

# Analyzing the Impact of Airport Train Accessibility and Self-Service Check-In System at Soekarno-Hatta International Airport

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**Abstract.** Soekarno-Hatta International Airport plays a significant role in supporting the tourism industry and national connectivity. Beyond aircraft, the Airport Railway also serves as a critical facilitator of passenger mobility. This research aims to assess passenger satisfaction concerning Railink services and airport facilities, such as self-service check-in (SSCI). The primary objective of this study is to measure the accessibility of the Airport Train and the utilization of SSCI, as well as their impact on customer satisfaction. This research adopts a quantitative approach, utilizing questionnaires collected from 100 respondents from Soekarno-Hatta Airport facility users. The data collected have been subjected to analysis employing the SPSS method, using a multiple linear regression model to examine the influence of the aforementioned variables on customer satisfaction. The result of airport train accessibility (X1) and self check-in facilities (X2) positively impact 63% of the observed variability in user satisfaction.

**Keywords:** Airport Train Accessibility, Self Service, Airport Facilities, User Satisfaction.

## 1 Introduction

Soekarno-Hatta Airport, in Tangerang, is one of Southeast Asia's biggest airports. PT Angkasa Pura II operates the airport to provide top-notch service to passengers. The airport is a key transportation hub and always strives to improve passenger service quality. Soekarno-Hatta Airport serves not only as an entry and exit point for passengers coming and going from Jakarta, but also as a connecting hub that connects various regions in Indonesia. Its extensive network of flights plays an important role in supporting national integration and facilitating cultural exchange, business, and tourism among the regions of Indonesia.

In order to respond to the challenge of traffic congestion on the airport access road, the government and the airport authority introduced the Soekarno-Hatta Airport Train. The train's purpose is to connect the airport with central Jakarta, offering passengers a rapid, effective, and convenient mode of transportation. Transportation accessibility

to/from Soekarno-Hatta Airport is an important part of customer service and satisfaction (Gresyta BrN et al., 2020). In 2018, President Joko Widodo of the Republic of Indonesia launched the Soekarno-Hatta Airport Train, a project that provides a safe, comfortable and efficient way to travel to and from the airport (Presiden Joko Widodo Resmikan Pengoperasian KA Bandara Soekarno-Hatta Kementerian Perhubungan Republik Indonesia, n.d.). Soekarno-Hatta Airport Train operates a roundtrip service between Soekarno-Hatta Airport and Manggarai with six trains in with a capacity of 272 passengers. The Airport Train stops at six stations, namely Manggarai Station, BNI City Station, Duri Station, Batuceper Station, and Soekarno-Hatta Airport Station. This service represents a significant advancement for travelers seeking efficient and punctual transport to Soekarno-Hatta International Airport (Ricardianto et al., 2023). KRL passengers from Bogor and Bekasi can connect to the airport train at Manggarai station to Soekarno Hatta airport and vice versa. Sudirman is an area densely populated with office buildings, enabling market segmentation (Nabilatul Farachiyah et al., 2020).

Furthermore, the airport offers accessible features and other facilities, such as the Automated People Mover System (APMS) or Skytrain, which connects the Airport Train to the terminals. The Airport Train initiative aims to simplify commuting for Jakarta residents and visitors by integrating public transportation, including KRL, Transjakarta buses, MRT, and LRT, resulting in improved transportation efficacy, lower fees, and shorter travel times. (Indo Cargo Times, n.d.).

When travelers arrive at the airport, the check-in process is an important step. At this point, airport employees must confirm the information on the passenger's ID card (document verification), accept their baggage (baggage handover), and allocate a seat (seat assignment) by checking the system (Airport Check-In | Learning Abroad Center, n.d.). In order to reduce long queues at regular check-in counters caused by an increase in the number of passengers, PT Angkasa Pura 2 (AP2) has introduced self-service check-in (SSCI) services at the airport terminal. Self-service check-in is a place where customers can complete various procedures and security requirements using a machine. Self-service check-in does not include bag drop service. Instead, customers can use an automated baggage drop machine to transport their belongings before their flight. Self-check-in offers benefits such as shorter wait times, time savings, and a reduced chance of missing your flight. All you need to do is scan the barcode or enter your e-ticket number, select your seat and print your boarding pass.

