Jurnal Siber Multi Disiplin (JSMD)
E-ISSN: 2987-0380
P-ISSN: 2987-0402
+62 822 1012 3600 https://research.e-siber.org siberpublisher.info@gmail.com
DOI: https://doi.org/10.38035/jsmd.v3i4

Effectiveness of Garuda Indonesia Self Check-In on Services and Operations at Soekarno-Hatta International Airport

Salsabilla Haura Friskasari[1], Brendha Chintya Conny[2], Dinar Dewi Kania[3]
[1]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia, salsabillahauraf@gmail.com
[2]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia.
[3]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia.

Corresponding Author: salsabillahauraf@gmail.com[1]

Abstract: The self check-in process remains a challenge for elderly passengers due to their unfamiliarity with technology. This study aims to evaluate the effectiveness of self check-in services and operations at Soekarno-Hatta International Airport. Using a descriptive qualitative method and interviews as the primary data collection technique, the findings revealed that PT. Gapura Angkasa (Garuda Indonesia) collaborates with several vendors to offer self check-in. These self check-in employ techniques such as entering booking numbers, ticket numbers, and passport scans. A major drawback identified is the potential misuse of booking numbers or tickets, although identity verification is conducted at the boarding gate. The self check-in provide bilingual options in Indonesian and English to enhance usability. However, passengers unfamiliar with technology, particularly the elderly, may still encounter difficulties. To prevent long queues, check-in staff are available to assist passengers.

Keyword: Effectiveness, Self Check-In, Airport, Machine, Baggage, Pax.

INTRODUCTION

In the era of globalization, competition in the airline industry has intensified, pushing companies to enhance their passenger services to remain competitive. One such service innovation is the self-check-in system, which aims to save time and improve efficiency for passengers who do not carry checked baggage. The ability to check in quickly is a crucial factor for many passengers when choosing an airline, making this a strategic area for improvement (Agustus & Fatmayati, 2022).

Soekarno-Hatta International Airport is the main airport in Jakarta, Indonesia. It opened in 1985, replacing Kemayoran (domestic) Airport in Central Jakarta and Halim Perdanakusuma Airport in East Jakarta. Kemayoran Airport has been closed, while Halim Perdanakusuma International Airport is still in operation serving airplane and military flights (Nurnaina, 2019). Terminal 2 opened in 1992. The airport has prepared many facilities to support the smooth running of services, especially in the check-in counter area. The development and growth of the aviation world cannot be separated from the increasing number of users of air transportation services, both for business purposes, tourism purposes

and other purposes (Yoga et al., 2020). Therefore, it is necessary to take special measures and actions to improve the quality of service to passengers.

Garuda Indonesia, as part of its efforts to maintain its reputation as the premier airline in Indonesia, has recognized the importance of optimizing self-check-in services. To ensure smooth operations, passenger flight data security is prioritized, while staff assist elderly passengers or those unfamiliar with technology. The addition of self-baggage drop facilities could further streamline the process, enhancing the time-saving benefits of self-check-in (Binarti & Subandi, 2023).

But the fact is that not everyone can use the self-check-in machine or feel inefficient because they cannot drop luggage if the passenger has checked baggage. Passengers who are categorized as 40 years and over or even for passengers who first use air transportation services will prefer to check-in conventionally because they are not very familiar with technology and the lack of information obtained on self-check-in machines (Bintang, 2024).

With the above incident, the author feels interested to find out further whether the self-check-in machine has been efficient in helping passengers to check-in so far (Kamalia & Santi, 2021).

Some research showed that perceived ease of use and perceived usefulness significantly influenced passengers' adoption and behavior towards Self Service Technology (SST). Interestingly, the need for human interaction was found to be insignificant, as its influence was negative—indicating that passengers felt more comfortable using SST without human interaction (Pale, 2012). Practically, these findings provide insights into how and why passengers use SST, which is crucial for customer relationship management (CRM) (Kholifatun et al., 2022). The results can assist in designing better strategies to manage and coordinate the delivery of SST services at airports. This research adds value by highlighting that human interaction is not essential for passengers when using SST, which differs from previous studies on self-service technology usage (Kurniawan et al., 2019).

Literature review

This Literature Review aims to strengthen the understanding of the effectiveness of self-check-in on service and operations. This research has the potential to serve as a guide for other organizations in the aviation industry looking to adopt and improve services and operations for efficiency and competitiveness in aviation.

1. Airport

An airport is a place where aircraft such as airplanes and helicopters can take off and land. A simple airport has a runway or helipad, while a large airport has many other facilities for air service providers and users, such as terminal buildings and hangars. Location of national multimodal transportation and loading of goods with security equipment, aviation security, bases and other supporting facilities (Ina, 2021).

