

The Effect of Service Quality and Ease of Transactions with Discounted Prices as A Mediation Variables on Toll Road Customer Satisfaction at PT Waskita Bumi Wira Ruas Krian – Gresik

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ABSTRACT: This research aims to determine discount prices in mediating the influence of service quality and ease of transactions on toll road customer satisfaction on the PT Waskita Bumi Wira section of the Krian - Gresik section. The survey method in the form of a questionnaire was carried out on respondents from all users of the PT Waskita Bumi Wira toll road for the Krian - Gresik section, which was selected as a sample with a total of 100 respondents taken non-probability using a purposive sampling technique. Filling out the questionnaire is carried out online using the Google Form application. Statistical data analysis was measured using WarpPLS software version 5.0 PLS (Partial Least Square) starting from model measurement (outer model), model structure (inner model) and hypothesis testing. Research findings show that partially service quality and ease of transactions have a significant effect on customer satisfaction. The respondents in this study were customers on the PT Waskita Bumi Wira toll road for the Krian - Gresik toll road. It was researched that the discount price variable was able to mediate the influence of service quality and ease of transactions on customer satisfaction by 69.1% or in other words, the frequency of customer satisfaction with road users. This toll road has quite good performance so that the results of the work, both quantity and quality, achieved by PT Waskita Bumi Wira have created feelings of satisfaction for users of the Krian - Gresik toll road section regarding the expected performance (or results).

KEYWORDS: Discount Prices, Service Quality, Ease of Transactions, Customer Satisfaction

I. INTRODUCTION

The use of toll roads in Indonesia has experienced significant growth. Toll road development in Indonesia began in 1978 with the construction of the first toll road, namely the Jagorawi Toll Road which connected Jakarta, Bogor and Ciawi (BPJT, 2023). Since then, toll road construction has continued with an increase in toll road length and geographical coverage. Various BUMN (State-Owned Enterprises) and private companies are involved in the construction and management of toll roads throughout Indonesia. Factors contributing to this growth include increasing urbanization, increasing people's purchasing power, and the need for better connectivity between cities and regions. For example, in the Java region, especially on the island of Java, toll roads have become the main means of transportation between cities.

Publication of data from PT Jasa Marga (Persero) Tbk (BPJT, 2023) notes that the presence of toll road connectivity has an important role in increasing access for people on 5 islands in Indonesia supported by 57 BUJTs starting from Java Island with a total length of operational toll roads reaching 1,691.87 Km, Sumatra Island is 738.46 Km long, Kalimantan Island is 97.27 Km long, Sulawesi Island is 61.45 Km long, and Bali Island is 10,072 Km long. Until 2022, it has operated for 2,599 kilometers which is divided between 1978-2014 with a total operation of 789.82 km. Then in 2015 - 2019 the total operation was 1,298.2 km, in 2020 the total operation was 246.12 km, in 2021 the total operation was 122.84 km, and in 2022 the total operation was 142.11 km.

The longest toll road sections are on the island of Java, consisting of the Trans Java Toll Road, Jabodetabek Toll Road and Non-Trans Java Toll Road. If combined, the length reaches 1,667.84 km, equivalent to 65% of the total length of national toll roads (<https://bpjt.pu.go.id>, 2022). One of the Krian - Gresik toll road sections is part of the toll road system in Indonesia which connects Krian, a sub-district in Sidoarjo Regency, with Gresik. The Krian - Gresik toll road section is managed by the PT Waskita Bumi Wira Toll Road Business Entity (BUJT) which will provide support to tourism areas in the East Java region so that it can provide easy vehicle access for tourists who come to enjoy all the existing tourism (Richard, 2020). One of the most significant impacts of the Krian - Gresik toll road is increasing community mobility. Before the existence of toll roads, travel between cities often took a long time and was tiring, especially because national roads were often full of traffic jams (Waskita Toll Road, 2023). With the

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presence of the Krian - Gresik toll road, inter-city travel has become faster and more comfortable, allowing people to travel further in a shorter time.

Toll road users on the Krian - Gresik toll road section also experience a significant technological impact. Electronic payment systems such as e-money, toll cards and mobile applications have become popular ways to pay tolls. This makes the payment process faster and reduces congestion at toll gates. Apart from that, technology is also used to monitor traffic and toll road security. Surveillance cameras and traffic monitoring systems are used to monitor toll road traffic and identify traffic violations. This system helps maintain the safety of toll road users and ensures smooth traffic (BPJT, 2023). Toll road users on the Krian - Gresik toll road can also access traffic information and toll road conditions via a mobile application. The app provides real-time information about traffic jams, repairs, and weather conditions. This helps toll road users plan their trips better (KEMENPUPR, 2017).

Although toll roads have provided many benefits, there are also several challenges and problems associated with their use. One of them is toll fees which are often considered expensive by some people. Toll fees can be a financial burden for some people, especially regular toll road users. Congestion around toll gates is also often a problem. During peak hours, long queues at toll gates can make travel slow, erasing some of the time benefits that would otherwise be gained from using toll roads (Ahmad, 2022:1-18). Apart from that, toll road users are also faced with the risk of traffic accidents. Although toll roads are often safer than regular highways, high speeds and heavy traffic can cause serious accidents. Therefore, the role of safety and law enforcement on toll roads is very important (Prasetyo & Djunaedi, 2019: 61-74).