From our observations, we noticed that the use of airport trains involves two stages: a journey on the airport train itself and a subsequent journey on an elevated train. This occurrence is notable due to the added time and possible inconvenience for passengers, raising concerns regarding the journey's efficiency.

Additionally, our attention was captured by the implementation of self-check-in facilities for luggage collection. With the increasing demand for efficient and convenient air travel, this service presents a promising solution. By utilising technology, customers can complete the check-in process independently, yet must still visit a conventional counter for luggage drop-off. Given Soekarno-Hatta Airport's high traffic and passenger volume, baggage self-service facilities may be instrumental in speeding up operations and improving efficiency.

## 2 Literature Review

Airport trains are an important mode of transportation connecting airports to city centers and other locations. It is important to have accessible transportation options for people and goods to move around easily. With the increasing need for fast and efficient transportation, airport trains offer an alternative that can reduce dependence on private vehicles and taxis. In addition, taking the airport train can lower travel expenses and time to the airport, as well as enhance the convenience and comfort of the trip. (Christasto et al., 2020).

Self-check-in is a computer-based system that scans passenger tickets and e-ticket numbers (if applicable) to verify the check-in process. Self-check-in at airports is now a convenient solution for passengers to improve efficiency. Self service technology (SST) is a technological intermediary that allows consumers to produce their own services without depending on employees, for example ATMs and company services via the internet Rambat (2013) cited by (Sihombing & Astutik, 2023).

Furthermore, a study conducted at Cairo International Airport revealed that utilizing e-check-in significantly contributes to customer satisfaction during the check-in procedure due to its ability to decrease wait times, Abdel Rady (Abdel Rady, 2017). According to Lee et al (Lee et al., 2014) Passengers can use kiosk machines to check-in without queuing at the flight counter. A study conducted at Singapore Changi Airport showed that self-check-in kiosks reduce processing time and queues, providing customers with faster and more efficient service.

Accessibility, according to Sheth and Sisodia (2012), refers to the ease with which customers can obtain and use products. It has two dimensions:

1. Availability, determined by factors such as supply relative to demand, the extent to which products are stored, and related products and services.
2. Convenience is determined by various factors, including the time and effort necessary to acquire the product, the product's accessibility at different locations, and packaging offered in convenient sizes. (Prawira & Pranitasari, 2020)

According to Yatskiv et al. (Yatskiv et al., 2017) The primary objective of the assessment of public transportation accessibility is to improve connectivity between people and places, thereby reducing road congestion. In essence, utilizing public transportation offers the opportunity to mitigate the adverse impacts of car use on the environment and public health.

According to Marina (2018) cited by Binarti & Subandi (Binarti & Subandi, 2023) Customer satisfaction is a person's feelings of pleasure or disappointment after comparing product performance or perceived reality with what is expected.

According to Suharto (2013) Customer satisfaction or client fulfillment can be a condition that describes the fulfillment, even the exceeding of expectations for a product or service carried out by the producer or business entity. Cited by (Keke et al., 2023)

According to Tjiptono (2017), customer satisfaction involves a comprehensive evaluation of the perceived performance of the selected product/service, which should fulfill or exceed the expectations set prior to purchase. Meanwhile, Daryanto (2019)

defines consumer satisfaction as an evaluative process. emotional consumer experience post-product use, where the hopes and needs of the consumer are fulfilled. (Rahma et al., 2022)

An airport, as defined by the International Civil Aviation Organization (ICAO) (International Civil Aviation Organization (ICAO), 2004), is an area on land or water that's arranged for airplane activities such as landing, taking off, and moving around. Airports also offer services where passengers can board and disembark and where goods can be loaded and unloaded. An airport also includes facilities for flight safety and security.