The role of the airport is the gateway to economic activity, it strives to balance development, economic growth and stability and integrate national and regional development by utilizing the space and space around the airport as a gateway to economic activity (Ardiansyah & Ahyudanari, 2017).

Aviation Law Number 1 of 2009, Pasal 219 states that:

a. Paragraph (l): Every bandar udara badan or unit that provides bandar udara services must provide facilities that ensure the safety and security of the business, as well as provide services that meet the standards of the industry.
b. Paragraph (3): to maintain the readiness of airport facilities, airport operating agencies or airport operating units are required to carry out maintenance within a certain period of time by means of checks, tests, verifications and/or calibrations.

Airport development must meet the following standards for safety and security:

a. Airport construction and/or maintenance facilities
b. Airport operations and utilities
c. Airport facilities and operations.

2. Self-Check-in

Self-Check-in is a facility/place that serves to complete various security and service procedures and requirements using a machine excluding baggage drop. This self-check-in system has a very easy procedure, by simply scanning the barcode or entering the e-ticket number, then selecting a seat and printing the boarding pass. Andrian & Aldelweis (2017) (in Helena et al. 2024) define self-check-in as a facility that serves to complete various security and service procedures and requirements using a machine and can be done alone. The application of the self-check-in system has the main objectives, namely, to help passengers check-in, speed up the work of check-in counter officers, and unravel passenger queues at check-in counters. Self-check-in machines are very helpful for the passenger check-in process, where passengers without luggage can go directly to the waiting room and passengers with luggage go to the check-in counter to drop luggage, so the time is shorter. However, self-check-in machines cannot be used by all categories of passengers.

Key Features of Self Check-In

a. Boarding Pass Printing: Passengers can print their own boarding pass after entering flight information.
b. Seat Selection: Passengers can select or change their seats according to availability.
c. Flight Information Updates: Passengers can check their flight status and get the latest information on departure gates and boarding times.

3. Service

Service is a concept that involves actions or efforts to fulfill the needs or wants of others. Not only about providing services or products, but this effort also involves aspects such as friendliness, attention, and empathy or efforts to meet the needs, desires, or expectations of others. According to Monir in Lallo et al. (2016) says service is an activity carried out by a person or group of people with a material basis or factor through a system of procedures and with certain methods within the framework of efforts to fulfill the interests of others in accordance with their rights. According to Soetopo in Napitupulu (2012) says service is aneffort to help prepare (take care of) what others need.

4. Operational

Operational is operative; relating to operations. Understanding this operational definition is important because it can provide an overview of the scope and activities that occur in various types of organizations (Lilis, 2021).

According to Sugiyono (2015), the definition of operational definitions in research variables is an attribute or trait or value of objects or activities that have certain variations that have been determined by researchers to study and then draw conclusions.

According to Singarimbun & Effendi (1997), it is an element of research that is a guide to how a variable is measured in order to facilitate the implementation of research in the field, so it requires operationalization of each concept used in describing behavior or symptoms that can be observed in words that can be tested and known to be true.

5. Effectiveness

Effectiveness is a measure that states how far the target (quantity, quality and time) has been achieved (Anggela & Jumlad, 2023). Where the greater the percentage of targets achieved, the higher the effectiveness.

According to Siagian (2002:151) is the achievement of a predetermined target in time by using certain data sources allocated to carry out certain organizational activities. According to Keban, an organization can be said to be effective if the organizational goals or values as set out in the vision are achieved. (in the book Pasolong (2010:4)).

METHOD

This research was conducted using descriptive qualitative, interviews and PESTEL analysis methods. The research method is defined as a plan for collecting, measuring, and analyzing data relevant to the research question. This research is classified as a case study that focuses on collecting information from the PESTEL (political, economic, social, technological, environmental and legal) perspective. PESTEL analysis is an important tool in business management that helps companies plan, manage risks and respond to environmental changes, thereby increasing the likelihood of success in today's business world. This research will only use 3 of the 6 PESTEL factors, namely (Social, Technology, and Environmental) (Oktamiraz & Ginusti, 2023).

The data for this study were collected through interviews and observation techniques.

Sudjino (2011:82) argues that interviews are a data collection technique used to collect information. The activity is carried out by conducting oral questions and answering unilaterally, face to face, and has a specific purpose.

1. With sources from PT Gapura Angkasa Assistant Manager and 2 Manager, conducted through zoom meetings.
2. With 20 interviews of Garuda Indonesia airline passengers

Researchers will find knowledge and focus on certain phenomena, such as the effectiveness of using self-check-in at Soekarno-Hatta Airport. Bogdan and Taylor Moleong (2017) define qualitative methods as a research process that produces descriptive data in the form of oral written words from people and observable behavior.

