FACTORS AFFECTING CUSTOMER SATISFACTION THROUGH PURCHASE DECISION AS AN INTERVENING VARIABLE
(case study on PT. Kereta Api Indonesia Daop 4 Semarang)

FAKTOR –FAKTOR ANTESEDEN KEPUASAN PELANGGAN MELALUI KEPUTUSAN PEMBELIAN SEBAGAI VARIABEL INTERVENING
(studi kasus pada PT. Kereta api indonesia Daop 4 semarang)

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ABSTRACT
This study aims to analyze the influence of product quality, brand image, and promotion on customer satisfaction, both directly and indirectly through purchase decisions as a mediating variable, among users of railway transportation services in Semarang City. A quantitative approach was employed, using regression analysis and mediation testing through the Sobel test. The results indicate that brand image and promotion have a positive and significant effect on both purchase decisions and customer satisfaction. In contrast, product quality does not have a significant effect on either purchase decisions or customer satisfaction. Purchase decisions are proven to significantly mediate the relationship between brand image and promotion on customer satisfaction but do not mediate the effect of product quality on customer satisfaction. These findings suggest that positive perceptions of brand image and effective promotional strategies are key factors in driving purchase decisions and enhancing customer satisfaction in the railway transportation sector. This study provides strategic implications for PT KAI in designing more customer-oriented marketing and service approaches.
Keywords: *product quality, brand image, promotion, purchase decision, customer satisfaction*
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ABSTRAK
Penelitian ini bertujuan untuk menganalisis pengaruh kualitas produk, citra merek, dan promosi terhadap kepuasan pelanggan, baik secara langsung maupun tidak langsung melalui keputusan pembelian sebagai variabel mediasi, pada pengguna jasa transportasi kereta api di Kota Semarang. Penelitian ini menggunakan pendekatan kuantitatif dengan teknik analisis regresi dan uji mediasi menggunakan uji Sobel. Hasil penelitian menunjukkan bahwa citra merek dan promosi berpengaruh positif dan signifikan terhadap keputusan pembelian dan kepuasan pelanggan. Sebaliknya, kualitas produk tidak berpengaruh signifikan terhadap keputusan pembelian maupun kepuasan pelanggan. Keputusan pembelian terbukti menjadi variabel mediasi yang signifikan dalam hubungan antara citra merek dan promosi terhadap kepuasan pelanggan, namun tidak memediasi hubungan antara kualitas produk dan kepuasan pelanggan. Temuan ini menunjukkan bahwa persepsi positif terhadap citra merek dan promosi yang tepat menjadi faktor kunci dalam mendorong keputusan pembelian dan meningkatkan kepuasan pelanggan jasa kereta api. Hasil ini memberikan implikasi strategis bagi PT KAI dalam merancang pendekatan pemasaran dan pelayanan yang lebih berorientasi pada persepsi pelanggan.
Kata kunci: kualitas produk, citra merek, promosi, keputusan pembelian, kepuasan pelanggan

INTRODUCTION
Transportation has become a primary necessity in daily life. Without transportation, humans will be hindered in carrying out their activities. In facing the increasingly tight competition in the transportation service business, a more rational long-term choice is to improve the quality of the services provided. Companies that can provide services

with very high quality have a great opportunity to attract customers who are willing to pay a little more (Hariwibowo, 2024).

Trains are an effective mass transportation mode for both long and short distances and can meet the basic needs of humans by facilitating and accommodating all economic and social activities. Compared to other modes of transportation, trains can carry large amounts of cargo and also transport a significant number of passengers. PT. Kereta Api Indonesia has recorded a year-on-year increase in passenger growth. According to the annual report of PT. Kereta Api Indonesia in 2015, the number of train passengers was recorded at 327 million people who traveled using the train (Sari, 2019).

The high public interest in the train mode of transportation is due to its excellent level of service. However, despite the good public interest in trains, their capacity is still lacking (Dephub.go.id 2017). If the passenger capacity increases but the facilities at the station remain the same, it will lead to longer queues and a decline in service quality. Semarang Tawang Station is a major station that serves as a boarding and alighting point for passengers of all classes of trains, including economy, business, and executive classes. With the high demand, it necessitates a service standard from the train service providers. One of the indicators of this service standard is the performance of the train service providers, both in terms of infrastructure (stations) and rolling stock(trains). The government has issued several regulations regarding service standards at stations, namely the Minister of Transportation Regulation No. 48 of 2015 on minimum service standards for passenger transport by train and the 2012 station standardization guidelines. Every operation of a train

must meet the minimum service standards, which serve as a reference for railway infrastructure operators who operate trains in providing services to passengers at train stations and for railway facilities that conduct passenger transport activities by train. Public transportation is provided in an effort to meet transportation needs. The availability of transportation is the responsibility of the government as an effort to improve internodal and interregional connectivity (Hastrina et al., 2017).

