Increasing The Role of Rail-Based Public Transportation Through Improving Services and Developing T.O.D Area To Reduce Congress In Jakarta

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Abstract: The problems that cause public transportation are less desirable because the railway network is still very limited, public transportation services still need to be improved, full integration has not been realized and the development of Transit Oriented Development cannot be implemented. The purpose of this study was to determine whether the service model and public policy were successful, therefore the study used variables, namely; Perceived Quality; Trust; Passenger Satsfaction; Perceived Value; Passenger Preference; Passenger Loyalty, Behavior Intention to Purchase and Transit Oriented Development as moderation and Passenger preference as intervening variables. Data analysis methods in this study include Importance and Performance Analysis (IPA), and Structural Equation Model (SEM) with the help of the SMART PLS 4 program and this study used a sample of 400 respondents, namely train users. Based on the results of the analysis that Perceived quality, Passenger satisfaction, Trust, Passenger preference and Passenger loyalty can have a positive and significant influence on behavior intention to purchase but Perceived value does not have a significant influence then with the development of transit-oriented development can have a significant influence on loyalty and behavior intention to purchase. In Importance performance analysis to improve service performance, namely unhindered train travel, high reliability, integrated and single ticket system.

Keyword: Service, Prefereces, Loyalty, Transit-oriented development, Railways, Intent to buy.

INTRODUCTION

The city of Jakarta is a megapolitan city and is integrated with its supporting satellite cities, namely Bogor, Depok, Tangerang and Bekasi. According to BPS data (Badan Pusat Statistik, 2020) The population in DKI Jakarta in 2020 was 10,562,088 people, with a population density of 14,469 people per km2. so that community movement is very high. This movement is dominated by private vehicles reaching 72.85% and public transportation users only 27.15% so this condition is what causes very heavy traffic jams in the city of Jakarta.

(Irjayanti et al., 2021). In 2021, the level of congestion in Jakarta will be 34% and this congestion will have an impact on unhealthy air quality, based on the air quality index, the city of Jakarta is at level 166 or the fourth worst air quality in the world. (Tomtom Traffic Index, 2021). Transportation in urban areas is very complex because it involves various modes, serving many origins and destinations, and the emergence of various amounts and variations of traffic.

To solve the problem of congestion in Jakarta, many things have been done and handled by the central government and the DKI Jakarta government. One of them is providing reliable, efficient, effective and environmentally friendly public transportation, such as rail-based public transportation. Improvement of services and development of the railway system includes development of transportation networks, integration in improving the smoothness of transportation services and development of urban space or urban land use or transit oriented development (TOD). Transit oriented development (TOD) is conceptually an approach to reduce car dependency and promote public transportation and land use or land planning characterized by residential density. (Pan et al., 2017).

Therefore, strategic tools are needed to assess the current level of passenger satisfaction and identify management strategies that can potentially be used to increase passenger satisfaction, match passenger desires and promote the use of the rail transport system. As suggested by much of the literature, the success of a rail-based public transportation system depends on the number of passengers that the system can carry and retain (de Oña et al., 2016), (Brohi et al., 2021), (Hakimi Ibrahim et al., 2021). In this research, to identify passenger desires and to increase the number of passengers, namely by improving service quality, trust, customer/passenger satisfaction, perceived value, user/passenger preferences/choices. (passenger preference), development of transit oriented development (TOD) areas, customer loyalty (loyalty) and behavioral intention to purchase.

Based on this background, the aim of writing this article is to build a hypothesis for further research, namely to formulate: 1) The influence of perceived quality on trust; 2) The influence of perceived quality on passenger satisfaction; 3) The influence of perceived quality on perceived value; 4) The influence of Passenger satisfaction on Trust; 5) The influence of Perceived Value on Passenger satisfaction; 6) The influence of perceived value on Passenger loyalty; 7) The influence of Passenger satisfaction on Passenger loyalty; 8) The influence of Trust on Passenger loyalty; 9) The influence of Trust on passenger preference; 10) The influence of passenger preference on passenger loyalty; 11) Perceived value towards Passenger loyalty moderated by the development of Transit oriented development (TOD) areas; 12) The influence of trust on passenger loyalty through passenger preference; 13) Passenger loyalty towards behavior intention to purchase.

LITERATURE REVIEW
Behavioral intention to purchase

Behavioral intention to purchase is a customer's activity when making a purchase for the first time and having a positive attitude so that they will have a repeat purchase experience in the future. (Brohi et al., 2021).