RESULTS AND DISCUSSION

General Description of The Company

On December 21, 1949, further negotiations were held between the Indonesian government and KLM regarding the establishment of a national airline. President Soekarno selected "Garuda Indonesian Airways" (GIA) as the airline's name. In order to prepare Indonesian air staff, KLM was willing to temporarily place its staff on duty and train Indonesian air staff. Therefore, during this transition period, GIA's first President Director was a Dutchman, Dr. E. Konijneburg, and GIA's first fleet was also a relic of KLM-IIB (Pamungkas, 2021). PT Gapura Angkasa (Garuda Indonesia) works with several vendors to provide self-check-in kiosks, including Garuda Indonesia's MCO system and Assist. Gapura Angkasa, a ground handling company, handles units such as ramp, boarding gate, greeting, and check-in counters (Sutarwati & Dewi, 2016). As one of the ground handling companies, Gapura Angkasa cooperates with national and international airlines and has strategies to improve the services provided to passengers (Rachman, 2019). Ground handling plays an important role in supporting flight activities by preparing passengers, baggage, cargo, and aircraft from check-in to takeoff.

1. Effectiveness of Self Check-in

a) Reducing Queues

Based on interviews with Garuda Indonesia passengers, they like self-check-in machines and tend to always use them if they are not carrying checked baggage, as they believe the machines can speed up their time during the check-in process, allowing them to enjoy the airport facilities. Self-check-in machines are very helpful in reducing the length and waiting time of queues at conventional check-in counters (Al-Firdaus, 2022). The self-check-in system allows passengers to check-in independently to avoid queues and reduce the risk of missing their flight. This service is especially useful for passengers without baggage, as they can proceed directly to the waiting room (Suoth, 2020). (*Additional sentence designed to clarify the benefits of self-check-in for passengers without baggage*)

b) Time Efficiency

Passengers can complete the check-in process faster than with conventional methods. According to Syafi'i & Ulfa (2021), online check-in facilities have a positive impact, such as time efficiency, increased satisfaction, and a greater willingness to repurchase airline services due to the convenience of the self-check-in system. If passengers arrive late at the airport, the self-check-in machine is the right solution to shorten the time needed to board the plane. However, if passengers have checked baggage, they must check-in at the conventional check-in counter (Tatrasandi et al., 2022).

c) Passenger Satisfaction

Many passengers feel more satisfied with the convenience and speed offered by self-check-in machines. According to Helena et al. (2024), passengers tend to be very satisfied with the efficient system and usage of self-check-in machines at airports. Ease of use, process efficiency, provided options, availability, accessibility, staff support, data security, and privacy are the main factors contributing to passenger satisfaction. Efficient self-check-in machines allow passengers to complete the process quickly and easily, with a variety of options provided by the system (Wingdes, 2016).

d) Officer Performance

The system also assists airport staff better in managing boarding times and reducing their workload. The company's success is largely determined by the quality of the performance provided, and quality performance can be identified through user satisfaction. In carrying out their duties, officers must follow SOPs (Standard Operating Procedures), including arriving on time, attending to passenger needs such as printing tickets, notifying boarding times, and handling luggage (Wonmaly & Yudianto, 2023). (*Additional sentence designed to emphasize the role of staff in supporting check-in operations*)

2. Factors Inhibiting the Use of Self Check-in Machines

a) Lack of Understanding of Technology

Interviews revealed that not all passengers are familiar with or understand how to use the self-check-in machine, especially passengers who are less familiar with technology. At the check-in kiosk, two languages (Indonesian and English) are provided to facilitate the use of self-check-in. However, passengers unfamiliar with technology or elderly passengers may experience difficulties using the self-check-in system. Therefore, check-in staff assist with the self-check-in process when passengers encounter difficulties. Tickets issued with the wrong name, even if it is only 1-2 letters wrong, cannot be changed through the self-check-in process due to insurance regulations

b) No Special Request Options

The self-check-in machine still lacks service options to accommodate special requests from passengers who need assistance at the airport, such as those requiring a wheelchair, pregnant passengers, unaccompanied minors, or passengers with other specific needs.

c) Lack of Guidance and Assistance

The lack of staff to direct or assist passengers in using the self-check-in kiosks can be a significant obstacle. Passengers who cannot read the information on their boarding passes, combined with the absence of instructions for luggage that can and cannot be carried on the plane, may lead to confusion. This situation requires efforts from the airport staff to effectively and persuasively educate these passengers until they understand and are motivated to utilize online check-in services (AlKheder, 2021). Staff should be trained to recognize and respond sensitively and efficiently to the special needs of passengers.

