

---

**| RESEARCH ARTICLE**

## **The Influence of Airport Self-Service Technology on Perceived Use of Ease, Usefulness, Enjoyment and Behavioral Intention of Passengers in Davao City**

**Kenneth D. Coloso<sup>1</sup>, Nina Kristel Joy Oleo<sup>2</sup>, Kristina Grace V. Taja<sup>3</sup> and Kiven G. Olivar<sup>4</sup>**

<sup>1234</sup>*University of Mindanao, College of Hospitality Education*

**Corresponding Author:** Kiven G. Olivar, **E-mail:** [kiven\\_olivar@umindanao.edu.ph](mailto:kiven_olivar@umindanao.edu.ph)

---

**| ABSTRACT**

This study aimed to investigate the influence of airport self-service technology on perceived use of ease, usefulness, enjoyment, and behavioral intention of passengers in Davao City, Philippines. Adopted survey questionnaires were given to a sample of 404 passengers in Davao City International Airport who have used the self-service kiosk upon check-in. This study employed nonexperimental design utilizing a descriptive correlation technique. The statistical tools used were frequency, mean, and Pearson r. Results revealed that when determining the level of perceived use of ease, usefulness, and enjoyment of passengers in Davao City International Airport, it was found to be very high or very much observed concerning perceived ease of use, usefulness, and enjoyment. The level of behavioral intention of passengers at Davao City International Airport was very high. The level of airport self-service technology quality of passengers in Davao City International Airport in terms of functionality, assurance, design, enjoyment, convenience, customization, and security or privacy. It is important to have self-service technology in the airport because it provides convenience and time-saving benefits to customers. You see this most commonly in retail stores with self-checkout systems and restaurants that enable customers to customize their orders and make payments without relying on the ground crew or staff.

**| KEYWORDS**

Airport Self-Service Technology, Perceived Use of Ease, Usefulness, Enjoyment, Behavioral Intention.

**| ARTICLE INFORMATION**

**ACCEPTED:** 01 February 2026

**PUBLISHED:** 07 February 2026

**DOI:** 10.32996/jths.2026.4.1.1

---

### **INTRODUCTION**

Long-standing patterns of corporate processes, such as productivity and employment, have been transformed by advanced technologies (Tidd & Bessant, 2018). Business procedures have been altered, and organizations operate more efficiently than ever. Simultaneously, technology has enabled firms to interact and engage with customers across boundaries (Johnson et al., 2008; Porter & Kramer, 2019). (; Martincevic and Kozina, 2018). Self-service technology (SST) is a technical interface that enables businesses to communicate with customers better while dealing with their products and services (Shin & Perdue, 2019). SST allows business operators to offer a service without the assistance of service personnel (Lee & Lyu, 2019). Furthermore, SST is a tested business model that benefits customers and service providers ( Kamarudin, 2017;).

The airport may be stressful and crowded, with long lines and waiting hours. Airports realize that self-service kiosks are an excellent tool for minimizing lineups, as supermarkets have begun to give technology that allows customers to scan and pay for their products (Seetanah et al., 2018). The SST enables new airports to replace automated technology for flight check-in, baggage, and airport parking, improving the overall air travel experience. Almost all airlines employ self-service check-in kiosks (Shin & Perdue, 2019). Self-service kiosks are beneficial for airports as they allow for the processing of a large volume of passengers

in a decentralized manner, according to research by Protus and Govender (2016) and Seetana et al. (2018). Customers find self-service kiosks convenient as they save time and offer flexibility, as they can easily access the technology. On the other hand, service providers can reduce the number of service employees while gaining a competitive edge over rivals.

This study aims to probe the influence of airport self-service technology on the perceived use of ease, usefulness, enjoyment, and behavioral intention of passengers in Davao City. Moreover, this study was guided by the following objectives: To measure the level of perceived use of ease, usefulness, and enjoyment; to ascertain the level of behavioral intention; to assess the level of airport self-service technology; to discover the significant relationship in terms of perceived use of ease, usefulness, enjoyment and behavioral intention, perceived use of ease, usefulness, enjoyment, and airport self-service technology, and airport self-service technology and behavioral intention. Lastly, to evaluate the influence of airport self-service technology on the perceived use of ease, usefulness, enjoyment, and behavioral intention of passengers in Davao City.