According to Undang Undang No. 1 Tahun 2009 (Undang Undang No. 1 Tahun 2009, 2009) on Aviation, which applies in Indonesia, describes an airport as an area with certain boundaries on land or water. This area is used for landing and taking off aircraft, as well as for the activities of boarding and unloading passengers and goods. The airport also functions as a transitional center between modes of transportation and is equipped with aviation safety and security facilities, as well as other basic and supporting facilities.

### **3 Research method**

This study will implement data collection through a survey of users of Soekarno Hatta International Airport. In this series of studies, the impact of two main variables, namely the level of service convenience and the smoothness of the process, on the level of customer satisfaction will be explored. The analytical approach that will be applied is the multiple regression test, which allows to identify and measure the extent to which the relationship between these variables affects the level of customer satisfaction.

The type of research used is quantitative research. According to Sugiyono (Sugiyono, 2010) The quantitative method is a traditional, positivistic-based research approach that is scientific, objective, and measurable. It employs statistical analysis of numerical data and is known for its capacity for discovery and scientific advancement. Generally conducted on randomly selected samples, this method allows for the generalization of research findings to the larger population from which the sample is taken. Additionally, SPSS version 26 was used to analyze the data gathered for this research.

#### **3.1 Population & Sample**

In research, the term "population" refers to the complete set of research subjects, which may include people, objects, animals, plants, phenomena, test results, or events. These subjects serve as data sources and share specific characteristics relevant to the study Hardani (Hardani, 2020). The population in this study was Airport Train consumers and SSCI users who had purchased an Airport Train ticket and used the SSCI kiosk.

The sample is part of the number and characteristics possessed by the population Sugiyono (Sugiyono, 2010). The sample size must be sufficient to accurately represent the population in the study. According to Sugiyono (2015: 223) cited by Prawira & Pranitasari (Prawira & Pranitasari, 2020), two crucial factors influence research data quality: the quality of research instruments and the quality of data collection. Research instrument quality concerns reliability and validity, while data collection quality focuses on accuracy of data collection methods. Therefore, an instrument that has been validated for both reliability and validity may not provide reliable and accurate data if it is not used appropriately during data collection.

Multiple regression analysis can be used to predict or make predictions about the effect of manipulating or changing the values of two or more other quantities (independent quantities). By using multiple regression analysis, researchers can understand how variations in two or more independent variables can affect the dependent variable. (Sugiyono, 2019:275).

This study aims to provide valuable insights into the key factors that can improve customer satisfaction in the air transport industry.

### 3.2 Hypotesis

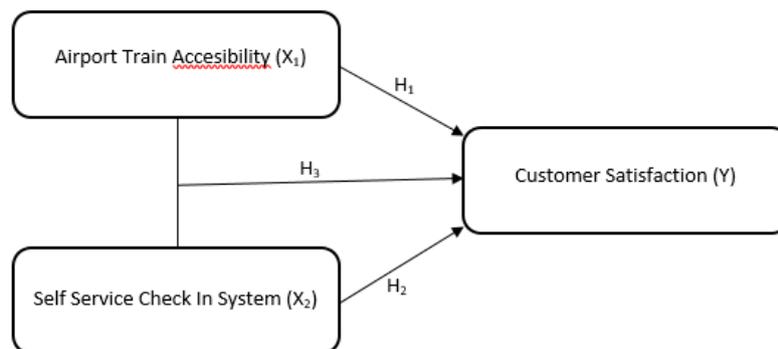


Fig. 1. Research model

From the theoretical foundation and framework of thought above, the hypotheses in this study are:

H<sub>1</sub>:Airpot train accessibility significantly affects the Customer Satisfaction.

H<sub>2</sub>:Self Service Check In System affects the Decision affects the Customer Satisfaction.

H<sub>3</sub>:Airpot Train Accesibility and Self Service Check In System affect the Customer Satisfaction.