Toll road management and maintenance is also an important issue. Toll roads require regular maintenance to keep them in good condition. This maintenance includes repairing the road surface, insHighing clear traffic signs, and adequate lighting. Poor maintenance can cause damage to toll roads and threaten user safety. Toll road managers need to ensure that traffic remains smooth and reduces congestion. Tariff policies must be fair and appropriate to the services provided. If toll road management is good, toll user satisfaction will increase (Prasetyo & Djunaedi, 2019). Toll road user satisfaction refers to the level of satisfaction and satisfaction of customers who traffic or use toll roads. This is important in maintaining service quality and identifying areas that need to be improved in toll road management (Zuna et al., 2016:562-570). Toll road user satisfaction can be influenced by various factors and aspects, including the physical quality of toll roads, including cleanliness, road surface conditions, and driving comfort, which are important factors in user satisfaction (Putri & Pontan, 2019). On the other hand, the ease of entering and exiting toll roads, as well as the availability and quality of stopping and rest facilities, contribute to user satisfaction (Sihombing, 2018). Responsive customer service, problem resolution, and support for toll road users can have an impact on customer satisfaction (Zuna, 2016). Factors such as environmental cleanliness and efforts to maintain the ecosystem around toll roads can also influence user satisfaction. Ease of efficiency of the toll payment process, availability of electronic payment facilities, and lack of obstacles in transactions can influence user satisfaction (Putri & Pontan, 2019).

In this research, service quality adopts the TRSQ model, a derivative of the customer satisfaction model, SERVQUAL and Minimum Service Standards (SPM), where service quality is the extent to which customers feel information, accessibility, reliability, mobility, security, rest areas and responsiveness when using toll road. Service quality influences the extent to which customers feel satisfied. Excellent service quality is characterized by an organization's ability to meet and even exceed customer expectations. Improving service quality can help increase customer satisfaction, which in turn can have a positive impact on customer loyalty and business success (Muhammad, 2018). By understanding this relationship, companies can take concrete steps to improve service quality and create a more positive experience for customers. Previous research by Alhanani & Santoso (2023), service quality is service provided by someone to another person that can meet or even exceed what is expected by someone who experiences it themselves. Meanwhile, Purwanda & Sayekti (2017), service quality is service with high quality standards and always following developments in customer needs at all times, consistently and accurately (reliably), in providing quality service as an effort to achieve customer satisfaction. From the two previous studies shows a positive relationship between service quality and customer satisfaction. When customers receive responsive, friendly, efficient, and quality service, they are more likely to be satisfied with the customer experience .

The next TAM model in influencing customer satisfaction is the perceived ease of use of transactions. Ease of entry and exit from toll roads, as well as the availability and quality of stopping and rest facilities, contribute to user satisfaction. According to previous research, according to Kurniawati & Azizah (2023), ease of transaction is a level of user expression regarding the effort that has been given or expended to use a system. According to Ishaya et al. (2020), perceived ease of transactions and customer value are important for meeting customer satisfaction, because customers feel transactions with a business are easy to carry out, tend to be more satisfied, are more likely to repeat themselves, and may recommend the business to others. Both previous studies show that there is an influence between ease of transactions and customer satisfaction. This can be done by collecting data from customers who have transacted with a company or organization.

Discounts and price promotions can also affect user satisfaction, especially if users feel that they are getting more value. Price discounts are manifested as efforts to repair and upgrade toll roads and good planning can influence user satisfaction by reducing congestion and disruption (Budiyanto, 2018). Toll road price discounts and promotions aim to create incentives for toll road users,

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reduce congestion, and support various government policy objectives related to transportation. In some cases, these promotions can also help increase toll road revenues by attracting more users. According to Sihombing's dissertation research (2018), toll road managers usually design and communicate these promotions clearly to users through various channels, including websites, billboards and mobile applications. Discounts can be given on certain days, such as weekends or national holidays, to encourage toll road use at certain times. In the case of the Krian – Gresik toll road section (Waskita Toll Road, 2023), applying a discount of up to 35% in each vehicle class fare to encourage and introduce the Krian – Gresik toll road section, that the section connecting Krian and Gresik can speed up travel distances and introduce convenient travel. comfortable and safe.

Previous research shows Adzimah (2021), if customers see discounts as profitable offers, it can increase their satisfaction. However, if customers feel that a discount is just a marketing gimmick or that prices have actually been inflated before the discount is given, it can reduce customer satisfaction, discounted pricing that is thoughtful, transparent, and profitable for the customer will usually increase customer satisfaction. If customers feel that they are getting good value and that the discount is fair, they are more likely to be satisfied with the customer experience.

In further research, discounts act as an intermediary variable that explains how service quality and ease of transactions influence customer satisfaction through the influence of discount prices. Service quality can have a direct influence on customer satisfaction. Service quality includes factors such as responsiveness, reliability, security, ease of access, and empathy that may have a positive impact on customer experience. The better the quality of service, the more likely customers are to feel satisfied. Meanwhile, ease of transactions, such as equipment and technology that makes the transaction process easier, can have a direct influence on customer satisfaction. Good transaction convenience, such as an efficient payment system, modern equipment, and ease of access, can improve customer experience and positively influence customer satisfaction. Discount prices act as a link between ease of transactions and customer satisfaction. This means that when a company applies a discount price in response to the ease of transactions provided to customers, the discount can explain or mediate the effect of ease of transaction on customer satisfaction. To understand whether the application of discount prices mediates the effect of ease of transactions on customer satisfaction, statistical analysis needs to be carried out in further research.