d) Lack of Socialization

Insufficient education and socialization regarding the use of self-check-in kiosks can leave passengers feeling unsure or lacking confidence in utilizing these technologies. Many passengers still opt for traditional check-in methods out of fear of not being able to use the

machines. The more support provided by staff, the higher the quality of service (da Silva et al., 2022). The time allocated by staff should adhere to standard operating procedures (SOP) for passenger service. Airlines must also focus on service quality to ensure passengers do not doubt the airline's efficiency. The primary objectives of implementing self-check-in systems include facilitating passenger check-in, expediting the work of check-in counter staff, and alleviating queues at check-in counters. Self-check-in kiosks significantly streamline the check-in process, allowing passengers without luggage to proceed directly to the waiting area, while those with luggage can quickly drop off their bags at the check-in counter, thus reducing overall wait times. However, self-check-in kiosks are not suitable for all categories of passengers.

e) Errors on Self Check-In Machines

Errors frequently occur with self-check-in machines, such as pending operations when printing boarding passes or failures to print boarding passes altogether. In some instances, when scanning an ID card, the machine may fail to read the National Identification Number (NIK), causing delays and long queues as passengers wait for the machine to successfully read the information. Such errors adversely affect the check-in process and may force passengers to revert to the traditional check-in counter, consuming valuable pre-flight time and making the process inefficient. Regular maintenance of self-check-in machines is necessary to ensure they function smoothly and do not hinder passenger travel (Taufik & Hanafiah, 2019) . Additionally, staff must be prepared to quickly and efficiently address technical issues, such as software or hardware malfunctions, in accordance with SOP. This readiness demonstrates their ability to handle various challenges that may arise during the check-in process.

Data Analysis

The purpose of data analysis is to transform data into a form that is easier to read and interpret, often using qualitative descriptive methods as a tool. In general, data analysis employs the triangulation method as a means to ensure data credibility.

Triangulation is a data validity checking technique that utilizes other data outside the existing data for verification purposes or as a comparison. The most widely used triangulation technique is checking through other sources (Moleong, 2020:330). In addition to sources, researchers can also apply triangulation with methods, investigator triangulation, and theory triangulation.

1. Source Triangulation

Source triangulation involves re-checking the data obtained from informants by verifying the accuracy of the information with other informants. The researcher employed several additional informants beyond the main informant to validate the main informant's information. In this study, the main informants included 3 officers from PT. Gapura Angkasa and 20 passengers of Garuda Indonesia. Additional informants comprised 1 manager and 2 staff members in the check-in area.

2. Method Triangulation

Method triangulation is a technique that verifies research results using different data collection techniques, namely interviews, observations, and documentation, to establish the validity of the data. Researchers utilized all data collection methods to strengthen the validity of findings. In this research, interviews were conducted with passengers and staff to gain a comprehensive perspective on the effectiveness of self-check-in machines at Soekarno-Hatta Airport.

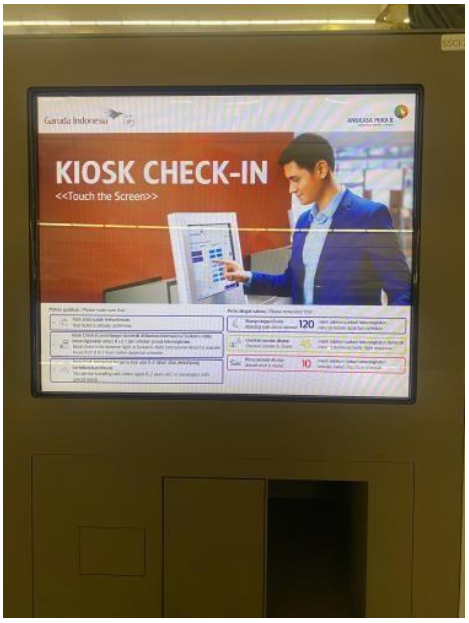

Figure 1. Self-Check-in/KiosK Check-in

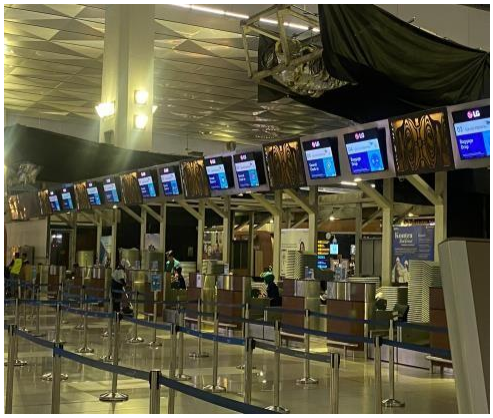

Figure 2. Conventional Check-in and Baggage Drop

3. Theory Triangulation

Theory triangulation is based on the assumption that facts cannot be verified for their trustworthiness using one or more theories and can be implemented through rival explanations. In this context, the researchers compared their findings with existing theories regarding self-service technology and passenger satisfaction to gain insights into how these factors interact.