Dimensions, indicators or factors that influence behavior intention to purchase are cheap and comfortable, brand performance and the experience felt by customers, which have been widely studied by previous researchers, namely (Chinomona & Sandada, 2013), (Chatzoglou et al., 2022).

Perceived quality

Customers' observations or perceptions of a product and service provided by a rail transportation service provider which is linked to expectations which include various aspects desired by customers. (Hakimi Ibrahim & Borhan, 2020).

Perceived quality reflects all aspects of product offerings that lead to customer benefits. Producers' attention to product quality aspects will indirectly give rise to consumers' perceptions that a quality product is able to satisfy various aspects desired by consumers. (Soltanpour et al., 2020).

Dimensions, indicators or factors that influence perceived quality are Availability of service, information, travel time, customer service, comfort, safety and integration. Perceived quality has been extensively researched by previous researchers, including (Ashraf et al., 2018), (Hakimi Ibrahim & Borhan, 2020).

Passenger satisfaction

Passenger satisfaction is something that customers feel as a response to the products or services that have been presented, apart from that, satisfaction is the level of someone's feelings after evaluating the service performance that they predicted/felt compared to their expectations. (Amanda, 2021).

Passenger Satisfaction, namely consumer satisfaction feedback, assessing that a product or service feature, or the product or service itself, provides (or provided) a favorable level of consumer satisfaction, including a level of dissatisfaction or excessive satisfaction (Saxena, 2017).

Dimensions, indicators or factors that influence Passenger satisfaction are overall satisfaction, ideal service satisfaction and desired satisfaction. Passenger satisfaction has been studied a lot by previous researchers, including (Shen et al., 2016), (Wang et al., 2020).

Perceived value

Perceived value is the consumer's overall assessment of the usefulness of a product based on perceptions of what is received and what is given. Perceived value is an important part of strategic business management because it adds significant value to the consumer's decision-making process behavior (Chen & Lin, 2019),(Kim & Park, 2019).

Dimensions, indicators or factors that influence Perceived value are Evaluation of ticket prices for the services received and Evaluation of ticket prices for discomfort/Emotions. Perceived value has been studied by many previous researchers, including: (Hallak et al., 2018).

Trust / believe, belief

Trust is the customer's belief that a rail transportation service provider is reliable, competent and provides benefits, even though the rail transportation service provider tries to maximize profits, but still has sincere attention to customer needs/passenger satisfaction. (Saleem et al., 2017).

Dimensions, indicators or factors that influence Trust are motivation (always wanting to improve service quality), integrity (consistency and regularity), ability (ability to provide the best service). Trust has been studied by many previous researchers, including: (Saleem et al., 2017).

Passenger preference / preferences/choices of service users

Service user preferences/choices (Passenger Preference), are defined as feelings of preference, choice, or something that consumers like with various choices or various opportunities. The concept of preferences is related to the customer's ability to prioritize choices in order to make decisions (Su et al., 2019), (Cheng et al., 2011).

Passenger Preferences refers to passengers' preferences, choices and priorities when it comes to transportation options and services. Understanding passenger preferences is critical for transportation planners, policy makers, and service providers to design and deliver efficient, convenient, and customer-centric transportation solutions (Hatziioannidu & Polydoropoulou, 2022), (Zheng et al., 2016).

Dimensions, indicators or factors that influence passenger preference are safety and smoothness, energy saving and low emissions, no traffic jams or no obstacles. (Zheng et al., 2016), (Dell'Olio et al., 2012).

Loyalty

A customer's propensity or loyalty to a particular brand, product or service over a long period of time. This includes the tendency to choose the same brand or company over and over again to satisfy one's needs or desires (Cakici et al., 2019), (Dam & Dam, 2021).

Dimensions, indicators or factors that influence Loyalty are Customer Relations, Reliability and Responsiveness and quick problem solving. Loyalty has been studied a lot by previous researchers, including (Dam & Dam, 2021).

Transit oriented development (TOD)

Transit oriented development (TOD) An urban concept that aims to integrate the public transportation system into the development of the surrounding area. The aim is to create a sustainable, diverse and environmentally friendly society by reducing the need for private motorized vehicles (Gao & Zhu, 2022). Its performance characteristics are pedestrian and cyclist friendly, mixed land use, high density, compact, environmentally friendly, high accessibility and has a transit system (Berawi et al., 2020), (Bamwesigye & Hlavackova, 2019),(Hakimi Ibrahim et al., 2021).