## 4 Results and discussion

This study was developed through a comprehensive analysis of the relevant literature, followed by the integration and revision of various components of the questionnaire. The survey questionnaire design is based on multiple-item measurement scales. The measurement items have been adapted to an airport environment and all measurement items are based on a 5-point Likert scale from 1 = strongly disagree / unimportant to 5 = strongly agree / important. (Marty, 2016). The survey categorized related information into three aspects: accessibility to the airport train station (5 questions), self-service check-in facilities (5 questions), and customer satisfaction with the services provided (6 questions), for a total of 16 questions. The research was conducted. conducted between October 5, 2023 to October 19, 2023 among airport train users and self-service check-in users at Soekarno-Hatta Airport.

Analyze 100 respondents' characteristics by studying population frequencies and general characteristics. The gender distribution of respondents is 50% male and 49% female. 17-24 y.o 55%, 29% of the respondents are between 25 and 34 years of age. While 16% fall in the age range of 35 to 44. Employment percentages by category are as follows: 46% of the individuals surveyed were students, 28% were employed in the private sector, 13% were civil servants, 7% were entrepreneurs, 3% were housewives, and 6% fell into the "other" category.

**Table 1.** Number of passengers Soekarno-Hatta Airport Railways

Description	2019	2020	2021	2022
KA Bandara Soekarno Hatta / Soekarno Hatta Airport Railways	1.492.407	543.927	216.375	926.608

Source : Direktorat Lalu Lintas dan Angkutan Kereta Api, 2022

A review of passenger trends at Soekarno-Hatta Airport Trains in recent years may provide a relevant context for understanding the influence of Airport Train ( $X_1$ ) and Self-Service Check-in Facility ( $X_2$ ) on the satisfaction levels of airport users. The discussed number of travelers exhibits substantial year-to-year fluctuations.

In the year 2019, the total count of individuals utilizing airport rail services amounted to 1,492,407. However, there was a significant decline in passenger numbers between the years 2020 and 2021, with figures plummeting to 543,927 and 216,375, respectively. The observed decrease in usage can potentially be attributed to the repercussions of the COVID-19 epidemic, during which a significant number of individuals limited their air travel activities, thereby impacting the utilization of airport trains as well. By 2022, we predict a significant increase in the number of travelers to 926,608. This observation may suggest a potential resurgence in air travel or a heightened utilization of airport trains within the given timeframe. Put simply, there may be a connection between the utilization of Airport Train Accessibility ( $X_1$ ) and the patterns observed in passenger figures.

In addition, it has been previously discussed within the study's context that the Self-Service Check-in Facility ( $X_2$ ) capability has an important effect on customer satisfaction. The utilization of the Airport Train Accessibility together with the self-service check-in facility has the potential to enhance the efficiency and comfort of airport passengers. As a result, within a wider framework, the utilization of Airport Train Accessibility ( $X_1$ ) and the integration of an effective Self-Service Check-in Facility ( $X_2$ ) have the potential to enhance the efficiency and convenience felt by airport passengers, despite variations in passenger volumes.

#### 4.1 Hypothesis test

##### Validity Test.

According to Ghozali (2013) cited by Ardista (Ardista, 2021), the validity test aims to evaluate the questionnaire's quality as a research instrument, ultimately determining its validity. A survey is considered valid if its questions can accurately measure what is being investigated. The criteria used are valid or invalid if the correlation between the scores of each question item with the total score has a significant level below 0.05 then the item question is invalid, and if correlated the score of each item question with the total score has significant level above  $> 0.05$ .

**Table 2.** Validity Test data processing results

Variabel	Statement	r Calculate	r Tabel	Information
Airport Train Accessibility ( $X_1$ )	X1.1	0,635	0,197	VALID
	X1.2	0,702		VALID
	X1.3	0,717		VALID
	X1.4	0,689		VALID
	X1.5	0,722		VALID
SSCI ( $X_2$ )	X2.1	0,684	0,197	VALID
	X2.2	0,800		VALID
	X2.3	0,791		VALID
	X2.4	0,706		VALID
	X2.5	0,636		VALID
Customer Satisfaction (Y)	Y1.1	0,639	0,197	VALID
	Y1.2	0,845		VALID
	Y1.3	0,581		VALID
	Y1.4	0,679		VALID
	Y1.5	0,706		VALID
	Y1.6	0,805		VALID

