDR > 2,000,000-5,000,000	50	18.2%
	IDR > 5,000,000-10,000,000	29	10.6%
	IDR > 10,000,000	12	4.4%

According to Table 1, we draw several conclusions. First, the majority of respondents using the Grab application are women (185 people or 67.5%). The data indicates that women are more inclined to use the Grab app because they prefer online transactions. This finding is supported by research conducted by Tobagus (2018), which states that women favor making transactions online. Second, the primary demographic of Grab app customers in this study consists of individuals aged 17 to 23, with 176 (64.2%) users in this group. Following them is the 24 to 29 age group, which includes 56 (20.4%) users. This data supports the findings of Tobagus (2018), which indicate that younger consumers prioritize quick and convenient transactions, a feature that the Grab app successfully provides. Third, many respondents (177 people or 64.5%) are residents of East Java Province, a region recognized for its notably high population density (bps.go.id, 2023). Fourth, the majority of respondents, as the customers of the Grab application, are students (157 people or 57.3%), followed by employees of private companies (60 people or 22.1%) and civil servants or employees of state-owned companies (24 people or 8.8%). Most respondents, as customers of the Grab application, have an income between IDR 1,000,000 and IDR 2,000,000, totaling 183 individuals, representing 66.8% of the surveyed sample.

Validity and Reliability Tests

The results of the validity test, shown in Table 2, indicate that all indicators for the research variables have an r-count that exceeds the r-table value at a significance level of 5% (α = 0.05). Therefore, we can conclude that the indicators related to the research variables—efficiency (X_1), system availability (X_2), fulfillment (X_3), privacy (X_4), and customer satisfaction (Y)—are valid and suitable for inclusion in this study. Additionally, the reliability test results presented in Table 3 demonstrate that each variable achieves a Cronbach's Alpha value greater than 0.60. This finding confirms that the research instrument is reliable and can be effectively used for data collection, thereby reinforcing the validity of the test.

Data Normality and Multiple Linear Regression Tests

Table 4.16 shows an Asymptotic Significance (Sig.) value of 0.200, higher than the 0.05 threshold. This result means the data likely follows a normal distribution. Therefore, the dataset is normally distributed, which fits the requirements for many statistical analyses.

Multiple linear regression analysis determines how independent variables—efficiency, system availability, fulfillment, and privacy—impact consumer satisfaction as the dependent variable. The multiple linear regression test results can be found in Table 5. Based on Table 5, the multiple linear regression equation is as follows:

$$y = a + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$$

$$y = 3.605 + 0.061X1 + 0.149X2 + 0.237X3 + 0.021X4 + \varepsilon$$

Table 2. Validity Test Results

Variable	Indicator	r count	r table	Sig.	Description
Efficiency	Efficiency 1	.583	.099	.000	Valid
	Efficiency 2	.620	.099	.000	Valid
	Efficiency 3	.744	.099	.000	Valid
	Efficiency 4	.625	.099	.000	Valid
	Efficiency 5	.773	.099	.000	Valid
	Efficiency 6	.692	.099	.000	Valid
	Efficiency 7	.573	.099	.000	Valid
System Availability	System Availability 1	.608	.099	.000	Valid
	System Availability 2	.709	.099	.000	Valid
	System Availability 3	.698	.099	.000	Valid
	System Availability 4	.766	.099	.000	Valid
Fullfilment	Fullfilment 1	.571	.099	.000	Valid
	Fullfilment 2	.650	.099	.000	Valid
	Fullfilment 3	.735	.099	.000	Valid
	Fullfilment 4	.737	.099	.000	Valid
Privacy	Privacy 1	.742	.099	.000	Valid
	Privacy 2	.805	.099	.000	Valid
	Privacy 3	.797	.099	.000	Valid
Customer Satisfaction	Customer Satisfaction 1	.719	.099	.000	Valid
	Customer Satisfaction 2	.783	.099	.000	Valid

	Customer Satisfaction 3	.776	.099	.000	Valid

Table 3. Reliability Test Results

Variable	Cronbach's Alpha	Description
Efficiency	0.771	Reliable
System Availability	0.644	Reliable
Fullfilment	0.601	Reliable
Privacy	0.681	Reliable
Customer Satisfaction	0.626	Reliable

Table 4. Results of Data Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		274
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.45998853
Most Extreme Differences	Absolute	.031
	Positive	.031
	Negative	-.031
Test Statistic		.031
Asymp. Sig. (2-tailed)		.200

a. Test distribution is Normal.

Table 5. Results of Multiple Linear Regression

Coefficients[a]

			Standardized		

a. Dependent Variable: Y

Classical Assumption Tests

Table 6 indicates that the model does not exhibit multicollinearity. This conclusion is drawn from the multicollinearity test results, where each variable's Variance Inflation Factor (VIF) values are all less than 10. Therefore, it can be concluded that the variables—efficiency, system availability, fulfillment, and privacy—do not display any signs of multicollinearity.

According to the results of the heteroscedasticity test analysis using the Glejser test in Table 4.19, it is evident that the model does not exhibit heteroscedasticity. This conclusion is drawn from the absence of significant values below 0.05.

Table 6. Results of The Multicollinearity Test

Variable	VIF	Results
Efficiency (X_1)	1.729	No multicollinearity
System Availability (X_2)	1.793	No multicollinearity
Fullfilment (X_3)	1.759	No multicollinearity
Privacy (X_4)	1.282	No multicollinearity

Table 7. Results of The Heteroscedasticity Test

Coefficients[a]

			Standardized Coefficien		

Model Accuracy Test Results

The relationship between the quality of electronic services and Grab application customer satisfaction uses a multiple linear regression model. As shown in Table 8, the level of accuracy of the model can be seen from the adjusted R^2 value. Based on Table 8, it is known that the adjusted R^2 value is 0.265, which means that 26.5% of the variation in customer satisfaction can be explained by the four independent variables in this study. In comparison, the remaining 73.5% variation in customer satisfaction is influenced by other variables that are not included in the research model.