Discussion

1. STE Analysis

a) Social

Research indicates that passengers are generally very satisfied with the self-check-in system, as it is less time-consuming. However, there are implications for staff employment. While self-check-in systems can alleviate the workload for check-in counter staff, they also raise concerns regarding potential job losses due to automation (Erasmus et al., 2024). Self-check-in machines enable staff to concentrate on passengers with special needs or those requiring additional assistance. The success of these machines largely depends on passenger acceptance and the perceived convenience they offer (Suoth, 2020).

b) Passenger Demographics:

1) Age: Younger passengers are more inclined to use check-in technology than older passengers, as the younger generation tends to be more digitally savvy (Imaroh et al., 2023).
2) Knowledge Level: A passenger's knowledge level significantly affects their ability and comfort in utilizing self-check-in machines. Highly educated passengers are generally more adaptable to new technologies (Imaroh et al., 2023).
3) Check-In Method: Many passengers remain accustomed to traditional check-in methods and prefer direct interaction with attendants for more precise information (Imaroh et al., 2023).
4) Ease and Confidence: Some travelers may feel unsafe or uncomfortable using a self-check-in machine, particularly if they are concerned about potential errors (Imaroh et al., 2023).

c) Technology

Technological advancements, such as ID card scanning or fingerprint recognition, can enhance security and expedite the check-in process. These methods verify passengers' identities, ensure the integrity of the check-in process, and safeguard personal data (Wittmer, 2011). Implementing ID card scanning or fingerprint technology minimizes the risk of unauthorized access, allowing legitimate passengers to experience the full benefits of self-check-in.

1) Machine Availability and Quality: The effectiveness of a self-check-in machine significantly depends on its availability and operational quality. A malfunctioning or poorly maintained machine can hinder efficiency (Suoth, 2020).
2) System Integration: Self-check-in systems must be seamlessly integrated with other airport systems, including security and baggage handling systems, to function optimally (Suoth, 2020a).
3) Technology Updates: Continuous updates to self-check-in technology are essential to keep pace with technological advancements and evolving passenger needs. Innovations such as biometrics can improve efficiency and security (Suoth, 2020a).
4) Education and Training: Passengers should receive proper training and instructions on using check-in equipment, either through on-site training or digital communication (Suoth, 2020).

d) Environmental

1) Resource Optimization: Self-check-in systems simplify the check-in process and optimize airport resource usage. This includes better space management and reduced physical infrastructure requirements, positively impacting the environment (Suoth, 2020).
2) Cleaning and Maintenance: Self-check-in machines must be kept clean and well-maintained to ensure functionality. Dirty or damaged machines can diminish passenger confidence and comfort, leading to reduced usage (Suoth, 2020).
3) Energy Efficiency: Implementing energy-efficient and environmentally friendly technologies can support sustainability initiatives, advance airport technological development, and enhance its image in the eyes of passengers (Suoth, 2020).
4) Machine Location: Strategically placing self-check-in machines in accessible and high-traffic areas can increase their usage. Self-check-in machines located in areas with high footfall and visibility are more likely to be utilized by passengers (Suoth, 2020).

2. Comparing the effectiveness of Garuda's self-check-in with similar systems at other Indonesian airports

a) Comparing Queue Time effectiveness:

1) Garuda Indonesia at Soekarno-Hatta: Studies indicate that self-check-in queue times are more efficient than conventional check-in, although some passengers still prefer conventional methods for their convenience and personal interaction. (da Silva et al., 2022)
2) Juanda International Airport, Surabaya: Self check-in at Juanda has also shown enhanced efficiency in queue times, but challenges remain in terms of passenger comprehension of the new technology. (Imaroh et al., 2023)

b) Use of Technology:

1) Garuda Indonesia: Employs relatively modern self-check-in machines, yet there is potential for improvement in user interface and technical support. (da Silva et al., 2022)
2) Ngurah Rai International Airport, Bali: Utilizes more advanced self-check-in technology with a user-friendly interface, though maintenance and technical support still need enhancement. (da Silva et al., 2022)

c) Passenger Satisfaction:

1) Garuda Indonesia: Overall, passenger satisfaction with self-check-in is high, but some individuals still prefer traditional check-in procedures due to discomfort with new technology and a preference for staff assistance. (da Silva et al., 2022)
2) Sultan Hasanuddin International Airport, Makassar: Boasts a satisfactory level of passenger satisfaction, yet there are still passengers who favor conventional check-in due to a lack of familiarity with self-check-in procedures. (da Silva et al., 2022)

d) Operational Efficiency:

1) Garuda Indonesia: Operational efficiency has seen improvement with the implementation of self-check-in, but challenges persist in terms of maintenance and staff training. (da Silva et al., 2022)
2) Kualanamu International Airport, Medan: Has implemented a self-check-in system integrated with automated baggage services, resulting in a significant enhancement in operational efficiency and reduction in labor costs. (da Silva et al., 2022)

Drawing from successful strategies employed at other Indonesian airports, Garuda Indonesia may consider:

1) Improving the user interface of self-check-in machines.
2) Offering additional training and assistance for both staff and passengers.
3) Adopting a more integrated system to enhance operational efficiency. Garuda's self-check-in system is in line with similar systems found at other airports in Indonesia.

Based on the interview with the Garuda Airlines Manager that	Self check-in machines are similar to the use of ATM machines, where the automatic process is to enter a pin or cellphone number, and in the case of self check-in, passengers enter their booking number and scan their e-KTP
interview with the Assistant Manager of Garuda Airlines	However, in the implementation of Garuda Indonesia's self check-in service, there is one major limitation that arises from the strict policy regarding passenger name errors. Tickets issued with the wrong name, even if it is only 1-2 letters wrong, cannot be changed through the self check-in process due to insurance regulations, as the passenger's name must exactly match the manifest for insurance claims in the event of an incident. This requires you to purchase a new ticket with the correct name, although refunds can be made for the original ticket under certain conditions set by Garuda Indonesia. In addition, although the self-check-in kiosks offer instructions in Bahasa Indonesia and English, non-tech-savvy or elderly passengers often have difficulty using the system, requiring assistance from airport staff. The system also has limitations regarding the number of passengers that can be handled in a single reservation, as groups exceeding nine passengers will be directed to conventional check-in counters,

	where they will also have to surrender their checked baggage due to the absence of self-service baggage drop points. These challenges highlight areas for improvement in terms of user-friendliness and efficiency of the self-check-in process.
According to one Garuda Airlines passenger	Self check-in counters are very helpful for passengers in saving queuing time, not queuing too long often and satisfying passengers' boarding journey but passengers also get obstacles such as experiencing delays and sometimes failing to detect passenger ID cards, passengers cannot choose special requests. In addition, maintenance often occurs, which is divided into two types: maintenance errors and routine maintenance that has been scheduled for maintenance. This certainly makes passengers hesitant to use it, even for those who are already familiar with the self check-in procedure itself. As a result, conventional check-in remains superior in terms of the number of users per day compared to self check-in.

CONCLUSION

Based on this research, it can be concluded that self-check-in machines can reduce queues and speed up the boarding process. This reduces the workload of airport staff, allowing them to focus on other more important tasks.

By reducing the need for check-in staff, airports and airlines can save on operational costs. While there are concerns regarding staff reductions, the increased efficiency can be redirected to service improvements in other areas.

By speeding up the check-in process, airports can accommodate more self-check-in machines and expand their facilities. This is especially important for airports with large passenger volumes such as Soekarno-Hatta.

This research encourages technological innovation in airport services, such as the development of mobile applications and integration with other systems. This helps airports and airlines to remain competitive and meet changing passenger expectations.

The analysis also shows that self-check-in service quality has a positive impact on airport operations overall. Passengers who use Garuda Indonesia's self-check-in service tend to feel more satisfied because the process is faster and easier. However, there are several factors such as passengers lack understanding of technology, limited facilities, lack of guidance and awareness, and self-check-in machine errors. These factors can hinder the maximum use of this system.

REFERENCES

Agustus, A., & Fatmayati, F. (2022). Analisis Pengaruh Tingkat Pemahaman Dan Kendala Yang Di Hadapi Penumpang Terhadap Pemahaman Penggunaan Web Check-In Pada Maskapai Citilink. MAMEN: Jurnal Manajemen, 1(2), 178–187. https://doi.org/10.55123/mamen.v1i2.220

Al-Firdaus, M. S. R. (2022). Analisis Kesiapan Petugas PT. Gapura Angkasa dalam Upaya Peningkatan Keamanan dan Keselamatan Penerbangan di Bandar Udara Internasional Husein Sastranegara Bandung. Sekolah Tinggi Teknologi Kedirgantaraan Yogyakarta.