II. LITERATURE REVIEW

Marketing Management

According to Lovelock (2005:36) Marketing is a human activity that aims to satisfy the needs and desires of customers through exchange processes and parties with an interest in the company. According to Sudaryono (2014:220) Ideally, marketing must produce a customer who is ready to buy the product. The goal of marketing is to know and understand customers well so that the product or service meets their needs so that it sells itself. According to Istijanto (2019:111) Marketing management is one of the marketing objectives to plan a new product and select the appropriate market share and introduce new products to consumers. Based on Tjiptono (2020:10) Marketing management also grows customers by creating, delivering and communicating superior customer value. According to Kotler and Keller (2017:201-203) the core concept of marketing management is knowing what and how to do so that marketing can run according to the company's wishes.

Consumer Behavior Theory

According to Kotler and Keller (2017: 111) consumer behavior is the study of how individuals, groups and organizations select, purchase, use and dispose of goods, services, ideas or experiences to satisfy consumer needs and desires. According to Dr. Nugroho J. Setiadi, SE, (2021:132) Consumer studies provide guidance for improving and introducing products or services, setting prices, planning channels, crafting messages, and developing other marketing activities. Based on Butarbutar et al., (2020:111-112) As a marketer, consumer behavior is a guide to truly being driven by the market/consumer (to be market/consumer driven), so it is impossible for a marketer or marketing expert to ignore knowledge. and understanding consumer behavior.

According to Schiffman & Kanuk (2007:80-83), consumer behavior is important, where consumer behavior is a process consisting of several stages, namely: 1) Acquisition stage which consists of searching and purchasing; 2) Consumption stage which consists of using and evaluating; and 3) Post-purchase action stage (disposition), namely what the consumer does after the product is used or consumed. This process can be described as follows.

That the process of consumer behavior is studied in order to better understand what consumers buy, why, where, when and how often they buy. This knowledge is then used to create ways to satisfy/fulfill their needs and create good approaches to communicating and influencing consumers.

Technology Acceptance Model (TAM)

Based on Ajzen (1991:179-211) the Technology Acceptance Model (TAM) is an adaptation theory of TRA (Theory of Reasoned Action) which was previously introduced by Ajzen and Fishbein in 1980 and proposed by Davis in 1989. TAM is useful for used as a research model in predicting the use and acceptance of information systems and technology by individual users. According to Bregashtian & Herdinata (2021:169-183), with the addition of the price saving benefit variable, the TAM model can be used to

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understand acceptance with the aim of designing interventions targeted at users who may be less likely to accept and use a technology.

Toll Road Service Quality

Based on Zuna et al., (2016:562-570) Toll Road Service Quality (TRSQ), which is further translated as toll road service quality, is a term that refers to the level of service provided on toll roads. Toll roads, which are often characterized by limited access and fee-based systems, require high service standards to meet user expectations and ensure customer satisfaction. As explained. According to Hendaro et al. (2021: 207-220) Efficient traffic flow, proper lane management, and effective congestion control measures provide smooth travel for toll road users. Adequate signage, clear lane markings and a responsive traffic management system enhance the overall experience and ensure users can navigate the toll road with ease. Safety measures are an integral part of TRSQ, including a range of features designed to protect road users. Well-lit roads, prominent signage indicating speed limits and directions, and the availability of emergency services all contribute to a sense of safety for those using toll roads. Safety considerations extend not only to the road itself but also to the design and layout of the toll booths, ensuring that these areas are designed with user safety as a priority.

Service quality

Based on Nur (2017:72-78) Service quality is a concept that refers to standards in providing services to customers or consumers. Based on Afrizal, et al., (2023:178) Service quality includes various elements and aspects that must be fulfilled in order to provide an extraordinary and satisfying service experience for customers. Based on Alhanani & Santoso (2023:397-403) Service quality aims to meet and even exceed customer expectations, thereby creating a strong and positive relationship between the company and customers. Based on Purwanda & Sayekti (2017:27-34) Service quality includes the ability of an organization or service provider to respond quickly to customer needs, requests or problems. Service quality means ensuring that customers do not have to wait too long or experience excessive inconvenience.

Based on Xiao & Goulias (2022:170-185) The focus on service quality is creating usefulness and can also be interpreted as usability. Usefulness in the TAM model is defined as the extent to which a person believes that using a technology will improve his work performance. Based on Irvania et al., (2022:622-630) Usefulness is the benefit expected by information technology users in carrying out their duties. Measurement of these benefits is based on frequency of use and diversity of applications being run.

Based on Bregasthian & Herdinata (2021:169-183) Usefulness has been proven to have an effect or influence on interest through two causal paths, namely: a direct effect on interest and an indirect effect on interest through the perception of perceived usefulness. Adopting the TRSQ theory in the journal Zuna et al. (2016:562-570) is used as a measurement of services provided on roads as infrastructure. As in this research study, toll roads as a research object are in line with the TRSQ theory which includes various factors that contribute to the overall experience and satisfaction of users when using toll roads. From the physical condition of road infrastructure to safety measures, technological innovation, customer service, aesthetics, payment options and environmental considerations, every aspect plays a key role in shaping TRSQ. TRSQ is based on 2 (two) customer satisfaction models, SERVQUAL and Minimum Service Standards (SPM) used to modify the TRSQ model. SERVQUAL is the main frame of reference used in addressing the concept of service quality. Using the SERVQUAL method to measure the quality of toll road services. These dimensions were developed from SERVQUAL, namely real dimensions and reliability, Internet accessibility and services, reliable employees and services, bus features, rest homes and on-board services, employee competence and responsiveness, and post-transportation services. Furthermore, these dimensions are safety, sustainable service, comfort, affordability, reliability and driver behavior.