Modernization is an era that is disrupted in almost all aspects of community life, with a shift in societal behavior from conventional to online behavior, also known as digitization. The use of smartphones, which has been increasing significantly every year, drives business patterns based on information technology (Khristianto, 2011). This encourages innovation in the transportation sector to also engage in transportation. The result of this innovation encourages a shift in customer behavior from conventional to online, also known as digital (Flores & Rayle, 2017). The comfort of service facilities and the ease of ordering online transportation services are factors that drive the shift of customers from conventional to modern (Tresia et al., 2018). PT Kereta Api Indonesia (Persero), which was inaugurated in 1988, has undergone several name changes along with service improvements. The presence of this transportation service cannot be separated from the rapid development of technology and information, where almost all activities can ultimately be carried out effectively. One of the reasons for the emergence of this transportation is also the increasingly developed services provided by service providers; many people use train

transportation because of its excellent and fast service.

The presence of PT. Kereta Api Indonesia (Persero) as an online transportation service provider in implementing digital technology, where the public needs transportation that can be a solution to traffic congestion and cost efficiency, indicates a large number of users. Therefore, it is necessary to research the important aspects that contribute to customer satisfaction, one of which is by providing excellent service to customers. One of them is by providing excellent service to customers. Where the quality of service will foster customer satisfaction, as demonstrated by PT. Kereta Api Indonesia (Persero) (Apriyani & Mahmudi, 2019).

In service products, customer perception is directly associated with the company through the brand, assuming that the perception of risk remains the same regardless of the credibility of each e-commerce platform (Mulia, 2019). Therefore, the brand of a service company becomes very important, especially in facing competition, considering the intangible nature of services, where customers perceive that they are essentially buying the brand of the company. Thus, the brand image of a service company is very crucial.

The dynamics of service business competition today require every company operating in this field to constantly implement various strategies to win over customers. Customer satisfaction is a very important factor for the existence, sustainability, and development of a company (Sianipar, 2019). This is believed to be the key to winning the competition, and it can be addressed by providing value and satisfaction to customers through service quality and the utilization of information technology. This online transportation service provider must retain its users by

maximizing service to them so that they feel the benefits of using it. This attribute requires the quickest attention, and its significant improvement will enhance customer satisfaction (Justitia et al., 2019).

The railway system in Indonesia is managed by the public transportation company PT. Kereta Api Indonesia (persero), or more commonly known as PT. KAI. As one of the largest state-owned enterprises (BUMN) in Indonesia, PT KAI has been appointed by the government to be responsible for increasing the capacity to transport passengers and goods in Indonesia while prioritizing excellent service. Additionally, in the field of rail-based transportation, PT KAI plays an important role as a solution to the congestion of land transportation in Indonesia.

In the rapidly evolving digital era, PT KAI is aware of the importance of technological advancements by developing and launching various innovations to meet the needs and expectations of its customers. One of its latest innovations is the development of the KAI Acces application. KAI Acces is the official train ticket sales application from PT Kereta Api Indonesia (Persero) that not only provides train ticket sales services but also has various additional features for the convenience and comfort of KAI customers (Magfiroh, 2019). Sharing information about activities such as ticket purchases, train schedules, printing e-tickets or e-boarding passes, as well as other services and information can be viewed on this application, and providing feedback on the services offered. With the development of the conventional ticketing system into this e-ticketing system, it is hoped that it will make it easier for train customers to book train tickets. According to Hanna in (Hanna, 2022), an electronic ticket (e-

ticket) is a paperless electronic document used for ticketing purposes, such as plane tickets or concert tickets. E-tickets are stored in a database and can be printed anywhere or shown on a smartphone during boarding. Due to its practicality, cost-effectiveness, and eco-friendliness, this e-ticket is becoming increasingly popular all over the world. Another advantage is that there is no possibility of losing seats or flight access cards because of paper tickets. Whereas according to Depari, e-ticketing or electronic ticket is a method in the transaction process to pay for travel activities without cash, and all information regarding the electronic ticket is stored in a computer system or database owned by the transportation company (Depari, 2016).

The development of the the transportation service tndustry in the globalized eracurrently plays an/share an important role and is rapidly growing in terms of distribution (transportation or delivery) of both goods and services intended for customers inpalces. Currently, society increasingly requires transportation services that can take them to relatively distant places in a short amount of time. One type of transportation is the train. Train services are an alternative mode of transportation with affordable costs and a low risk of accidents. Trains are a high-speed passenger and freight transport service, so journeys by train take a relatively short time, and trains can avoid traffic jams.

The problem in this study can be seen based on the data of Monoreh train passengers from 2014 to 2018, which shows a decrease in passengers in 2016 and 2018. This decline in passengers indicates that service users are experiencing a decrease in satisfaction or that the level of customer loyalty towards the Menoreh train service is still low.

The selection of the Menoreh train as the object of research is because the Menoreh train is an economy class train that has been using the 2016 series economy train set, commonly known as the economy new image. This distinguishes it from other economy class trains such as the Tawang Jaya, Kertajaya, Brantas, and Matarmaja trains, which have not yet undergone modernization to become the economy new image. The Menoreh train with this new series began operating on January 31, 2017.