Source: Data processed by the author using SPSS 23

##### Reliability Test.

According to Adamson and Prion (2013), the Cronbach alpha test is used to test the reliability of measures with multiple correct responses. These types of instruments

typically manifest in the form of questionnaires or essays. According to Nunnally (2003), the instrument is considered reliable if the Cronbach's Alpha reliability coefficient is greater than 0.70 ( $r_i > 0.70$ ). Streiner (2003), on the other hand, suggests that the coefficient should not exceed 0.90 ( $r_i < 0.9$ ), as cited by (Yusup et al., 2018).

**Table 3.** Reliability Test data processing results

Variable	Cronbach's alpha	Information
Airport Train Accesbility ( $X_1$ )	0,728	Reliable
Self Service Check In ( $X_2$ )	0,774	Reliable
Airport User Satisfaction (Y)	0,806	Reliable

Source: data processed by the author using SPSS 23

**Simultaneous test ( F ).**

**Table 4.** Simultaneous test results (f)

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.848	2	19.924	90.971	.000 <sup>b</sup>
	Residual	23.434	107	.219		
	Total	63.282	109			

a. Dependent Variable: Airport User Satisfaction (Y)

b. Predictors: (Constant), Self Service Checkin Facility ( $X_2$ ), Airport Train Accesbility ( $X_1$ )

Source: data processed by the author using SPSS 23

The results of the test show that the p-value is greater than the significance value of 0.05. This indicates that since  $0.000 < 0.05$ , it means that Airport Train Accessibility and SSCI facilities simultaneously affect the satisfaction of users of Soekarno-Hatta International Airport.

**Partial test ( T ).**

The t-test evaluates how each independent variable (individually and partially) relates to the independent variable. This means that explaining the use of the airport train and self-service check-in separately can affect user satisfaction at Soekarno-Hatta International Airport.

**Table 5.** Partial test results (t)

Model	Coefficients <sup>a</sup>					
	Unstandardized Coefficients			Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.	
1	(Constant)	.379	.272		1.391	.167
	$X_1$	.277	.068	.275	4.073	.001
	$X_2$	.629	.068	.622	9.211	.002

a. Dependent Variable: Airport User Satisfaction (Y)

Source: data processed by the author using SPSS 23

Based on the table above, each independent variable can be concluded as follows:

1. The significant value of the Airport Train Accessibility ( $X_1$ ) is  $0.001 < 0.05$ , and the calculated t value is  $4.073 > t$  table 1.986. From the description it can be concluded that the Service Quality variable ( $X_1$ ) significantly affects the Customer Satisfaction (Y).
2. The estimated t value is  $9.211 > t$  table is 1.986, and the significant value of the Self Service Check-In ( $X_2$ ) is  $0.02 < 0.05$ . From the explanation, it can be inferred that the Self Service Check-In ( $X_2$ ) is highly influenced by the Customer Satisfaction (Y).

**Determination coefficient test (R<sup>2</sup>).**

To find out how much the independent variable can explain the dependent variable, the coefficient of determination test is used. A value greater than 0.052 is considered a good R-squared value.

**Table 6.** Determination coefficient test results (R<sup>2</sup>)

<b>Model Summary<sup>b</sup></b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.794 <sup>a</sup>	.630	.623	.46799

a. Predictors: (Constant), Self Service Checkin Facility ( $X_2$ ), Airport Train Accesbilty( $X_1$ )

b. Dependent Variable: Airport User Satisfaction (Y)

Source: data processed by the author using SPSS 23

According was 63%. This implies that 63% of the population's interest (Y) was impacted by the two independent variables, Airport Train Accessibility ( $X_1$ ) and self-service check-in system ( $X_2$ ). The other 37% was influenced to the Table of Model Summary above, the R-square value (R<sup>2</sup>) was 0.630, or the coefficient of determination by unidentified factors not considered in this study. The value closer to 1 signifies a stronger effect of the independent variables acting simultaneously.