Ease of Transactions

Based on Tahar et al., (2020:537-547) Ease of use can be understood as something that is liked or desired as the basis for something that is considered useful or contains elements of usefulness. Based on Bregasthian & Herdinata, (2021:169-183) Adopting the TAM model which uses convenience as one of the variables, technology, both software and hardware, must also have ease of use, that the technology has a system that can be controlled or easily applied by users without spending efforts that are considered burdensome. Based on Xiao & Goulias, (2022: 170-185) On the other hand, ease is also understood as the level to which users believe that technology can be easily understood. Users feel that the ease of using an information technology system will create a feeling in them that the system is useful, and therefore create a feeling of comfort when working. However, to the contrary, a system that is difficult to control will provide a negative level of convenience. According to Bregasthian & Herdinata (2021:169-183), users' ease in using technology is influenced by several factors, including the user's experience of using similar technology. Second, the use of technology is easy to learn, easy to control, clear and easy to understand, flexible, easy to become skilled. Lastly, the reputation of the technology obtained by the user. A good reputation heard by users will encourage user confidence in the user-friendliness of the technology.

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A new technology will be perceived as easy if the system is said to be easy to understand, easy to use, easy to reach, and practical to use. As in this study, ease of transactions focuses on elements which, if drawn, are correlated with electronic money. The convenience offered by electronic money (e-money) products can have an impact on increasing users. When a product provides convenience in everyday life, it is likely that the product will be used by the wider community .

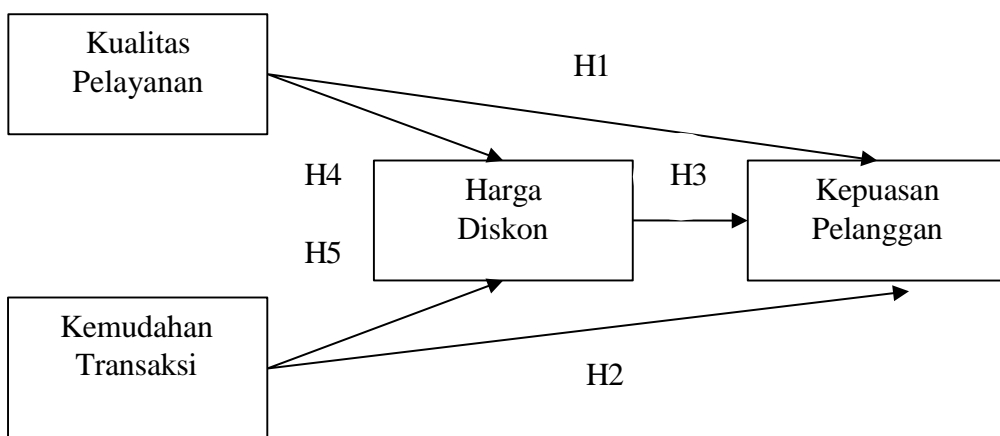
Discount Price

Based on Tjiptono (2020:222) Price shapes consumers' product perceptions in order to influence product sales and demand. Based on Kotler & Keller (2017:334-335) Price is the amount charged for a product or service. Setting product prices is based on demand for a product, costs involved, consumers' ability to pay, prices charged by competitors for similar products, government restrictions, and so on. According to Astuti (2020:33-34), price measurements or dimensions include the suitability of price to product quality. Second, price competitiveness is the price offers tried by different industries and competing with those offered by other industries for the same type of product. Third, suitability of price to efficacy, is the price setting attempted by the industry that is appropriate to the efficacy that consumers can obtain from the product purchased.

Customer satisfaction

Based on Tjiptono (2020:220-221), the definition of satisfaction refers to the definition of pleasant emotions that are positive. Satisfaction occurs when a desire or need is met or when a person has nothing to complain about and has achieved a difficult goal. Based on Butarbutar et al., (2020:111) a person feels satisfied with achievement, recognition, discovery and service. For example, someone can feel job satisfaction when they like their job. Based on Kotler & Keller (2017: 101-102) In the context of marketing management, the satisfaction response process is aimed at the perceived difference in evaluation between expectations and the actual performance of the product after the goods or services are consumed. Based on Istijanto (2019:20-21) Customer satisfaction is the initial factor that influences customers' intensity in making repeat purchases to be higher. According to Lovelock (2005:2-3) Customer satisfaction is also a person's feeling of happiness or disappointment that arises after comparing the performance results (results) of the product in mind against the expected performance (or results).

III. CONCEPTUAL FRAMEWORK



Picture 1. Conceptual Framework

Hypothesis:

H1: Effect of service quality on customer satisfaction

H2: Effect of ease of transactions on customer satisfaction

H3: Effect of discount prices on customer satisfaction

H4: The role of discount prices in mediating the effect of service quality on customer satisfaction

H5: The role of discount prices in mediating the effect of transaction ease on customer satisfaction

IV. RESEARCH METHODS

This research methodology is based on measurements and statistics to test hypotheses and answer research questions. The quantitative research in this study can provide valuable insight into toll road users in Indonesia, enabling more informed decision making on the influence of discount prices in mediating the influence of service quality and ease of transactions on customer satisfaction.