There are several factors that influence customer loyalty and satisfaction. Price is a value created to serve as a benchmark for the value of a good or service. The ticket price for the Menorah train is IDR 160,000.00 – IDR 250,000.00 for a one-way trip. The ticket price for the Menorah train is indeed more expensive compared to other economy trains departing from Semarang to Jakarta. Besides the price, the quality of service is also a factor that influences the transportation service industry, as customers desire a sense of comfort and safety when using the train service. Good service quality will not only make customers feel satisfied with the service but also encourage them to recommend PT KAI's services to others. The service quality provided by the Menoreh train differs from other economy trains in DAOP IV Semarang, as the Menoreh train has undergone a rejuvenation of all its train carriages, commonly referred to as the economy new image, so that customers can experience greater comfort and satisfaction than before. The reason the researcher chose the title "Antecedent Factors of Customer Satisfaction Through Purchase Decisions as an Intervening Variable" is because this title raises an important issue in the world of service marketing

management, namely customer satisfaction, which is the main indicator of the success of transportation service providers or related services. Customer satisfaction with railways is important in purchase decisions because it creates loyalty, increases positive recommendations, and builds a perception of value that drives customer preference for the services offered. Customer loyalty is the main key for a company to win in competition, whether in service companies or goods companies (Sudarwati et al., 2017). If the level of loyalty created increases, then the growth of customers at PT KAI Semarang will also increase, and the revenue received by the company will likewise increase. Satisfaction becomes a factor in the formation of loyalty; if customers feel positive (satisfied/happy) after using the service and this continues into subsequent use, the likelihood of customers switching to another place is small, and the likelihood of customers remaining loyal increases.

Previous research that has a positive influence of brand image on customer satisfaction is the study titled "The Influence of Brand Image, Brand Experience, and Customer Value on AirAsia Customer Satisfaction" (Andrian & Fadillah, 2021). There is also previous research with a positive influence titled "The Influence of Service Quality, Service Fairness, Bank Image, and Trust on Customer Satisfaction" (Elman & Bakhtiar, 2024). Previous research that has a negative influence of brand image on customer satisfaction is the study titled "The Influence of Product Quality, Brand Image, and Halal Label on Consumer Satisfaction of Citra Body Lotion Products (Case Study of Surabaya Students)" (Laili & Canggih, 2021). Previous research that has a positive influence of product quality on customer

satisfaction is the study titled "The Influence of Service Quality and Product Quality on Customer Satisfaction" (Novia et al., 2024). Previous research that has a negative influence of product quality on customer satisfaction is the study titled "The Influence of Product Quality and Brand Image on Consumer Satisfaction and Repurchase Intention" (Prasetya & Yulius, 2018).

Previous research that has a positive influence of promotion on customer satisfaction is the study titled "The Influence of Price, Promotion, and Service Quality on Customer Loyalty Mediated by Customer Satisfaction in Gojek Consumers" (Anggraini & Budiarti, 2020). Previous research that has a negative influence of promotion on customer satisfaction is the study titled "The Influence of Product Quality, Price, and Promotion on Customer Satisfaction of Telkomsel Prepaid Cards" (Lenzun et al., 2024).

Previous research that has a positive influence of customer satisfaction on purchasing decisions is the study titled "The Influence of Product Quality on Purchasing Decisions: The Mediating Role of Consumer Satisfaction" (Sisrahmayanti & Muslikh, 2022). Previous research that has a negative influence of customer satisfaction on purchasing decisions is the study titled "The Influence of Brand Image, Brand Trust, and Service Quality on Repurchase Decisions with Consumer Satisfaction as a Moderating Variable in Indonesian Unicorn Startup Businesses" (Suryani & Rosalina, 2019).

Previous research that has an influence of brand image on customer purchase decisions is the study titled "The Influence of Brand Awareness and Brand Image on Purchase Decisions" (Rachmawati & Andjarwati, 2020). There is also previous research with a positive influence titled "Factors

Controlling Purchase Decisions in the Marketplace Era of the Covid-19 Pandemic" (Kartika et al., 2021). Additionally, there is research with a positive influence titled "Factors Affecting Purchase Decisions in the Marketplace" (Nugraha et al., 2023). Previous research that has a negative influence of brand image on customer purchase decisions is the study titled "The Influence of Brand Image, Product Quality, and Price Perception on Purchase Decisions" (Hakim, 2021). Previous research that has a positive influence of product quality on customer purchase decisions is the study titled "The Role of Purchase Intention Mediation on the Influence of Brand Ambassador and Product Quality on Purchase Decisions." "Niagawan" (Kharisma & Hutasuhut, 2019). Previous research that has a negative impact of product quality on customer purchase decisions is the study titled "The Influence of Price and Product Quality on Purchase Decisions at Ms Glow Beauty. Management and Accounting Expose" (Melpiana & Sudarajat, 2022). Previous research that has a positive influence of promotion on customer purchase decisions is the study titled "Analysis of the Influence of Product, Price, Promotion, and Location on Purchase Decisions" (Hidayat, 2020). Previous research that has a negative influence of promotion on customer purchase decisions is the study titled "Analysis of the Influence of Advertising and Sales Promotion on Purchase Decisions" (Anggelina, 2021).