Dimensions, indicators or factors that influence Transit oriented development (TOD) are the type and role of transportation, land use. Transit oriented development (TOD) has been studied by many previous researchers, including (Lamour et al., 2019), (He et al., 2018).

METHOD

In this study, the average passenger population per day using electric rail trains (KRL) was 424,532 passengers. And determining the number of samples used in the research using Slovin calculations with an error rate of 5% and the sample used was 400 passengers as research respondents taken from Jabodetabek train passengers in the Tanggerang corridor, Serpong corridor, Bogor corridor and Cikarang Bekasi corridor. The analysis method uses Structural equation modeling (SEM) with the Smart PLS 4 program with stages 1) establishing the PLS SEM structural model; 2) data preparation; 3) create a path model for PLS SEM; 4) Importance and performance analysis (IPA) model and matrix analysis to show the advantages and disadvantages of services in the transportation sector, especially trains.

Research Conceptual Framework

Based on the problem formulation and relevant research, a conceptual framework for this article was developed as shown in the image below.
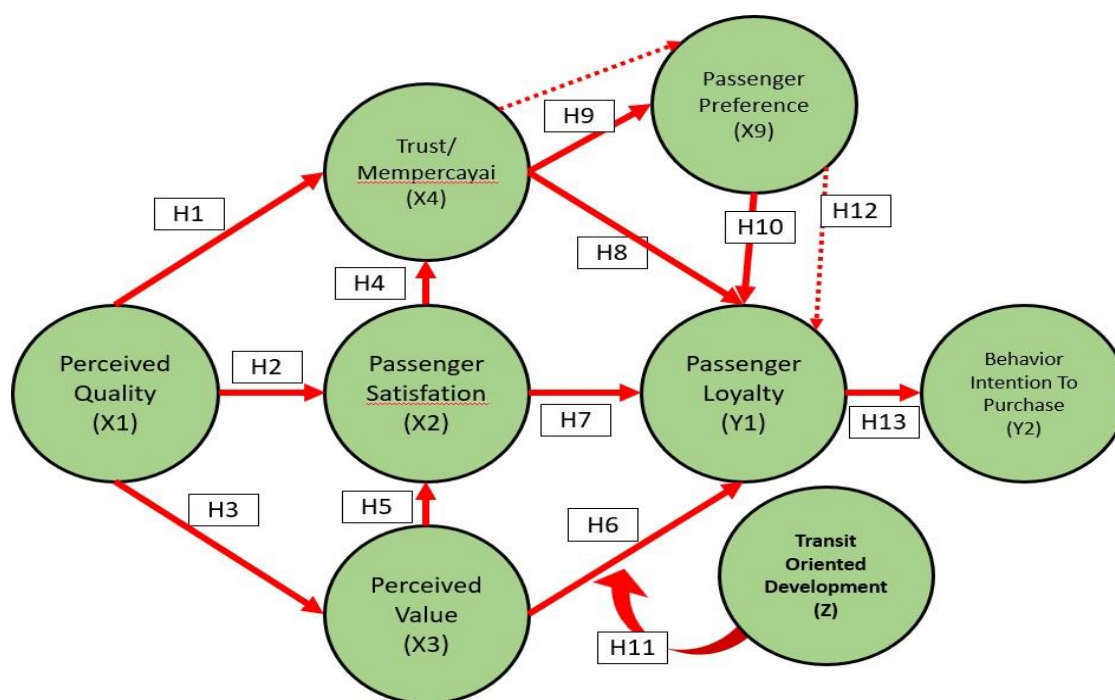
Figure 1. Framework of thought

Hypothesis:

H1: Perceived Quality has a positive and significant influence on customer trust (Trust)

H2: Perceived Quality has a positive and significant influence on customer/passenger satisfaction (Passenger Satisfaction)

H3: Perceived Quality has a positive and significant influence on customer perceived value (perceived Value).

H4: Customer satisfaction (Passenger Satisfaction) can have a positive and significant influence on trust/trust (Trust)

H5: Perceived Value has a positive and significant influence on customer satisfaction (Passenger Satisfaction)

H6: Perceived value can have a positive and significant influence on customer loyalty

H7: Passenger satisfaction can have a positive and significant influence on customer loyalty

H8: Trust can have a positive and significant influence on customer loyalty

H9: Trust) can have a positive and significant influence on customer preferences/choices (Passenger preference).