Population and Sample

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The population in this study was limited to toll road users on the PT Waskita Bumi Wira Krian - Gresik section. The population of toll road users is 16,075 on average from September 2023 data according to data from PT Waskita Bumi Wira for the Krian - Gresik section. The sample for this research was a population of 16,075 toll road users, where the sampling technique was carried out using purposive sampling. The purpose of using this method is that the sample criteria obtained are truly in accordance with the research to be conducted. The sample in this study was taken using the Slovin formula (Sugiyono, 2018:23-24) as follows.

$$n = \frac{N}{N \cdot d^2 + 1}$$

$$n = \frac{16.075}{16.075 \cdot (0,1)^2 + 1}$$

$$n = \frac{16.075}{161,75}$$

$$n = 99,3 \approx 100$$

So, the number of sample members of toll road users at PT Waskita Bumi Wira for the Krian - Gresik section is 100 respondents.

Data collection

The data in this research comes from primary data, namely research data sources obtained directly from toll road users at PT Waskita Bumi Wira for the Krian - Gresik section. Data collection was carried out using a survey method, namely by directly distributing a list of statements in the form of a closed questionnaire which will be filled out by users of the Krian - Gresik toll road section. Filling out the questionnaire is carried out online using the Google Form application. After the survey form is distributed, respondents or samples are asked to fill in the Google Form that has been designed. Researchers used WhatsApp to search for respondents. The researcher then edited the data to provide clarification, readability, consistency and completeness of the data after the data was collected.

V. RESEARCH RESULTS AND DISCUSSION

Descriptive Analysis of Research Variables

Validity Analysis

The results of descriptive statistical tests between variables were obtained by calculating the magnitude of the index value, namely by determining the magnitude of the score value mapped to a range of scales by considering interval information. This interval scale will produce a score of 1 (one) to 5 (five), from very low to very high. Then, to categorize the average respondent's answer, an interval scale was created which was calculated from the highest score minus the lowest score divided by five, obtaining an interval for the category of 0.80, thus the respondent's answer category was determined based on a semantic differential scale with the categories very low, low, medium, high, very high

Table 1.
Descriptive Analysis of Research Variables

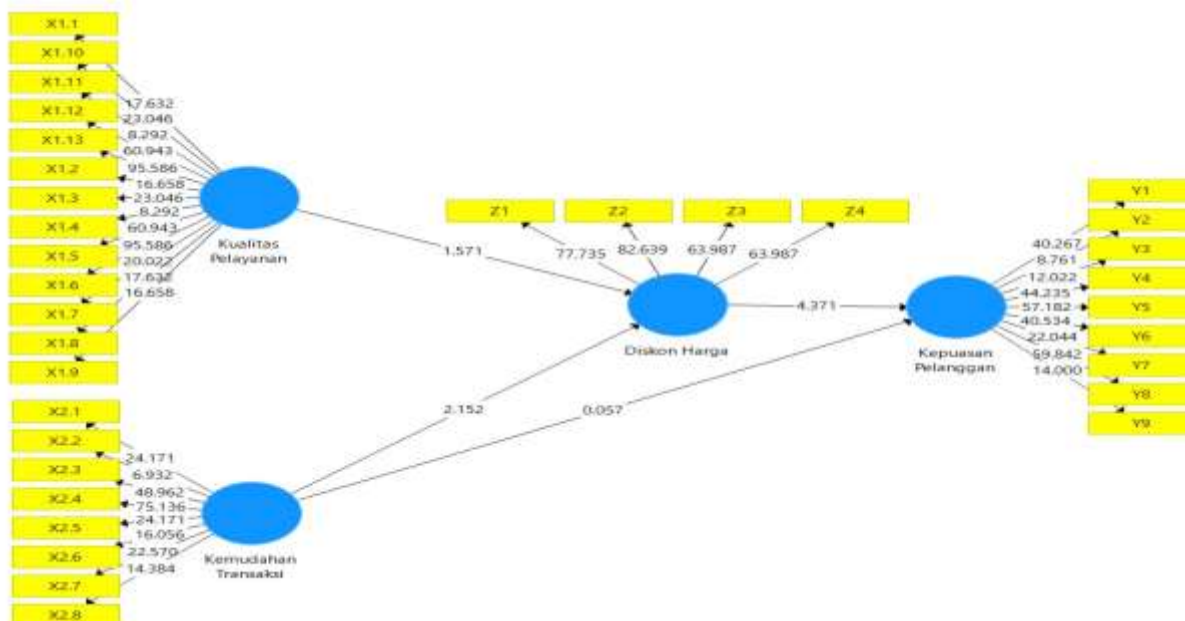
Service Quality (X1)	Average (Mean)	Std. dev	Category
X1.1	4.45	,500	High
X1.2	4.42	,496	High
X1.3	4.51	,502	High
X1.4	4.50	,522	High
X1.5	4.58	,496	High
X1.6	4.44	,499	High
X1.7	4.52	,502	High
X1.8	4.42	,496	High
X1.9	4.51	,502	High
X1.10	4.50	,522	High
X1.11	4.58	,496	High
X1.12	4.44	,499	High
X1.13	4.52	,502	High
Ease of Transaction (X2)	Average (Mean)	Std. dev	Category
X2.1	4.45	,500	High
X2.2	4.42	,496	High
X2.3	4.51	,502	High
X2.4	4.50	,522	High

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X2.5	4.58	,496	High
X2.6	4.44	,499	High
X2.7	4.52	,502	High
X2.8	4.42	,554	High
Discount Price (Z)	Average (Mean)	Std. dev	Category
Z.1	4.49	,559	High
Z.2	4.48	,643	High
Z.3	4.56	,556	High
Z.4	4.56	,556	High
Customer Satisfaction (Y)	Average (Mean)	Std. dev	Category
Y.1	4.58	,638	High
Y.2	4.35	,783	High
Y.3	4.55	,702	High
Y.4	4.60	,667	High
Y.5	4.67	,604	High
Y.6	4.72	,637	High
Y.7	4.54	,558	High
Y.8	4.54	,558	High
Y.9	4.81	,486	High

Data analysis

Based on the results of data processing using Partial Least Square (PLS) analysis through the SmartPLS program, as visualized, a path diagram was obtained showing the influence or causal flow between discount price variables mediating the influence of service quality and ease of transactions on customer satisfaction.