The research gap in this study is the limited number of studies that holistically examine the antecedent factors (brand image, product quality, and promotion) on customer satisfaction, considering purchase decisions as an intervening variable, particularly in the context of railway transportation services such as PT KAI Semarang. Some previous studies have been conducted more in the consumer goods or digital services sectors, thus not representing the characteristics of the transportation service industry, which has different service dynamics. Moreover, previous research findings show diverse results (both positive and negative), indicating the need for further studies to gain a deeper and more contextual understanding. Previous research shows a varied influence between brand image, product quality, and promotion on customer satisfaction. Some studies, such as those conducted by Andrian & Fadillah (2021), show a positive influence of brand image on customer satisfaction, while the study by Laili & Canggih (2021) shows negative results. Similarly, the research by Novia et al. (2024) shows a positive influence of product quality, but different results were found in the study by Prasetya & Yulius (2018). This indicates a difference in results that requires further exploration of other factors that may moderate or mediate the relationship.

From the perspective of purchase decisions as an intervening variable, previous research also shows inconsistent results. For example, brand image has a positive influence on customer purchase decisions in the study by Rachmawati & Andjarwati (2020), but the study by Hakim (2021) shows a negative influence. These differing results are also found in product quality (Kharisma & Hutasuhut, 2019; Melpiana & Sudarajat, 2022) and promotion (Hidayat, 2020; Anggelina, 2021). This inconsistency opens up space to investigate how purchase decisions act as an intervening variable between brand image, product quality, promotion, and customer satisfaction. Various variables and relationships in

previous research related to passenger satisfaction, purchase decisions, and factors such as product quality, brand image, and promotion. In this case, the researcher will categorize studies that show positive, negative, or no influence at all. These studies are generally based on the context of the transportation industry or related sectors, such as aviation, railways, and other public transportation.

By observing the above phenomenon, research must be conducted to identify the causes of the existing problems and to refine previous studies. Therefore, the author wants to conduct further research with the title: "Antecedent Factors Building Customer Satisfaction Through Purchase Decisions as an Intervening Variable (Case Study at PT. Kereta Api Indonesia Daop 4 Semarang)"

RESEARCH METHOD

This research uses a quantitative approach, which is a method based on the positivist paradigm and aims to test causal relationships between variables. Data were collected from a randomly selected sample using standardized instruments, and then statistically analyzed (Sugiyono, 2018).

Population and Sample

Population is a group of individuals who possess certain characteristics within a specific area and time (Sugiyono, 2023; Kemdikbud, 2019). A sample is a part of the population selected to efficiently represent the whole. This study uses the Slovin formula and establishes 205 respondents from a total population of 412.

Data Source

The data sources in this study consist of primary and secondary data.

Primary data were obtained directly from respondents through questionnaires distributed to the residents of Semarang City who have used KAI Indonesia services (Sugiyono, 2023). Meanwhile, secondary data were obtained from previous studies, including relevant books, journals, and scientific articles.

Data Collection Methods

This research uses several data collection methods, namely questionnaires, observations, literature studies, and documentation. The questionnaire was constructed using a Likert scale to quantitatively measure variables based on respondents' responses from strongly disagree to strongly agree (Sugiyono, 2022). Observation was used to directly observe non-verbal behavior in a natural context, allowing the researcher to understand the meaning of such behavior (Sugiyono, 2022; Fadilla & Wulandari, 2022). Literature study was conducted by gathering relevant information from various written sources, such as books, journals, and scientific articles (Fadilla & Wulandari, 2022). Meanwhile, documentation was used to obtain data in the form of archives, reports, or other documents related to PT KAI Indonesia as the research object (Sugiyono, 2023).

RESULTS AND DISCUSSION
Reliability Test

Reliability testing is conducted to assess the consistency of a variable in producing stable data when tested repeatedly. A variable is said to be reliable if the Cronbach's Alpha value is > 0.60, and unreliable if the value is < 0.60. The results of the reliability test are:

Table 1. Reliability Test

No	Variable	Cronbach Alpha value	Explanation
1	Brand Image (X1)	0,797	Reliabel
2	Product Quality (X2)	0,739	Reliabel
3	Promotion (X3)	0,801	Reliabel
4	Purchase Decision (Z)	0,664	Reliabel
5	Customer Satisfaction (Y)	0,713	Reliabel

Source: Processed primary data, 2025

Validity Test

The validity test aims to ensure that the research instrument truly measures the intended variable. The questionnaire is declared valid if the items can accurately express the research objectives. With a total of 205 respondents, the degrees of freedom (df) is 203. Based on the df and a significance level of 5%, the table value of r obtained is 0.1388. An item is considered valid if the calculated r > 0.1388, and invalid if the calculated r < 0.1388. validity test results:

Table 2. Validity Test

No	Indicator	R calc	R table	Remarks
1	Product Quality(X1)			
	X1.1	0,789	0,1388	Valid
	X1.2	0,721	0,1388	Valid
	X1.3	0,692	0,1388	Valid
	X1.4	0,708	0,1388	Valid
	X1.5	0,743	0,1388	Valid
	X1.6	0,606	0,1388	Valid
2	Brand Image(X2)			
	X2.1	0,791	0,1388	Valid
	X2.2	0,655	0,1388	Valid
	X2.3	0,656	0,1388	Valid
	X2.4	0,707	0,1388	Valid
	X2.5	0,682	0,1388	Valid
3	Promotion (X3)			
	X3.1	0,838	0,1388	Valid
	X3.2	0,744	0,1388	Valid
	X3.3	0,740	0,1388	Valid
	X3.4	0.738	0,1388	Valid
	X3.5	0.718	0,1388	Valid
4	Purchase Decision(Z)			
	Z1	0,608	0,1388	Valid
	Z2	0,673	0,1388	Valid
	Z3	0,619	0,1388	Valid
	Z4	0,671	0,1388	Valid
	Z5	0,703	0,1388	Valid
5	Customer Satisfaction(Y)			
	Y1	0,656	0,1388	Valid
	Y2	0,685	0,1388	Valid
	Y3	0,657	0,1388	Valid
	Y4	0,559	0,1388	Valid
	Y5	0,644	0,1388	Valid
	Y6	0,654	0,1388	Valid

Source: Processed primary data, 2025

Classical Assumption Test
Normality Test

The normality test aims to assess whether the residuals in the regression model are normally distributed. The testing is conducted through a P-P Plot graph, which indicates normality if the distribution of points follows the diagonal line, as well as through the One-Sample Kolmogorov-Smirnov test, with results considered normal if the significance value > 0.05.

Table 3. Normality Test Equation 1

			Unstandardized Residual
N			205
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		.53203952
Most Extreme Differences	Absolute		.065
	Positive		.040
	Negative		-.065
Test Statistic			.065
Asymp. Sig. (2-tailed)			.035[c]
Monte Carlo Sig. (2-tailed)	Sig.		.340[d]
	99% Confidence Interval	Lower Bound	.328
		Upper Bound	.353

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Based on 10000 sampled tables with starting seed 303130861.

Source: Processed primary data, 2025

Table 4. Normality Test Equation 2

			Unstandardized Residual
N			205
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		2.11358815
Most Extreme Differences	Absolute		.065
	Positive		.065
	Negative		-.043
Test Statistic			.065
Asymp. Sig. (2-tailed)			.034[c]
Monte Carlo Sig. (2-tailed)	Sig.		.333[d]
	99% Confidence Interval	Lower Bound	.320
		Upper Bound	.345

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Based on 10000 sampled tables with starting seed 92208573.

Source: Processed primary data, 2025

Based on the results of the One-Sample Kolmogorov-Smirnov test, the significance values for equations 1 and 2 are 0.340 and 0.333, respectively. Because both are > 0.05, it can be concluded that the data in this study are normally distributed.
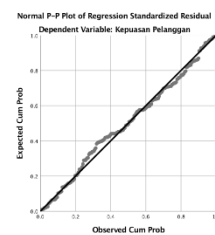
Normality test of the histogram

Figure 1. Histogram of equation 1
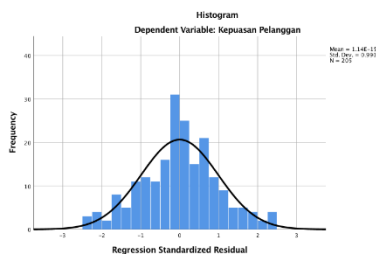
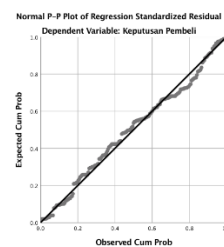
Source: Processed primary data, 2025

Figure 1. Histogram of equation 2
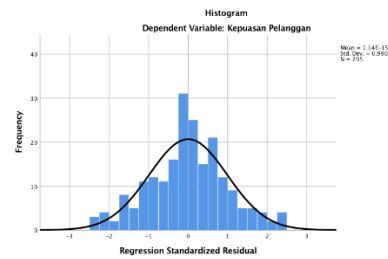
Source: Processed primary data, 2025

Normal P-P Plot Graph Test

Figure 3. P-P Plot graph of equation 1

Source: Processed primary data, 2025

Figure 4. P-P Plot graph of equation 2

Source: Processed primary data, 2025

Heteroscedasticity Test

The heteroscedasticity test is used to detect the presence of unequal residual variance among observations in a linear regression model. The model is declared free from heteroscedasticity symptoms if the independent variable has a significance value > 0.05 against the Abs-Residual variable.

Table 5. Heteroscedasticity Equation 1

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.024	.189		5.421	.000
	Kualitas Produk	.001	.008	.013	.150	.881
	Citra Merek	-.014	.009	-.123	-1.470	.143
	Promosi	-.018	.010	-.165	-1.724	.086

a. Dependent Variable: ABS_P2

Source: Processed primary data, 2025

Table 6. Heteroscedasticity Equation 2

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.014	.207		4.889	.000
	Kualitas Produk	.001	.008	.012	.146	.884
	Citra Merek	-.014	.010	-.126	-1.417	.158
	Promosi	-.018	.011	-.169	-1.675	.096
	Keputusan Pembeli	.001	.011	.011	.124	.901

a. Dependent Variable: ABS_P1

Source: Processed primary data, 2025

Multicollinearity Test

The multicollinearity test is conducted to determine the presence of a linear relationship among independent variables in the regression model. Multicollinearity is stated not to occur if the tolerance value ≥ 0.1 and VIF ≤ 10 (Kembuan et al., 2021).