H10: Passenger preferences can have a positive and significant influence on customer loyalty

H11: Perceived value can have a positive and significant influence on Passenger loyalty by being moderated by the transit-oriented development area variable

H12: Trust can have a positive and significant influence on Passenger loyalty

H13: Passenger loyalty can have a positive and significant influence on behavioral intention to purchase

RESULTS AND DISCUSSION

To complete the calculations and answer the research hypothesis, use SEM Smart PLS and Importance and performance analysis. The following are the results of the outer model, namely testing the validity, reliability and inner model before testing the hypothesis.
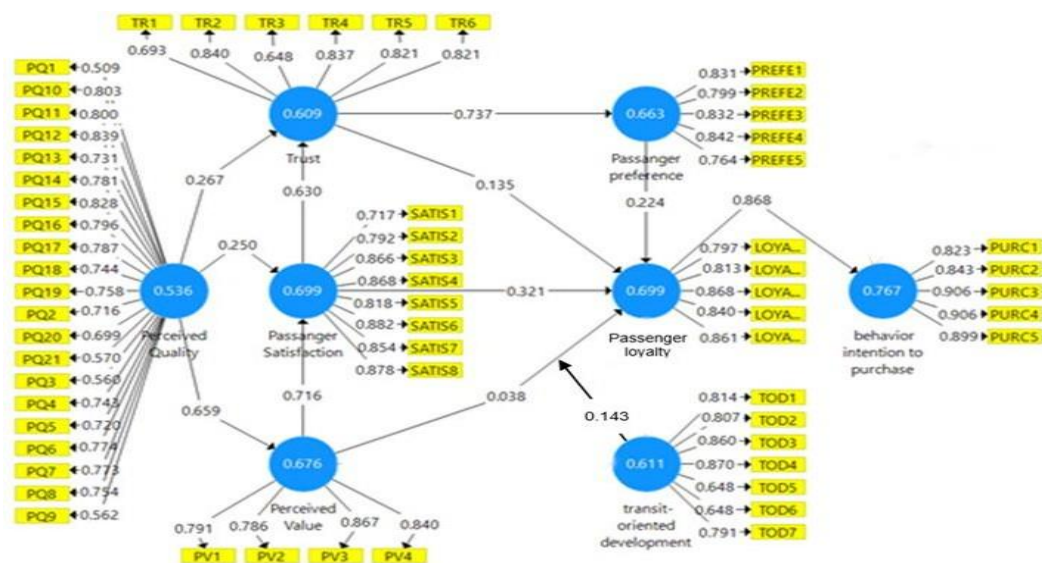
Validity testing

Figure 2 Validity testing

In this study, the outer loading value was obtained from calculations using Smart PLS, that the outer loading or loading factor value was greater than 0.05 (Ghozali, 2021), so that the constructs for all variables are valid from the model. And discriminant validity testing uses the average variance extracted (AVE) value. The following are the results of the discriminant validity test obtained from Smart PLS

Table 1 Discriminant validity test

Variable	Average Variance Extracted (AVE)
Behavior intention to purchase	0.767
Transit-oriented development	0.611
Passenger Satisfaction	0.699
Passenger loyalty	0.699
Passenger preference	0.663
Perceived Quality	0.536
Perceived Value	0.676
Trust	0.609

This test is carried out to see how big the differences are between variables. The value seen in this test is the Average Variance Extracted (AVE) value as a whole, all variables have an AVE value > 0.5(Ghozali & Latan, 2015) so it is declared valid.

Table 2. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Rule of Thumb	Evaluasi Model
Behavior intention to purchase	0.924	0.943		Reliabel
Transit-oriented development	0.892	0.916	> 0.60	Reliabel
Passenger Satisfaction	0.938	0.949		Reliabel
Passenger loyalty	0.893	0.921		Reliabel

Passenger preference	0.873	0.908	Reliabel
Perceived Quality	0.955	0.960	Reliabel
Perceived Value	0.839	0.893	Reliabel
Trust	0.870	0.902	Reliabel

Cronbach's Alpha and composite reliability values obtained from Smart PLS estimation results. The resulting value is > 0.60 which means it is declared reliable.

Inner model

Inner model or structural model testing is carried out to see the relationship between constructs, significance values and R-square of the research model.

Table 3. R-Squares

Variable	R Square
Trust	0,711
Passenger Satisfaction	0,811
Perceived Value	0,434
Passenger preference	0,543
Passenger loyalty	0,695
Transit-oriented development	0,438
Behavior intention to purchase	0,754

The resulting R Square value for the Trust variable is 0.711 or 71.1%, meaning that the Perceived Quality and Passenger Satisfaction variables can substantially explain the Trust variable at a level of 71.1%, while the rest is influenced by other factors that are not included in this research variable.The result of the R Square value for the Passenger Satisfaction variable is 0.811 or 81.1%, meaning that the Perceived Quality and Perceived Value variables can substantially explain the Passenger Satisfaction variable with a level of 81.1% while the rest is influenced by other factors that are not included in this research variable.