Picture 2
Partial Least Square (PLS) Structural Model

Outer Model Evaluation

Convergent Validity

The indicator requirement is said to meet convergent validity if it has an outer loading value of >0.5 (considered good). Based on the results of PLS processing, the outer loading value for each indicator in the discount price variable mediates the influence of service quality and ease of transactions on customer satisfaction .

Validity

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D discriminant validity in the dimensions of the discount price variable in mediating the influence of service quality and ease of transactions on customer satisfaction is that it has met the requirements for an AVE value above 0.5 or in other words the indicators for these variables have met the discriminant validity value well.

Table 2
Discriminant Validity Value

	AVE
Discount Price (Z)	0.675
Customer Satisfaction (Y)	0.509
Service Quality (X1)	0.592
Ease of Transaction (X1)	0.512

Composite Reliability

Based on the PLS test results for the composite reliability value in Table 3, from the dimensions of the discount price variable in mediating the influence of service quality and ease of transactions on customer satisfaction, the value has met the requirements, namely more than 0.6 or in another sense it can be concluded that each variable has meets the composite reliability value requirements.

Table 3
Composite Reliability Value

	Composite Reliability
Discount Price (Z)	0.675
Customer Satisfaction (Y)	0.509
Service Quality (X1)	0.592
Ease of Transaction (X1)	0.512

Cronbach Alpha

Based on the PLS test results for the Cronbach Alpha value in Table 4 of the dimensions of the discount price variable in mediating the influence of service quality and ease of transactions on customer satisfaction, the value meets the requirements, namely more than > 0.6 or in another sense it can be concluded that each variable has met the reliability value requirements.

Table 4
Cronbach Alpha value

	Cronbach's Alpha
Discount Price (Z)	0.839
Customer Satisfaction (Y)	0.702
Service Quality (X1)	0.777
Ease of Transaction (X1)	0.787

Inner Model Evaluation

R-square value

Based on Table 5, it can be explained that the R-square value for each variable, namely discount prices (0.296) and customer satisfaction (0.691). This value means that the toll road discount price on PT Waskita Bumi Wira for the Krian - Gresik section is 29.6% or in other words, the frequency of discount prices for toll roads on the PT Waskita Bumi Wira section for the Krian - Gresik section is considered to have a fairly good price. so that repair and improvement efforts as well as good planning can consistently influence user satisfaction.

Apart from that, toll road customer satisfaction at PT Waskita Bumi Wira for the Krian - Gresik section is 69.1% or in other words, the frequency of customer satisfaction for toll road users includes performance that is quite good so that the work results are both quantity and quality achieved by PT Waskita Bumi Wira has fostered feelings of satisfaction among users of the Krian – Gresik toll road section regarding the expected performance (or results).

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Table 5
R-square value

	R Square
Discount Price (Z)	0.296
Customer Satisfaction (Y)	0.691

Hypothesis testing

In order to test the hypothesis, this research must meet the requirements for acceptance if the calculated t value (t-statistic) > t-table at an error rate (α) of 5%, namely 1.96. Based on the SPSS test results, the path coefficient values (original sample estimate) and calculated t values (t-statistics) in the inner model are as follows.

Table 6
Path Coefficient and t-count values

	Original Sample (O)	Sample Mean (M)	Standard Error (STERR)	T Statistics (O/STERR)	P Values	Conclusion
Discount Price (Z) -> Customer Satisfaction (Y)	0.304	0.304	0.047	6,493	0,000	Significant
Service Quality (X1) -> Discount Price (Z)	0.544	0.545	0.049	11,032	0,000	Significant
Service Quality (X1) -> Customer Satisfaction (Y)	0.626	0.627	0.038	12,269	0,000	Significant
Ease of Transaction (X2) -> Discount Price (Z)	0.526	0.327	0.038	16,119	0,000	Significant
Ease of Transaction (X2) -> Customer Satisfaction (Y)	0.866	0.427	0.538	16,269	0,000	Significant

- The effect of service quality (X1) on customer satisfaction (Y)** is 0.626 with a t-count value of 12.269 which is greater than the t-table value of 1.96. This means that service quality has a significant positive effect on customer satisfaction.
- The effect of ease of transaction (X2) on customer satisfaction (Y)** is 0.866 with a calculated t-value of 16.269 which is greater than the t-table value of 1.96. This means that ease of transactions has a significant positive effect on customer satisfaction.
- The effect of the discount price variable (Z) on customer satisfaction (Y)** is 0.304 with a t-count of 16.269 which is greater than the t-table value of 1.96. This means that the discount price variable has a significant positive effect on customer satisfaction.
- Discount prices (Z) in mediating the influence of service quality (X1) on customer satisfaction (Y)** are shown by a value of 0.544 with a t-count of 11.032 which is greater than the t-table value of 1.96. In other words, discount prices mediate the influence of service quality on customer satisfaction which is proven, so it can be accepted as true.
- Discount prices (Z) in mediating the effect of ease of transactions (X2) on customer customer satisfaction (Y)** are shown by a value of 0.526 with a t-count of 16.119 which is greater than the t-table value of 1.96. In other words, discount prices mediate the effect of transaction ease on customer satisfaction, which is proven, so it can be accepted as true.