AlKheder, S. (2021). Passenger intentions towards self-services check-in, Kuwait airport as a case study. Technological Forecasting & Social Change, 169. https://doi.org/https://doi.org/10.1016/j.techfore.2021.120864

Anggela, N. R., & Jumlad, W. (2023). Analisis Kepuasan Penggunaan Mesin Self Check-In Di Bandar Udara Internasional Yogyakarta – Kulonprogo. Jurnal Kajian Dan Penalaran Ilmu Manajemen, 1(3), 127–134. https://doi.org/10.59031/jkpim.v1i3.134

Ardiansyah, M. I., & Ahyudanari, E. (2017). Perbandingan Kinerja Pelayanan Self Check-In Internasional Surabaya. Jurnal Teknik Its, 6(2), 2–7.

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

Bintang, A. I. (2024). Pengaruh Efektivitas Penggunaan Mesin Self Check-In Terhadap Kepuasan Penumpang Maskapai Citilink Di Yogyakarta International Airport. GLORY (Global Leadership Organizational Research in Management), 2(1), 311–323.

Castillo-Manzano, J. I., & Lopez-Valpuesta, L. (2013). Check-in services and passenger behaviour: Self service technologies in airport systems. Computers in Human Behavior, 29(6). https://doi.org/https://doi.org/10.1016/j.chb.2013.05.030

da Silva, F. G. F., Falcão, V. A., Domingos, M. C. de F., & Negri, N. A. R. (2022). Analysis of the generalized use of logit models in simulating changes in decision attributes at the airport check-in. Research in Transportation Economics, 92(April 2021). https://doi.org/10.1016/j.retrec.2022.101182

Erasmus, V. N., Kadhila, T., Amesho, K. T. T., & Mabilana, H. A. (2024). Commercial fishing vessels as marine-based sources of plastic pollution: The Namibian perspective. Ocean & Coastal Management, 258. https://doi.org/https://doi.org/10.1016/j.ocecoaman.2024.107376

Helena, E., Afriyanto, D., & Irawandi, D. A. (2024). Pengaruh Efektivitas Penggunaan Mesin Self Check-In terhadap Kepuasan Penumpang. Gudang Jurnal Multidisiplin Ilmu, 2(7), 168–171. https://doi.org/https://doi.org/10.59435/gjmi.v2i7.694

Imaroh, T. S., Ngah, A. H., & Sugiyono, S. (2023). Analysis of efficiency between self-check in and conventional check in with queue method (case study at terminal 3 Soekarno-Hatta airport). JPPI (Jurnal Penelitian Pendidikan Indonesia), 9(3), 1190. https://doi.org/10.29210/020232402

Ina, M. A. R. (2021). Analisis Penerapan Web Check In Maskapai Citilink Pada Masa New Normal di Bandar Udara Jenderal Ahmad Yani Semarang. Sekolah Tinggi Teknologi Kedirgantaraan.

Kamalia, S., & Santi, A. (2021). Peranan PT. Gapura Angkasa Dalam Meningkatkan Pelayanan Terhadap Penumpang Garuda Indonesia Di Bandara Internasional Syamsudin Noor Banjarmasin Abstrak. Repository UNISKA, 1–6.

Kholifatun, S., Rumana, N. A., Dewi, D. R., Yulia, N., Atmojowati, F., & Safitri, Y. (2022). Kualitas Sistem Informasi Self Check-In di RS PON Jakarta menggunakan Webqual 4.0. Jurnal Manajemen Informasi Kesehatan Indonesia, 10(1).

Kurniawan, A., Purwaningrum, I. S., & Toni. (2019). Kajian Kebutuhan Check- In Counter Domestik Pada Jam Sibuk (Peak Hour) Dengan Menggunakan Service Time Di Bandar Udara) International Minangkabau Padang. Jurnal Ilmiah Aviasi Langit Biru, 12(1), 1–52. https://doi.org/https://doi.org/10.25130/sc.24.1.6

Lallo, L., Halwatiah, S., & Nasution, A. (2016). Pelayanan Prima dalam Pembuatan Akta Kelahiran di Dinas Kependudukan dan Catatan Sipil Kabupaten Toraja Utara. Jurnal Analisis Kebijakan Dan Pelayanan Publik, 2(2). https://doi.org/https://doi.org/10.31947/jakpp.v2i2.2675

Lilis. (2021). Analisis Penerapan Self Check-In Maskapai Citilink di Bandar Udara Internasional Zainuddin Abdul Madjid Lombok. Sekolah Tinggi Teknologi Kedirgantaraan.

Moleong, L. J. (2017). Metodologi Penelitian Kualitatif. PT Remaja. Rosdakarya.

Napitupulu, P. (2012). Pelayanan Publik dan Customer Satiscation (1st ed.). Alumni.

Nurnaina. (2019). Analisis Perbandingan Pelayanan Self Check In Kiosk dan Online Check In di Bandar Udara Internasional Supadio Pontianak. Sekolah Tinggi Kedirgantaraan.