**4.2 Multiple Linear Regression Analysis**

The purpose of multiple linear regression analysis is to determine how two or more independent variables or independent variables (X) affect the dependent variable or dependent variable (Y). The results of calculations carried out using the SPSS program in this study are as follows:

$$Y = 0,379 + 0,227 X_1 + 0,442 X_2$$

Based on the regression model, a constant (a) of 0.379 is obtained, meaning that if the Airport Train Accessibility ( $X_1$ ) and Self Service Check-in Facility ( $X_2$ ) are zero,

then the User Satisfaction obtained is 0.379. Then the coefficient value of Airport Train Accessibility is 0.227, meaning that if the use of airport trains increases by one percent, then airport user satisfaction increases by 22.7 percent provided that the other independent variables are constant. While the coefficient value of Self Service Checkin is 0.442, meaning that if the SSCI facility style increases by one percent, airport user satisfaction will increase by 44.2 percent provided that the other independent variables remain constant.

## 5 Conclusion

Our research with using SPSS analysis has demonstrated that the joint use of Airport Train Accessibility ( $X_1$ ) and self-service check-in facilities ( $X_2$ ) significantly impacts the satisfaction levels of airport users. This research provides a strong foundation for improving airport services and upgrading existing facilities to enhance user satisfaction.

The results of an empirical study employing partial-t tests support the claim that using the Airport Train Accessibility ( $X_1$ ) and Self-Service Check-In Facilities ( $X_2$ ) significantly improves airport passengers' satisfaction levels. Thus, the airport management should consider investing in these areas to enhance customer satisfaction in the future.

The statistical analysis indicates that airport trains and self-service check-in facilities have a significant and simultaneous impact on user satisfaction, as the p-value surpassed the standard significance level of 0.05 (95%), affirming their integral role in the airport user experience.

The regression model, represented by the equation  $Y = 0.379 + 0.227X_1 + 0.442X_2$ , proved to be a strong tool for quantifying the relationship between the independent variables and user satisfaction ( $Y$ ). The value of the constant ( $a$ ), 0.379, reveals that when both Airport Train Accessibility ( $X_1$ ) and self-service check-in facility usage ( $X_2$ ) are lacking, user satisfaction begins at 0.379. The coefficients reveal the dynamic nature of these variables: a one percent increase in Airport Train Accessibility results in a 22.7 percent increase in user satisfaction. Similarly, a corresponding increase in self-service check-in usage results in a remarkable 44.2 percent improvement in user satisfaction.

Furthermore, it is significant that the coefficient of determination ( $R^2$ ) has a value of 0.630, indicating that the result of airport train accessibility ( $X_1$ ) and self check-in facilities ( $X_2$ ) positively impact 63% of the observed variability in user satisfaction. The remaining 37% of variability was not examined in this study. Therefore, it is essential that further research is carried out on various aspects that may be able to influence the level of satisfaction perceived by customers in the future.

Based on our findings, the airport management can utilize our research to design better development strategies aimed at enhancing the user experience and satisfaction level at Soekarno-Hatta airport. Our results provide valuable insights that can be used to achieve this objective.

## 6 Implications

Implications of these research findings may include some important aspects for airport management and advanced research:

1. **Airport Service Development:** The primary implication is that airport management at Soekarno-Hatta, should to prioritize the important role of Airport Train Accessibility ( $X_1$ ) and Self-Service Check-in ( $X_2$ ) Facilities in enhancing user satisfaction. It is advisable for stakeholders to contemplate allocating resources towards enhancing and advancing both of these criteria in order to enhance the overall quality of airport services.
2. **Increased efficiency and convenience:** The implementation of these findings by airport management can facilitate enhancements to the user experience, which will improve convenience and efficiency. Two ideas for reducing waiting times include enhancing airport train schedules and expanding the availability of self-service check-in options.
3. **Application of Results to Other Airports:** The impacts of these discoveries may extend to airports that are situated in many different countries. Based on these findings, it is recommended that the management of other airports do an investigation on the utilization of their airport train and self-service check-in facilities.