Table 7. Multicollinearity test for equation 1

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	7.622	1.242		6.137	.000		
	Kualitas Produk	.026	.051	.034	.506	.614	.639	1.565
	Citra Merek	.315	.061	.340	5.137	.000	.676	1.480
	Promosi	.311	.067	.358	4.646	.000	.496	2.016

a. Dependent Variable: Buyer's Decision

Source: Processed primary data, 2025

Table 8. Multicollinearity test for equation 2

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	-.028	.589		-.047	.962		
	Kualitas Produk	.024	.022	.027	1.091	.277	.652	1.534
	Citra Merek	.106	.029	.097	3.644	.000	.582	1.718
	Promosi	.089	.031	.087	2.895	.004	.456	2.195
	Keputusan Pembeli	.980	.031	.832	31.258	.000	.584	1.712

a. Dependent Variable: Kepuasan Pelanggan

Source: Processed primary data, 2025

Hypothesis Testing
Simultaneous Test (F Test)

The F-test is used to determine whether the independent variables simultaneously have a significant effect on the dependent variable. With a significance level of 0.05, the independent variables are considered to have an effect if the significance value is < 0.05 (H0 is rejected, H1 is accepted), and not to have an effect if > 0.05 (H0 is accepted, H1 is rejected).

Table 9. Simultaneous test of equation 1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	621.441	3	207.147	45.688	.000[b]
	Residual	911.320	201	4.534		
	Total	1532.761	204			

a. Dependent Variable: Keputusan Pembeli

Source: Processed primary data, 2025

Table 10. Simultaneous test of equation 2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1929.453	4	482.363	369.688	.000[b]
	Residual	260.957	200	1.305		
	Total	2190.410	204			

a. Dependent Variable: Kepuasan Pelanggan

b. Predictors: (Constant), Promosi, Citra Merek, Kualitas Produk, Keputusan Pembeli

Source: Processed primary data, 2025

Partial Statistical Test (t-test)

The t-test is used to examine the influence of each independent variable individually on the dependent variable, both in equation 1 (X1, X2, X3 on Z) and in equation 2 (Z, X1, X2, X3 on Y), with a significance level of 0.05. If the t significance value < 0.05, then H0 is rejected and Ha is accepted (indicating a

significant influence); conversely, if > 0.05, then H0 is accepted and Ha is rejected (indicating no significant influence).

Table 11. Partial statistical test for equation 1

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	7.724	1.223		6.315	.000		
	Kualitas Produk	.020	.050	.027	.404	.687	.647	1.546
	Citra Merek	.322	.061	.350	5.279	.000	.672	1.489
	Promosi	.305	.066	.351	4.594	.000	.508	1.970

a. Dependent Variable: Keputusan Pembeli

Source: Processed primary data, 2025

Table 12. Partial statistical test for equation 2

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.028	.589		-.047	.962		
	Kualitas Produk	.024	.022	.027	1.091	.277	.652	1.534
	Citra Merek	.106	.029	.097	3.644	.000	.582	1.718
	Promosi	.089	.031	.087	2.895	.004	.456	2.195
	Keputusan Pembeli	.980	.031	.832	31.258	.000	.584	1.712

a. Dependent Variable: Kepuasan Pelanggan

Source: Processed primary data, 2025

The results of the hypothesis test indicate that Product Quality (X1) does not have a significant effect on Purchase Decision (Z) because the significance value is 0.687 > 0.05 and the t-value is 0.404 < t-table. Conversely, Brand Image (X2) and Promotion (X3) have a significant effect on Purchase Decision with significance values of 0.000 and t-value > t-table, respectively. Furthermore, Purchase Decision (Z), Product Quality (X1), Brand Image (X2), and Promotion (X3) significantly influence Customer Satisfaction (Y), both directly and through the intervening variable of Purchase Decision, as indicated by significance values < 0.05 and t-values > t-table for each variable.

Coefficient of Determination Test

The coefficient of determination (R^2) indicates how much the dependent variable can be explained by the independent variable in the regression model. The R^2 value ranges from 0 to 1,

where a value close to 1 indicates a good model. $R^2 < 0.6$ indicates that the independent variable does not fully explain the dependent variable.