Table 8. Model Accuracy Test Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
1	.526[a]	.276	.265	1.471

Hypothesis Testing Results

Hypothesis testing with multiple linear regression analysis aims to assess the impact of efficiency, system availability, fulfillment, and privacy on customer satisfaction. Table 9 presents the results of the hypothesis analysis using the t-test value.

Table 9. t-test Results

Variable	t statistics	t table	Sig.	Results
Efficiency	1.915	1.969	.057	Not supported
System Availability	2.677	1.969	.008	Supported
Fullfilment	4.232	1.969	.000	Supported
Privacy	0.387	1.969	.699	Not supported

According to Table 9, efficiency does not significantly affect customer satisfaction. The results indicate that the t-statistic for efficiency about customer satisfaction is 1.915, with a significance value of 0.057 ($\alpha > 0.05$). This suggests that efficiency does not significantly impact customer satisfaction, so H_1 is not supported. In contrast, system availability significantly affects customer satisfaction. The t-statistic for system availability is 2.677, with a significance value of 0.008 ($\alpha < 0.05$),

indicating a significant impact on customer satisfaction. Consequently, H_2 is supported. Additionally, fulfillment also has a significant effect on customer satisfaction. The t-statistic for fulfillment is 4.232, with a significance value of 0.000 ($\alpha < 0.05$), demonstrating a substantial impact on customer satisfaction. Thus, H_3 is supported. On the other hand, privacy does not significantly affect customer satisfaction. The t-statistic for privacy is 0.387, with a significance value of 0.699 ($\alpha > 0.05$), indicating no significant impact. As a result, H_4 is not supported.

Discussions

The result of the first hypothesis test indicates that efficiency does not significantly impact customer satisfaction with the Grab application. This finding suggests that the role of efficiency in enhancing customer satisfaction is not optimal, making it difficult for users to access the Grab application and find what they need. This finding contrasts with the study by Sheng and Liu (2010), which concluded that efficiency significantly influences customer satisfaction in online trading. However, it aligns with the work of Ma Sabiote et al. (2011), who found that efficiency does not significantly impact customer satisfaction in online purchases of tourism products. Ma Sabiote et al. (2011) highlighted that many internet users reported difficulties using the website, indicating a need for improvements in various aspects such as website structure and language. These elements play a crucial role in enhancing customer satisfaction and ultimately affect the happiness of internet users.

The second hypothesis test results demonstrate that system availability significantly influences customer satisfaction with the Grab application. This finding means that enhancing the system's availability will increase customer satisfaction. This finding is consistent with the empirical study by Surpiyantini et al. (2014), which showed that system availability significantly affects user satisfaction. Akbar and Djatmiko (2016) also found that system availability significantly impacts e-customer satisfaction. The result of the third hypothesis testing shows that fulfillment significantly affects Grab application customer satisfaction, which means that the role of fulfillment in customer satisfaction is substantial. If the Grab application increases the completion of its service promises, then customer satisfaction will increase as well. This result is in line with the empirical study by Sheng and Liu (2010), who found that the fulfillment had a significant effect on online commerce customer satisfaction, and Surpiyantini, et al. (2014), who found that the fulfillment has a substantial impact on user satisfaction of the D'ONE application.

The third hypothesis testing results indicate that fulfillment significantly impacts customer satisfaction with the Grab application. This finding suggests that the role of fulfillment in customer satisfaction is substantial: if the Grab application enhances the completion of its service promises, customer satisfaction is likely to

increase. This finding aligns with the empirical study conducted by Sheng and Liu (2010), which demonstrated that fulfillment significantly affects customer satisfaction in online commerce. Additionally, it corresponds with Surpiyantini et al. (2014), who found that fulfillment considerably impacts user satisfaction with the digital application.

In contrast, the fourth hypothesis testing reveals that privacy does not significantly impact customer satisfaction with the Grab application. This finding implies that the role of privacy in influencing customer satisfaction is less than optimal, indicating that the security and protection of customer information being offered are still lacking. This finding contradicts the empirical study by Fauzi (2018), which established that privacy significantly affects user satisfaction with online transportation services. However, it supports the results of Ha and Stoel (2012), who also found that privacy has no significant effect on customer satisfaction in online shopping. Ha and Stoel (2012) noted that websites targeting online shoppers often fail to uphold adequate privacy standards for ensuring customer security and satisfaction.

Conclusion and Implications

The findings of this study conclude that, among the four components of e-SERVQUAL, system availability and fulfillment have a significant impact on customer satisfaction with the Grab application, while efficiency and privacy do not significantly influence customer satisfaction. Future research could explore additional dimensions of e-service quality influencing customer satisfaction, such as incorporating hedonic factors like pleasure. Researchers should also consider including other variables that may affect customer satisfaction, such as differences in technology adoption, internet access, and socio-economic conditions across various cities in Indonesia. These factors further enhance customer satisfaction with the Grab application. Based on the findings of this study, Grab management should focus on the ongoing maintenance and improvement of its systems. This approach is expected to enhance customer convenience and facilitate smoother transactions within the Grab application, thereby reducing the likelihood of system errors during the transaction process. Additionally, Grab management must ensure the security of customer data by assuring users that their transactions are safe and secure.

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