## 7 Research limitations

In this study, limitations must be recognized. Additionally, it is worth noting that questionnaires have limitations in uncovering the depths of the respondents' perspectives. Firstly, while the quantitative methodology used is effective in evaluating the indicated variable, it may not entirely reflect the participant's qualitative viewpoint. It is necessary to recognize that questionnaires, as a research instrument, have limitations in exploring the depth of respondent perspectives.

The process of analyzing data has limitations. While SPSS and multiple linear regression models are powerful tools, they may not be able to capture more complex relationships between variables. The small sample size and selection criteria could also affect the generalizability of the results.

This study focuses on Soekarno-Hatta International Airport, which means that the findings may not be applicable to other airports or different geographic regions. Additionally, it is important to note that the focus on Airport Train and SSCI may overlook other factors that affect customer satisfaction, such as the quality of customer service or the cleanliness of facilities.

Time and resource limitations also affected this study. The limited time available to conduct this research may have affected the depth and scope of the analysis. Additionally, External factors like price changes or the COVID-19 pandemic may also influence customer satisfaction, but these were not accounted for in this study.

Finally, this study may lack support from existing customer satisfaction theories, thus affecting the validity of the findings. As described by (Kozak et al., 2013) identi-

fyng these limitations will provide a more comprehensive insight into the results and opportunities for further research in this area.

## References

1. Abdel Rady, H. (2017). Empirical Analysis of Passenger Self-Service Implementation in Cairo International Airport. *International Journal of Heritage, Tourism and Hospitality*, 11(1), 17–29. <https://doi.org/10.21608/ijhth.2017.27863>
2. Ardista, R. (2021). Pengaruh Kualitas Pelayanan Terhadap Kepuasan Pelanggan PT. Langit Membiru Wisata Bogor. *Parameter*, 6(1), 38–49. <https://doi.org/10.37751/parameter.v6i1.160>
3. Binarti, I., & Subandi, S. (2023). the Role of Self Check-in Facilities and Service Quality on Passenger Satisfaction At the Terminal Domestic International Airport I Gusti Ngurah Rai. *Jurnal Ekonomika Dan Manajemen*, 12(1), 64. <https://doi.org/10.36080/jem.v12i1.2254>
4. Chrismasto, W., Muthohar, I., & Parikesit, D. (2020). The Ability to Pay and Willingness to Pay on Operation of Adi Soemarmo Airport Train Access Line to Airplane Passengers. *Journal of the Civil Engineering Forum*, 6(1), 37. <https://doi.org/10.22146/jcef.48405>
5. Gresyta BrN, I., Adelia, C., Yuzal, I., & Ibnu Khaldun, A. (2020). *the Effect of Price and Accessibility on Consumer Interest in Using Soekarno-Hatta Airport Train*. 3, 352–360. <https://proceedings.itltrisakti.ac.id/index.php/ATLR/article/view/290/317>
6. Hardani. (2020). *Metode penelitian kualitatif & kuantitatif* (H. Abadi (Ed.); Cetakan I). Penerbit Pustaka Ilmu.
7. *Indo Cargo Times*. (n.d.). Retrieved October 7, 2023, from <https://indocargotimes.com/2017/kereta-api-segera-layani-bandara-soekarno-hatta>
8. International Civil Aviation Organization (ICAO). (2004). *Aerodrome Design and Operations: Vol. I: Vol. I* (Issue July).
9. Keke, Y., Akira, H. F., Abel, A., Hardiand, T., Yuliantini, Y., Ghafar, A., & Yulihapsari, I. U. (2023). The Impact of Service Quality and Brand Image Through Passenger Satisfaction During New Normal Pandemic Covid -19. *Majalah Ilmiah Bijak*, 20(1), 43–51. <https://doi.org/10.31334/bijak.v20i1.2703>
10. Kozak, M., Bigné, E., & Andreu, L. (2013). Limitations of cross-cultural customer satisfaction research and recommending alternative methods. *Current Issues and Development in Hospitality and Tourism Satisfaction*, 37–60. [https://doi.org/10.1300/J162v04n03\\_04](https://doi.org/10.1300/J162v04n03_04)
11. Lee, C. K. M., Ng, Y., Lv, Y., & Tazoon, P. (2014). Empirical analysis of a self-service check-in implementation in Singapore Changi Airport. *International Journal of Engineering Business Management*, 6(1), 33–44. <https://doi.org/10.5772/56962>
12. Marty, Y. (2016). Airline Customer Retention in Indonesia 2015. *International Journal of Management Sciences and Business Research*, 2015(2), 41–53.
13. Nabilatul Farachiyah, Meidiana Caesariyanti, Yoanita Octora, & Dian Artanti Arubusman. (2020). the Influence of Location and Price Fairness Toward Purchase Intention Mediated By the Convenience on Soekarno - Hatta Airport Train. *Global Research on Sustainable Transport & Logistic*, 161–169. <https://proceedings.itltrisakti.ac.id/index.php/ATLR/article/view/268%0Ahttps://proceedings.itltrisakti.ac.id/index.php/ATLR/article/download/268/303>
14. Prawira, S. A., & Pranasari, D. (2020). Pengaruh Aksesibilitas, Inovasi dan Kualitas Pelayanan Fasilitas Publik Terhadap Kepuasan Penumpang Disabilitas di Kereta Rel