Table 13. Determination coefficient test for equation 1

					Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2
1	.638ª	.407	.398	2.153	.407	45.903	3	201

	Change Statistics	
Model	Sig. F Change	Durbin-Watson
1	.000	2.100

a. Predictors: (Constant), Promosi, Citra Merek, Kualitas Produk.
b. Dependent Variable: Keputusan Pembeli

Source: Processed primary data, 2025

Table 14. Determination coefficient test for equation 2

					Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2
1	.939ª	.881	.878	1.142	.881	369.688	4	200

	Change Statistics	
Model	Sig. F Change	Durbin-Watson
1	.000	1.944

Source: Processed primary data, 2025

Regression Model

Table 15. Regression Model Equation 1

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	7.622	1.242		6.137	.000		
	Kualitas Produk	.026	.051	.034	.506	.614	.639	1.565
	Citra Merek	.315	.061	.340	5.137	.000	.676	1.480
	Promosi	.311	.067	.358	4.646	.000	.496	2.016

a. Dependent Variable: Keputusan Pembeli

Source: Processed primary data, 2025

Equation:

$$Y = 7,622 + 0,026 + 0,315 + 0,311 + e1$$

The constant of 7.622 indicates the baseline value of Purchase Decision when the independent variable is zero. Product Quality (X1) has an influence of 0.026, but it is not significant (t count = 0.506 < t table = 1.972; Sig. = 0.614 > 0.05). Brand Image (X2) has a significant influence of 0.315 on Purchase Decisions (t count = 5.137 > t table; Sig. = 0.000 < 0.05). Promotion (X3) also has a significant influence of

0.311 (t count = 4.646 > t table; Sig. = 0.000 < 0.05).

Table 16. Regression Model Equation 2

Coefficients^a

|		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.497	.718		.692	.490		
	Keputusan Pembeli	.938	.037	.794	25.057	.000	.593	1.685
	Kualitas Produk	-.015	.027	-.017	-.559	.577	.638	1.567
	Citra Merek	.154	.035	.141	4.450	.000	.597	1.674
	Promosi	.105	.037	.103	2.820	.005	.448	2.232

a. Dependent Variable: Kepuasan Pelanggan

Source: Processed primary data, 2025
Equation:

$$Y = 0,497 + 0,938 + 0,015 + 0,154 + 0,105 + e2$$

Route diagram

Gambar 5. 5 **Diagram jalur**
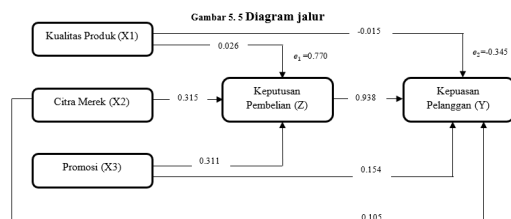
Sumber: Data primer yang diolah, 2025

Source: Processed primary data, 2025

Based on the path diagram above, the magnitude of direct, indirect, and total effects between variables can be calculated. The indirect effect is obtained by multiplying the path coefficients from the independent variable to the mediating variable, and then to the dependent variable.

Table 17. Direct and Indirect Influence

Influence	Directly1	Indirectly (through Z)	Total
X1 (Product Quality) → Z	0,026	-	0,026
X2 (Brand Image) → Z	0,315	-	0,315
X3 (Promotion) → Z	0,311	-	0,311
Z(Purchase Decision) → Y	0,938	-	0,938
X1 → Y	-0,015	0,026 × 0,938 = 0,0244	0,0244
X2 → Y	0,105	0,315 × 0,938 = 0,2955	0,2955
X3 → Y	0,154	0,311 × 0,938 = 0,2917	0,2917

Sobet Test

The Sobel test is used to assess the extent to which the mediating variable can significantly act as an intermediary in the relationship between variables. Decisions are made based on the t-value: the relationship is considered difficult to control if the t-value < 1.97, and easy to control if the t-value > 1.97.

Table 18. Sobet Test

No.	Variabel	t_{hitung}		t_{tabel}	Explanation
1	Product Quality X1 → Z → Y	0,5097	>	1,97	Unable to Mediate
2	Brand Image X2 → Z → Y	5,0600	>	1,97	Able to Mediate
3	Promotion X3 → Z → Y	4,5658	>	1,97	Able to Mediate

Source: Processed primary data, 2025

Discussion of Research Results

a. The Influence of Product Quality on Purchase Decisions

The Influence of Product Quality on Purchase Decisions Based on the analysis results, product quality does not significantly affect the purchase decision of train services in Semarang, as indicated by the significance value of 0.614 (> 0.05) and a t-value of 0.506 < t-table. These findings are supported by various previous studies which state that in the context of public services, such as transportation, factors such as promotion, ease of access, brand image, and price more dominantly influence purchasing decisions compared to the technical quality of the service. Although product quality remains important for long-term satisfaction, customers are more inclined to consider emotional and practical elements such as brand trust and promotions. Therefore, value-added and customer perception-based marketing strategies become more effective in attracting and retaining consumers.

b. The Influence of Brand Image on Purchase Decisions

The analysis results show that brand image significantly influences the decision to purchase train services in Semarang, with a significance value of 0.000 (< 0.05) and a t-value of 5.137 > t-table. These findings are consistent with previous research that states that brand image shapes positive perceptions, trust, and consumer preferences. In the context of PT KAI, the image as a safe, timely, and professional service becomes a key factor in driving consumer purchasing decisions.