The resulting R Square value for the Perceived Value variable is 0.434 or 43.4%, meaning that the Perceived Quality variable can substantially explain the Perceived Value variable at a level of 43.4%, while the rest is influenced by other factors that are not included in this research variable.

The resulting R Square value for the Passenger preference variable is 0.543 or 54.3%, meaning that the Trust variable can substantially explain the Passenger preference variable at a level of 54.3%, while the rest is influenced by other factors that are not included in this research variable.

The resulting R Square value for the Passenger loyalty variable is 0.695 or 69.5%, meaning that the Trust and Passenger preference variables can substantially explain the Passenger loyalty variable with a level of 69.5%, while the rest is influenced by other factors that are not included in this research variable.

The result of the R Square value for the Transit-oriented development variable is 0.438 or 43.8%, meaning that the Perceived Value variable can substantially explain the Transit-oriented development variable with a level of 43.8%, while the rest is influenced by other factors that are not included in this research variable.

The R Square value of the Behavior intention to purchase variable is 0.754 or 75.4%, meaning that the Passenger loyalty variable can substantially explain the Behavior intention to purchase variable with a level of 75.4%, while the rest is influenced by other factors that are not included in this research variable.
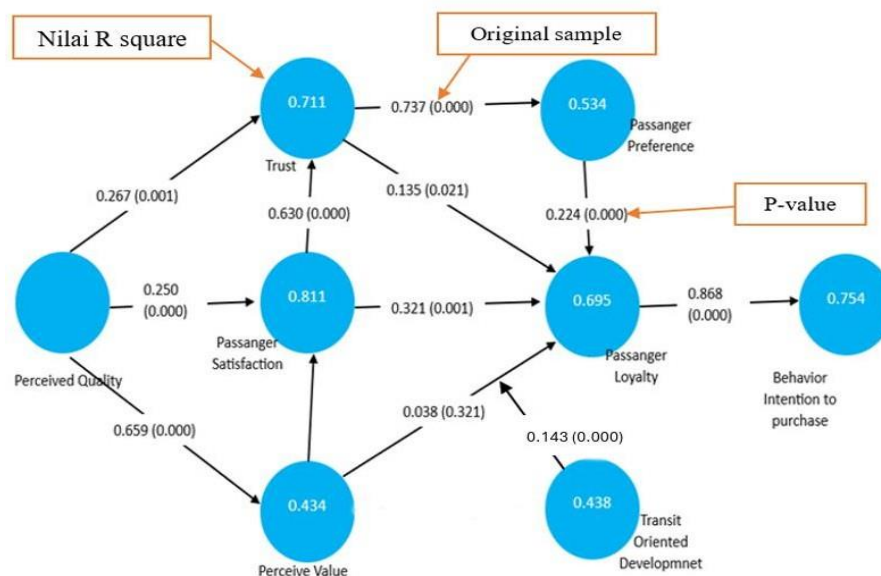
Hypothesis testing with SEM Smart PLS

Figure 3 Hypothesis testing

Table 4. Smart PLS hypothesis testing

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Perceived Quality -> Trust	0.267	0.288	0.089	3.001	0.001
Perceived Quality -> Passenger Satisfaction	0.250	0.259	0.060	4.172	0.000
Perceived Quality -> Perceived Value	0.659	0.661	0.067	9.910	0.000
Passenger Satisfaction -> Trust	0.630	0.608	0.087	7.220	0.000
Perceived Value -> Passenger Satisfaction	0.716	0.707	0.056	12.699	0.000
Perceived Value -> Passenger loyalty	0.038	0.039	0.083	0.464	0.321
Passenger Satisfaction -> Passenger loyalty	0.321	0.316	0.100	3.215	0.001
Trust -> Passenger loyalty	0.135	0.140	0.066	2.042	0.021
Trust -> Passenger preference	0.737	0.734	0.043	17.044	0.000
Passenger preference -> Passenger loyalty	0.224	0.226	0.060	3.728	0.000
Perceived Value -> transit-oriented development(moderasi) -> Passenger loyalty	0.143	0.142	0.034	4.168	0.000
Trust -> Passanger preference -> Passanger loyalty	0.165	0.166	0.045	3.635	0.000
Passenger loyalty -> behavior intention to purchase	0.868	0.866	0.021	40.682	0.000

In order to examine the desires of service users regarding the performance provided by railway operators, the IPA analysis method is used.