- Listrik Jakarta. *Jurnal Sekolah Tinggi Ilmu Ekonomi Indonesia*, 1–15. <http://repository.stei.ac.id/id/eprint/1195>
15. *Presiden Joko Widodo Resmikan Pengoperasian KA Bandara Soekarno-Hatta Kementerian Perhubungan Republik Indonesia*. (n.d.). Retrieved October 7, 2023, from <https://dephub.go.id/post/read/presiden-joko-widodo-resmikan-pengoperasian-ka-bandara-soekarno-hatta>
  16. Rahma, A., Safitri, L. I., Yulianto, A., & ... (2022). Analysis of Service Quality and Safety on Consumer Satisfaction on Go-Jek Users. ... in *Transportation and ...*, 5778, 70–81. <https://proceedings.itltrisakti.ac.id/index.php/ATLR/article/view/486%0Ahttps://proceedings.itltrisakti.ac.id/index.php/ATLR/article/download/486/532>
  17. Ricardianto, P., Yanto, T. A., Wardhono, D. T., Fachrial, P., Sari, M., Suryobuwono, A. A., Perwitasari, E. P., Gunawan, A., Indriyati, & Endri, E. (2023). The impact of service quality, ticket price policy and passenger trust on airport train passenger loyalty. *Uncertain Supply Chain Management*, 11(1), 307–318. <https://doi.org/10.5267/j.uscm.2022.9.012>
  18. Sihombing, B. M., & Astutik, S. P. (2023). The Influence of Self Service Technology on Passenger Satisfaction at General Ahmad Yani International Airport Semarang. *QISTINA: Jurnal Multidisiplin Indonesia*, 2(1), 403–409. <https://doi.org/10.57235/qistina.v2i1.522>
  19. Sugiyono, D. (2010). Metode penelitian kuantitatif kualitatif dan R&D. In *Penerbit Alfabeta*.
  20. Undang Undang No. 1 Tahun 2009. (2009). *UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 1 TAHUN 2009 TENTANG PENERBANGAN. 1*, 1–155.
  21. Yatskiv, I., Budilovich, E., & Gromule, V. (2017). Accessibility to Riga Public Transport Services for Transit Passengers. *Procedia Engineering*, 187, 82–88. <https://doi.org/10.1016/j.proeng.2017.04.353>
  22. Yusup, F., Studi, P., Biologi, T., Islam, U., & Antasari, N. (2018). *UJI VALIDITAS DAN RELIABILITAS*. 7(1), 17–23.