c. The Influence of Promotion on Purchase Decisions

The analysis results show that promotion has a significant effect on the decision to purchase train services in Semarang, with a significance value of 0.000 (< 0.05) and a t-value of 4.646 > t-table. These findings are supported by previous research which states that promotions, whether in the form of discounts, digital advertisements, cashback, or social media campaigns, can increase interest and purchasing decisions. Promotions have proven to be an effective marketing tool in attracting attention and encouraging consumers to purchase transportation services.

d. The Influence of Product Quality on Customer Satisfaction

The analysis results show that product quality does not significantly affect customer satisfaction with railway services in Semarang City (Sig. 0.577 > 0.05; t calculated -0.559 < t table). These findings are consistent with various previous studies that state that in mass transportation services, factors such as comfort, price, punctuality, and ease of access are more determining of customer satisfaction than technical quality. Research also shows that service aspects considered standard or reasonable by customers tend to have no significant

impact on satisfaction. Therefore, companies need to provide added value and experiences that go beyond merely meeting technical expectations to create optimal customer satisfaction.

e. The Influence of Brand Image on Customer Satisfaction

The analysis results show that brand image significantly affects customer satisfaction with railway services in Semarang City (Sig. 0.000 < 0.05; t count 4.450 > t table). This finding is supported by various studies that state that a positive brand image can shape value perception, enhance pride, and ultimately create customer satisfaction. The professional, safe, and trustworthy image of PT KAI has proven to be an important factor in shaping customer satisfaction, as well as having the potential to strengthen their loyalty to the service.

f. The Influence of Promotion on Customer Satisfaction

The analysis results show that promotions have a significant impact on customer satisfaction with railway services in Semarang City (Sig. 0.005 < 0.05; t calculated 2.820 > t table). These findings are supported by various studies that state that attractive promotions, such as discounts and special campaigns, can enhance perceived value, satisfaction, and even customer loyalty. PT KAI's promotional strategy is considered successful in providing added value that positively impacts customer satisfaction.

g. The Influence of Product Quality on Customer Satisfaction through Purchase Decisions

The Sobel Test results show that purchase decisions do not mediate the influence of product quality on customer satisfaction (t-count 0.5097 < t-table 1.97; sig. > 0.05), thus the eighth hypothesis is rejected. These findings are consistent with several previous studies (Fiani & Novitasari, 2022; Ningsih et al.,

2022; Saputri, 2020) which show that product quality and promotion do not always affect customer satisfaction through purchasing decisions. Customers tend to assess quality directly in determining satisfaction, without being influenced by the purchase decision process as a mediating variable.

h. The Influence of Brand Image on Customer Satisfaction through Purchase Decision

The Sobel Test results show that purchase decisions significantly mediate the influence of brand image on customer satisfaction (t-value 5.0600 > t-table 1.973; sig. < 0.05), thus the ninth hypothesis is accepted. These findings are supported by various studies (Aaker, 1996; Ramadhan & Prabowo, 2019; Wijaya, 2019; Safitri, 2018; Kurniawan & Ariyani, 2020; Kurnia & Rachmawati, 2022) which state that brand image shapes consumer perception and trust, which then influences purchase decisions and ultimately leads to customer satisfaction.

i. The Influence of Promotion on Customer Satisfaction through Purchase Decisions

The Sobel test results show that purchase decisions significantly mediate the relationship between promotion and customer satisfaction (t-count 4.5658 > t-table 1.97; sig. < 0.05), thus the tenth hypothesis is accepted. These findings are supported by several studies (Kotler & Armstrong, 2018; Saputra, 2019; Pratama, 2021; Fitriani, 2021; Wulandari, 2022; Sari & Elpanso, 2022) which conclude that promotions drive purchasing decisions, which in turn positively impact customer satisfaction if the products or services meet expectations.

CONCLUSION

This research aims to analyze the influence of product quality, brand image, and promotion on customer satisfaction among train service users in the city of Semarang, both directly and indirectly through purchase decisions as a mediating variable. The analysis results show that product quality does not have a significant effect on purchase decisions or customer satisfaction, nor is it mediated by purchase decisions. On the contrary, brand image and promotion have been proven to have a positive and significant impact on purchasing decisions and customer satisfaction. Purchasing decisions also significantly enhance customer satisfaction and serve as a mediator between brand image and promotion on satisfaction. These findings affirm that a positive brand image and effective promotion play a crucial role in shaping purchasing decisions and creating customer satisfaction, while product quality has not yet become a dominant factor in the context of railway transportation services.

Suggestion

Based on the conclusions and limitations of the research, the researcher provides two main recommendations. First, for PT Kereta Api Indonesia, it is recommended to continue strengthening brand image, promotional strategies, and support the consumer purchase decision-making process through positive campaigns, consistent service, and creative and targeted promotions. Although product quality has not been proven to directly affect satisfaction, it remains important to maintain it in order to create a complete and satisfying customer experience. Second, for future researchers, it is recommended to add other variables such as consumer trust, price, perceived value, and customer loyalty. The use of mixed quantitative and qualitative methods, as well as a broader regional scope, is also

recommended to make the research results more in-depth and the generalization of findings stronger.

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