VI. CONCLUSIONS

Based on the presentation of the analysis of test results and research discussion, the conclusions in this research can be described as follows:

- Service quality has a significant positive effect on customer satisfaction. This means that the higher the quality of toll road services at PT Waskita Bumi Wira for the Krian - Gresik section, the more significant positive influence it will have on customer satisfaction.

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2. Ease of transactions has a significant positive effect on customer satisfaction. This means that the higher the ease of toll road transactions at PT Waskita Bumi Wira for the Krian - Gresik section, the more significant positive influence it will have on customer satisfaction.
3. Discount prices have a significant positive effect on customer satisfaction. This means that the higher the toll road discount price at PT Waskita Bumi Wira for the Krian - Gresik section, the more significant the positive influence it will have on customer satisfaction.
4. Discount prices mediate the influence of service quality on customer satisfaction. This means that the higher the discount price on service quality, the more significant positive influence it will have on customer satisfaction. In this context, the application of discount prices acts as a mediator variable that connects service quality with customer satisfaction.
5. Discount prices mediate the effect of ease of transactions on customer satisfaction. This means that the higher the discount price on the ease of transactions, the more significant positive influence it will have on customer satisfaction. In this context, discounting acts as an intermediary variable that explains how ease of transaction influences customer satisfaction through the effect of discounts .

RECOMMENDATIONS

In line with the research results presented in the conclusion above, suggestions for further research are as follows:

1. Respondents in this study are toll road users/drivers, in distributing questionnaires using Google Form it is very difficult to use link distribution, it is recommended that further research in distributing questionnaires use barcode scanning.
2. In this research, we only examine one toll road section, namely PT Waskita Bumi Wira, Krian - Gresik Section, it is recommended to expand the research object for comparative data between one place and another.

REFERENCES

- 1) Adzimah, SK (2021). The Effect of Discount Prices and Promotions on Customer Loyalty with Customer Satisfaction as Mediator. *Journal of Physics A: Mathematical and Theoretical*, 44(8).
- 2) Afrizal, SAAFFNRFMA (2023). *Entrepreneurship in the era of society 5.0*. Publica Indonesia Utama.
- 3) Ahmad, F. greetings. (2022). Impact of Trans Java Toll Road Construction on Economic Growth in Central Java. *Journal of Economics and Development Policy*, 11(1). <https://doi.org/10.29244/jekp.11.1.2022.1-18>
- 4) Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2). [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- 5) Alhanani, G., & Santoso, B. (2023). The Impact of Excellent Service on Customer Satisfaction at Strawberry Salon. *Journal of Research and Development in Science and Humanities*, 6(3). <https://doi.org/10.23887/jppsh.v6i3.55025>
- 6) Astuti, M. (2020). MSME Marketing Management and Digital Social Media. In BUDI UTAMA CV Publishing Group.
- 7) BPJT. (2023, November 02). History of Toll Roads. Retrieved from <https://bpjt.pu.go.id/konten/jalan-tol/wisata>
- 8) Bregashtian, B., & SE, MM, CFP2, Dr. CH (2021). The Effect of Perceived Ease of Use, Usefulness and Risk on Intention to Use the Go-Food Application in Surabaya and Sidoarjo. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v5i5.8807>
- 9) Budiyanto, E. (2018). The Influence of Price Perceptions, Price Discounts, and Service Quality on Consumer Satisfaction at Giant Supermarket Rungkut Surabaya. *Economics*, 03(01).
- 10) Butarbutar, M., Putra, AHPK, T Nainggolan, N., Sudarso, & Andriasan. (2020). *Marketing Management: Theory and Development*. In West Nusa Tenggara: Youth Forum.
- 11) Dr. Nugroho J. Setiadi, SE, MM (2021). *Contemporary Perspectives on Consumer Motives, Goals, and Desires*, Third Edition. In *Consumer Behavior*.
- 12) Ghozali, I. (2021). *Partial Least Squares, Concepts, Techniques, and Applications Using the SmartPLS 3.2.9 Program for researchers*. In Diponegoro University (Vol. 3).
- 13) Hendarto, S., Simorangkir, CO, Ayuningtyas, KNS, & Prakoso, AD (2021). Evaluation of the Performance of Services Provided on the Trans-Java Toll Road Based on the Perceptions of Logistics Transport Truck Drivers. *Journal of Civil Engineering*, 28(2). <https://doi.org/10.5614/jts.2021.28.2.10>
- 14) Hermawan, I., & Hamonangan Aruan, DT (2023). Technology of Acceptance Systems of Toll Roads Payment: Comparison of E-Toll Payment System and MLFF Technology of Trans Sumatra Toll Road. *International Journal of Engineering Business and Social Science*, 1(05). <https://doi.org/10.58451/ijebss.v1i05.81>
- 15) *IJournal of Study and Management Research*, 14(2). <https://doi.org/10.55916/smart.v14i2.22>
- 16) Irvania, VA, Bagus Nyoman Udayana, I., & Fadhilah, M. (2022). The influence of perceived usefulness, trust and perceived risk on shopee users' purchase intention. *Acmenical Journal*, 19(1).