IPA analysis (importance and performance analysis) is a technique used to measure attributes from the level of importance to the level of performance expected by consumers.
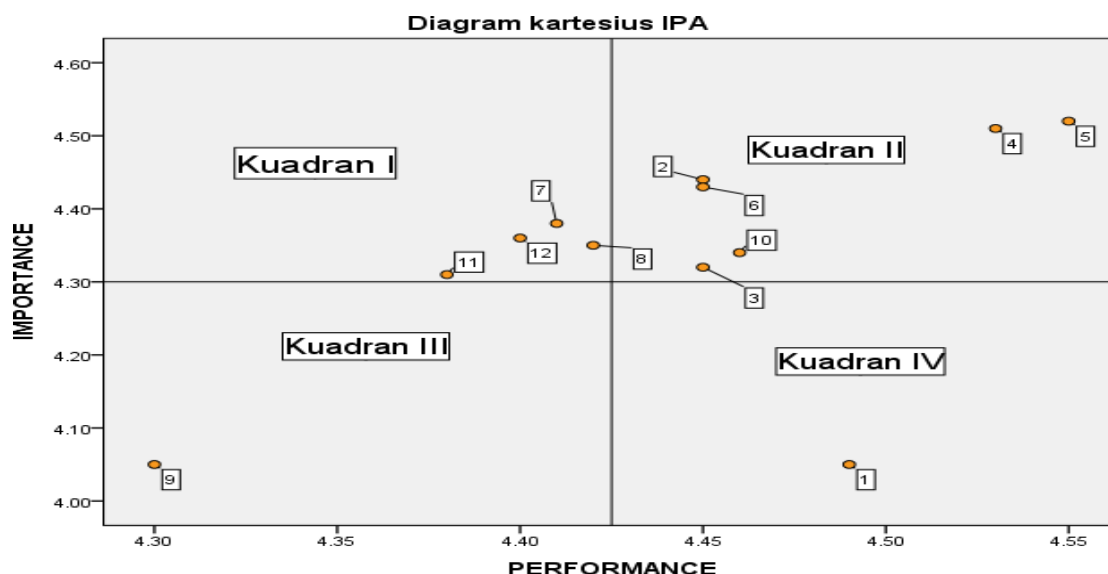
Figure 4. Importance and performance analysis

CONCLUSION

The perceived service quality (Perceived Quality) has a direct positive influence on customer trust (Trust), meaning it is in accordance with hypothesis 1 (H1 Accepted). This research supports research conducted by (Saxena, 2017), (Zhang et al., 2019) The higher the perceived quality, the higher the Customer Trust. Consistent Perceived Quality plays a role as the beginning of the formation of strong Trust in the long term.

The perceived service quality (Perceived Quality) has a direct positive influence on customer/passenger satisfaction (Passenger Satisfaction), meaning it is in accordance with hypothesis 2 (H2). The results of this study are in line with the results of several analyses (Machado-León et al., 2017), (Zefreh et al., 2020) shows that service quality has a positive and significant effect on customer satisfaction. This means that the better the quality of service that can be provided, if it can exceed consumer expectations, it will certainly increase customer satisfaction, that service quality is an important determinant of user satisfaction.

The perceived service quality (Perceived Quality) has a direct positive influence on the customer's perceived value (Perceived Value), meaning it is in accordance with hypothesis 3 (H3). The results of this research are in line with research (Shen et al., 2016), (Lai & Chen, 2011), (Marina et al., 2023) that service quality positively influences perceived value, company management should focus not only on increasing customer satisfaction but also on increasing customer perceptions of overall service quality and increasing consumer perceived value.

Customer satisfaction (Passenger Satisfaction) can have a positive influence on trust, meaning it is in accordance with hypothesis 4 (H4). The results of this study are in line with (Leninkumar, 2017), (Gul, 2014), (Prameka et al., 2017) that trust is essential in relationships means that customers must have had previous pleasant experiences that lead to trust.