Oktamiraz, L., & Ginusti, N. (2023). Optimalisasi Penerapan Online Check In Pada Maskapai Citilink Di Bandar Udara Internasional Husein Sastranegara Bandung. Journal of Creative Student Research (JCSR), 1(3), 59–72.

Pale, D. (2012). Pengaruh kualitas pelayanan Check In Counter terhadap kepuasan pelanggan pada Maskapai Lion Air di Bandar Udara Internasional Yogyakarta. Sekolah Tinggi Teknologi Kedirgantaraan.

Pamungkas, A. (2021). Analisis Sistem Self Check-In Pada Kinerja Petugas Maskapai Citilink di Bandar Udara Internasional Adi Soemarmo Solo. Sekolah Tinggi Teknologi Kedirgantaraan Yogyakarta.

Pasolong, H. (2010). Teori Administrasi Publik. Alfabeta.

Rachman, I. A. (2019). Perbandingan Kinerja Self Check-In dan Check-In Konvensional untuk Maskapai Garuda Indonesia di Bandara Internasional Soekarno-Hatta. Jurnal Manajemen Dirgantara, 12(2), 78–84.

Siagian, S. P. (2002). Kiat Meningkatkan Produktivitas Kerja (1st ed.). PT. Rineka Cipta.

Singarimbun, M., & Effendi, S. (1997). Metode Penelitian Survey. PT. Pustaka LP3ES.

Sudjino, A. (2011). Pengantar Evaluasi Pendidikan. PT. Rajagrafindo Persada.

Sugiyono. (2015). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. ALFABETA.

Suoth, L. A. (2020a). Pengaruh Fasilitas Self Check-In terhadap Kepuasan Penumpang pada Gapura Angkasa di Bandar Udara Internasional I Gusti Ngurah Rai Bali. Skripsi. Sekolah Tinggi Teknologi Kedirgantaraan. Sekolah Tinggi Teknologi Kedirgantaraan Yogyakarta.

Suoth, L. A. (2020b). Pengaruh Fasilitas Self Check-In terhadap Kepuasan Penumpang pada PT. Gapura Angkasa di Bandar Udara Internasional I Gusti Ngurah Rai Bali. Sekolah Tinggi Teknologi Kedirgantaraan Yogyakarta.

Sutarwati, S., & Dewi, L. A. (2016). Pengaruh Kinerja Petugas Check-in Counter PT. Gapura Angkasa terhadap Kepuasan Penumpang Maskapai Garuda Indonesia di Bandar Udara Internasional Juanda Surabaya. Ground Handling Dirgantara, 3(1). https://doi.org/https://doi.org/10.56521/jgh.v3i1.159

Syafi'i, I., & Ulfa, R. (2021). Implementasi Penggunaan Web Check-In Maskapai Citilink Guna Menekan Penyebaran Virus Covid-19 di Bandara Internasional Ahmad Yani Semarang.

Tatrasandi, D., Melly, Y. S., & Taaqbier, M. (2022). Pengaruh Mesin Self Check-in Terhadap Kepuasan Penumpang di Maskapai Citilink Bandar Udara Internasional Adi Sutjipto Yogyakarta. Jurnal Kewarganegaraan, 6(2), 2–3.

Taufik, N., & Hanafiah, M. H. (2019). Airport passengers' adoption behaviour towards self-check-in Kiosk Services: the roles of perceived ease of use, perceived usefulness and need for human interaction. Heliyon, 5(12). https://doi.org/https://doi.org/10.1016/j.heliyon.2019.e02960

Wingdes, I. (2016). Penerimaan Teknologi Web Check In pada Pengguna Transportasi Udara di Kalimantan Barat. Creative Information Technology Journal, 3(1), 37. https://doi.org/10.24076/citec.2015v3i1.64

Wittmer, A. (2011). Acceptance of self-service check-in at Zurich airport. Research in Transportation Business & Management, 1(1), 136–143. https://doi.org/https://doi.org/10.1016/j.rtbm.2011.06.001

Wonmaly, E. P. D., & Yudianto, K. (2023). Pengaruh Inovasi Layanan Check in Maskapai Sriwijaya Air Terhadap Kepuasan Pelanggan di Yogyakarta International Airport. JLEB: Journal of Law, Education and Business, 1(2), 620–632. https://doi.org/10.57235/jleb.v1i2.1067

Yoga, O., Putra, S., Sihombing, S., & Tasran, C. (2020). WARTA ARDHIA Jurnal Perhubungan Udara Pengaruh Pelayanan dan Fasilitas Digital Terhadap Kepuasan

Penumpang di The Effect of Services and Digital Facilities on Passenger Satisfaction at Kualanamu Internasional Airport. Wartha Ardhia, 46(1), 60–70.