The Effect of Service Quality and Ease of Transactions with Discounted Prices as A Mediation Variables on Toll Road Customer Satisfaction at PT Waskita Bumi Wira Ruas Krian – Gresik

- 17) Ishaya, SR, Wibowo, EW, & Yoeliastuti, Y. (2020). Analysis of the Influence of Perceived Ease of Transactions and Customer Value on Passenger Satisfaction on Jakarta's Integrated Mode Train (MRT). *Business Lantern Journal*, 9(1). <https://doi.org/10.34127/jrlab.v9i1.350>
- 18) Istijanto. (2019). Practical Applications of Marketing Research: Practical Ways to Research Consumers and Competitors. In Gramedia Main Library.
- 19) MINISTRY OF PUPR. (2017, September 26). The Government Continues to Socialize the Benefits and Benefits of Elektronik Money on Jalan Tol. Retrieved from <https://pu.go.id/berita/gov-terus-socialization-besar-dan-besar-uang-elektronik-di-jalan-tol>
- 20) Kotler, P., & Kevin Lane Keller. (2017). Marketing Management. In Marketing Management volumes I & II.
- 21) Kurniawati, V., & Azizah, N. (2023). The Influence of Information Quality, Service Quality, and Ease of Transactions on Customer Satisfaction with Security Intervening Variables. *Journal of Management & Business*, 6(1).
- 22) Lovelock, C. (2005). *Services Marketing An Asian Perspective*. Jakarta : Erlangga. Muhammad, M. (2018). *Excellent Service Management*. Yogyakarta: Graha Ilmu. Murjani. (2022). Quantitative Research Procedures. *Cross-Border*, 5(1).
- 23) Mulia, H., & Gunawan, G. (2023). Impact of Promotion and Perception of Convenience on Decisions to Use Electronic Wallets. *Marketgram Journal*, 1(1).
- 24) Nur, M. (2017). Excellent Service Quality at PT PLN (Persero) South Makassar Rayon. *Office Journal*, 3(1). <https://doi.org/10.26858/jo.v3i1.3501>
- 25) Prasetyo, SA, & Djunaedi, A. (2019). Changes in Regional Development Before and After Toll Road Construction. *Sukowati Research and Development Journal : Research and Development Media* , 3(1). <https://doi.org/10.32630/sukowati.v3i1.98>
- 26) Purwanda, E., & Sayekti, P. (2017). The Influence of Excellent Service on Work Unit Satisfaction within the Bandung State Treasury Services Office
- 27) Putri, D., & Pontan, D. (2019). Identify the Level of Toll Road User Satisfaction with Toll Road Conditions. *Proceedings of the 5th National Scholars Seminar*.
- 28) Richard, M. (2020, November 28). Krian-Legundi-Bunder-Manyar Toll Road Section Starts Operating Today. Retrieved from <https://Ekonomi.bisnis.com/read/20201128/45/1323758/ruas-tol-krian-legundi-bunder-manyar-start-operating-hari-This>
- 29) Sabar, N., Nirwana, T., & Riduan, T. (2021). Marketing Management Practical Approach with Expert Theories. In *Practical Approaches with Expert Theories (Vol. 2)*.
- 30) Sarstedt, M., & Christian M. Ringle, and J. F. H. (2017). Partial least squares structural equation modeling with R. In *Practical Assessment, Research and Evaluation (Vol. 21, Issue 1)*.
- 31) Schiffman, L., & Kanuk, L.L. (2007). *Consumer Behavior Second Edition*. PT. Scholastic Index, 1.
- 32) Sihombing, LB (2018). Development of a Toll Road Funding Model with Deep Discount Project Bond Danland Lease in Indonesia. Dissertation: Doctoral Degree in Civil Sciences at the Faculty of Engineering, University of Indonesia.
- 33) Siregar, S. (2013). *Quantitative Research Method : Equipped with a comparison of manual calculations and SPSS / Syofian Siregar*. In Jakarta Kencana Prenada Media Group.
- 34) Sudaryono. (2014). *Consumer behavior*. Jakarta: Gramedia Pustaka Utama
- 35) Sugiyono. (2018). *Quantitative Qualitative Research Methods*. Jakarta: Alfabeta.
- 36) Tahar, A., Riyadh, HA, Sofyani, H., & Purnomo, WE (2020). Perceived ease of use, perceived usefulness, perceived security and intention to use e-filing: The role of technology readiness. *Journal of Asian Finance, Economics and Business*, 7(9). <https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.537>
- 37) Tjiptono, F. (2020). *Marketing Strategy Principles and Applications*. Jakarta: Gramedia Pustaka Utama.
- 38) Wangsadinata, R., Geraldine, CN, & Aprillia, A. (2021). The Influence of Technology Acceptance Model (Tam), Perceived Enjoyment, and Perceived Risk on Behavioral Intention. *JMP Journal of Hotel Management*, 7(2).
- 39) Waskita Toll Road. (2023, November 02). Retrieved from <https://www.wtr.co.id/id/portfolio/krian-legundi-bunder-manyar/>
- 40) Xiao, J., & Goulias, K. G. (2022). Perceived usefulness and intentions to adopt autonomous vehicles. *Transportation Research Part A: Policy and Practice*, 161. <https://doi.org/10.1016/j.tra.2022.05.007>
- 41) Zuna, H.T. (2016). Determining Priority Toll Road Service Attributes Using a Customer Experience Approach. *HPJI Journal*, 2(1).
- 42) Zuna, HT, Hadiwardoyo, SP, & Rahadian, H. (2016). Developing a model of toll road service quality using an artificial neural network approach. *International Journal of Technology*, 7(4). <https://doi.org/10.14716/ijtech.v7i4.2612>