The perceived service value (Perceived Value) has a direct positive influence on customer satisfaction (Passenger Satisfaction), meaning it is in accordance with hypothesis 5 (H5). The relationship between perceived value and customer satisfaction is when customers expect to receive benefits that are greater than the costs of each purchase made. When there are additional benefits that consumers can experience, purchases become more valuable and satisfaction increases. This research is in line with several studies conducted by (Prameka et al., 2017), (Rasoolimanesh et al., 2016). Perceived value cannot have a positive influence on customer loyalty, meaning it is not in accordance with hypothesis 6 (H.6 is rejected). In another sense, perceived value indicators such as price, availability of trains/seats, comfort provided

and comfortable and orderly station waiting rooms do not significantly influence passenger loyalty.

However, the results of this hypothesis test apparently contradict several analyzes carried out by (Muskat et al., 2019), (Hallak et al., 2018) shows that perceived value has a positive and significant effect on loyalty. Good service quality or added value for consumers certainly influences loyalty. So that Perceived Value can have a positive and significant influence on Passenger Loyalty, in this study the researcher added the Transit Oriented Development (TOD) variable which has never been in research as a Moderation variable, so that the research results show that the p-value = 0.000 < significance 0 .05, T Statistics value = 4.168 > 1.98 (weight significance) and coefficient value = 0.143 (posistf) thus Perceived Value has a positive and significant influence on Passenger Loyalty which is moderated by the Transit Oriented Development (TOD) variable so that the hypothesis (H.11) accepted).

Customer satisfaction (Passenger satisfaction) can have a positive influence on customer loyalty (Passenger loyalty), meaning it is in accordance with hypothesis 7 (H7). The results of this study are in line with (Wonglakorn et al., 2021), (Hizam et al., 2021) shows that customer satisfaction has a significant effect on customer loyalty. The higher the customer satisfaction after using a transportation company's services, the higher the consumer's desire to be loyal or become a loyal customer to the transportation company.

Trust/trust (Trust) can have a positive influence on customer loyalty (Passenger loyalty), meaning it is in accordance with hypothesis 8 (H.8). The results of this study are in line with (Fu & Juan, 2017), (Shen et al., 2016) that when a service provider successfully builds customer trust, customers perceive low risk and will have more confidence in the reliability and integrity of the service provider and become loyal as a result. However, previous research carried out by (Vicente et al., 2020) (Wahyudi, 2019) stated that Trust has not been able to encourage consumers to become loyal to transportation company products. Besides that, other research (Effendi & Yenita, 2023) shows that Trust is not able to influence Customer Loyalty of inter-city train passengers across Java (Indonesia), thus there are inconsistencies in this research. To make Trust really be able to have a positive and significant influence on Passenger Loyalty, in this study the researcher added Passenger Preference as an intervening variable that has never existed before. Preference is defined as a person's choice of liking or disliking a product, good or service that is consumed (Kotler et al., 2016) or as a consumer's attitude towards a choice of product brand or supplier which is formed through an evaluation process. By adding the Passenger Preference variable, the research results showed that the p-value = 0.000 < significance 0.05, the statistical T value = 3.635 > 1.96 (significant weight level) and the coefficient value (original sample) 0.165 (positive). Thus it is concluded that Trust has a positive and significant influence on Passenger Loyalty through Passenger Preference so that H.12 is accepted, this is in line with previous research (Zulvani et al., 2022), (Halpern et al., 2021).

Trust/trust (Trust) can have a positive influence on customer preferences/choices (Passenger Preference), meaning it is in accordance with hypothesis 9 (H9). Trust is important to companies because companies cannot build true relationships without trust. Service user preferences/choices (Passenger Preference), as a feeling of preference, choice, or something that consumers like with various choices or various opportunities to choose products or services (Vanacore et al., 2021). Therefore, customers need full trust in the company, which ultimately can influence consumer preferences/choices in using services or products provided by service and product providers (Fong et al., 2023).

Customer/passenger likes/choices (Passenger preferences) can have an influence on customer loyalty (Passenger loyalty), meaning it is in accordance with hypothesis 10 (H10). This research is in line with (Zheng et al., 2016), (Hatziioannidu & Polydoropoulou, 2022), Passenger preferences/likes/choices depend on factors in using public transportation, especially

rail-based transportation, such as rail coverage or networks that cover remote areas, excellent service, reliability of facilities and infrastructure, comfort and safety which can make people use public-based transportation. railroad and ultimately create loyalty in using the train.

Perceived value can have a significant influence on customer loyalty (Passenger loyalty) moderated by the transit-oriented development area development variable, meaning it is in accordance with hypothesis 6 (H6). The results of this study are in line with research (Wonglakorn et al., 2021), (Zhao & Shen, 2019), (Kim & Park, 2019) Therefore, the perceived value will have more influence on customer loyalty with the development of the TOD area. It is important to note that although TOD can positively influence public transit user loyalty, its effectiveness depends on various factors such as design and implementation, TOD strategy, quality and reliability of the public transit system, and overall neighborhood attractiveness.

Trust can have an influence on Passenger loyalty through Passenger preferences, meaning that hypothesis 12 is accepted. Based on several researchers, customers trust service providers, they tend to be loyal to service providers (Deng et al., 2010). Supported by other researchers (Zulvani et al., 2022), (Halpern et al., 2021) Trust plays an important role in creating and maintaining customer loyalty and making rail-based public transportation the people's choice and preference. Passenger Preference is a feeling of preference, choice or something that consumers like with many choices or opportunities to choose different products and services. So that it can increase the loyalty of users of public transportation services, especially trains.

Customer/passenger loyalty can have an influence on behavioral intention to purchase, meaning it is in accordance with hypothesis 10. The results of this study are in line with several studies (Miao et al., 2022), (Cakici et al., 2019) explains repurchase intention in a social psychology perspective as the intention to continue or, to remain in a relationship with a particular brand or brands and states that customers' repurchase behavior is highly dependent on the benefits received in their past encounters. According to (Colquitt & Zapata-phelan, 2007), in research results that can be called Novelty if: 1. The research tests a new pattern of relationship (causality), which has never been tested so far, 2. Is able to provide a more holistic/complete explanation regarding the mechanism or process of the relationship between variables, 3. Introduces variables A new (construct) that has never existed before, either originating from one's own original idea or one that has been put forward by another researcher but has not been properly conceptualized, 4. Able to explain or solve problems with inconsistent previous research findings.

From the description of the research involving 8 (eight) variables with the 13 hypotheses mentioned above, namely Perceived Quality, Perceived Value, Customer Satisfaction, Trust, Passenger Loyalty and Behavior to Purchase variables, and the addition of 2 (two) Passenger Preference variables as Intervening Variables and TOD Variables. as a moderating variable, Passenger Loyalty becomes more stable and stronger, so that the novelty of this research can be conceptualized as follows; Residential areas that are environmentally friendly, pedestrian and cyclist friendly, high density, compact and diverse, have accessibility and connectivity with the transit system, create trust which is supported by Passenger Preference, thus creating high passenger loyalty. to use public transport.

In quadrant I, the interests of service users are very high but performance is still low so that railway service providers must try to improve their performance seriously, namely: 1. Fast train travel without obstacles, meaning that the train does not stop on the freeway due to technical problems such as signalling, electrical power, rail roads or natural disturbances, 2. Rolling Stock reliability level, namely maintenance of facilities must be improved so that it has high reliability and does not breaking down during operations, 3. Integrating with other modes, namely accelerating the realization of an integration system for infrastructure, facilities/modes,

ticket systems and schedule integration systems, 4. Using a single ticket system, namely realizing the use of a single ticket system in the urban transportation system.

In quadrant II, which describes the high desires of service users and the performance of rail transportation service providers is high, so it must be maintained in order to create service user loyalty. In quadrant III and quadrant IV, because the interests of service users are not high, there is still no need to improve anything.

Perceived quality has a positive and significant influence on passenger satisfaction, perceived value and trust, passenger satisfaction has a positive and significant influence on trust, passenger satisfaction has a positive and significant influence on passenger loyalty. Trust has a positive and significant influence on preferences and passenger loyalty, preferences also have a positive and significant influence on passenger loyalty, while perceived value has a positive and significant influence on passenger satisfaction, but does not have a positive and significant influence on passenger loyalty. So that perceived value can have a positive and significant influence on passenger loyalty, the transit oriented development variable is added as a moderating variable so that perceived value can play a role in having a positive and significant influence on passenger loyalty.

The conclusion from the IPA matrix is that in quadrant I, which means that the desires of service users are very high but the performance of transportation service providers is low, so to improve services, railway operators must immediately improve their performance, which includes four things, namely: 1. Fast train travel without obstacles, meaning that the train does not stop on the freeway due to technical problems such as signalling, electrical power, rail roads or natural disturbances, 2. Rolling Stock reliability level, namely maintenance of facilities must be improved so that it has high reliability and does not breaking down during operations, 3. Integrating with other modes, namely accelerating the realization of an integration system for infrastructure, facilities/modes, ticket systems and schedule integration systems, 4. Using a single ticket system, namely realizing the use of a single ticket system in the urban transportation system.

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