## **LITERATURE REVIEW**

The functionality of SSTs has also been linked to customer satisfaction in the banking and airport industries (Gures, Inan, and Arslan, 2018; Olivar, 2025). The degree to which a person believes that using a given technology will need no effort is perceived ease of use. TAM (Technology Acceptance Model) identifies perceived utility and perceived ease of use as two crucial factors of consumer acceptance of information technology. The perceived ease of use has a favorable and considerable direct influence on the perceived usefulness, and it indirectly influences attitude. Thus, quick air travel services should focus on making passengers feel at ease and perceive usefulness. Because perceived utility influences attitude, this should lead to intentions to employ swift air transport services (Lien, Hsu, Shang, and Wang, 2021)

The idea of enjoyment has been defined and discussed in various circumstances and perspectives. However, Dabholkar introduced enjoyment in the context of technology-based self-service for the first time, stating that if customers find it delightful, they are more inclined to use it. Self-service technology enjoyment not only boosts utilization but also increases client appreciation. Such a beneficial effect on customer satisfaction has been established for banking services, members of professional sports organizations, and airport passengers (Safaeimanesh, Kılıç, Alipour, 2021)

Differences in technological acceptability by age or generation, as well as attempts to increase user pleasure by increasing all users' self-efficacy and efficiently managing cognitive and emotional waiting time, are predicted to have a favorable impact on behavioral intention. (Kim & Park, 2019). Perceived usefulness and enjoyment had a substantial effect on behavioral intention; however, perceived simplicity of use had no significant effect on behavioral intention. (Kim & Park, 2019).

In order to understand the relationship between behavioral intentions and actual conduct, consumer behavior literature has turned to the Theory of Reasoned Action. According to TRA, exhibited behavior results from a person's intentions to do a specific behavior. The Theory of Planned Behavior, derived from the Theory of Reasoned Action, asserts that client attitudes toward modern technology are widely regarded to impact behavioral intention (Iqbal, Hassan, and Habibah, 2018).

Self-service technology, which has improved the domains of information and communication arenas (Iqbal, Ul Hassan, and Habibah, 2018), has also modified how tourists are served (Djelassi, Diallo, Zielke, 2018). It also lowers expenses, enhancing firm productivity and profitability (Taillon, Huhmann, 2019). Self-service technology in the tourism industry includes self-check-in kiosks in airlines (Thamaraiselvan, Arul, Kasilingam, 2019), self-check-in/check-out in hotels (Liu, Hung, Wang, & Wang, 2019), and online bookings and reservations (Schaarschmidt and Höber, 2017). Not to mention relevant technology such as ATMs in banking (Aslam, Tariq & Arif, 2019), self-scanning and self-checkout systems (Wang, Harris, Patterson, 2017). Other authors studied customers' perceptions of multiple SSTs by calibrating the nature of their acquaintances and approaches in various settings (Taillon & Huhmann, 2019).

Self-service technology helps to improve airport and airline efficiency and performance by lowering staffing and time and effort expenditures. They found that self-service is gaining popularity in other industries for two primary reasons: better efficiency and lower personnel costs while giving clients more power (Thenahandi, 2023)

## **METHOD**

The researchers employed a quantitative research methodology to determine the influence of airport self-service technology on the perceived use of ease, usefulness, enjoyment, and behavioral intention of passengers in Davao City. Information about current events is acquired for description and interpretation in descriptive research (Olivar & Tangonan, 2022; Olivar, Ubaldo,

Espinosa, & Gutierrez, 2023). Without manipulation or control, correlational analysis, a non-experimental design, examines the relationship between two or more variables in a natural situation (Olivar, Ocio & Sitier, 2022; Olivar, Bulac; Genovia & Sarip, 2023).

The respondents of this study were 404 passengers of the Davao International Airport who have used self-service kiosks in the airlines.

Table 1. *Profile of Respondents*

Profile of Respondents	Frequency	Percentage
Age:		
Under 18	6	1.49%
18 to 24	138	34.16%
25 to 34	181	44.80%
35 to 44	56	13.86%
45 to 54	23	5.69%
Gender:		
Male	181	44.80%
Female	223	55.20%
Civil Status:		
Single	217	53.71%
Married	184	45.54%
Widowed	3	0.74%
Educational Attainment:		
College Level	131	32.43%
Bachelor's Degree	260	64.36%
	11	2.72%
	2	0.50%

The researchers used an adapted questionnaires from Kim & Park (2019) on the perceived use of ease, usefulness, and enjoyment of passengers which was modified to suit the context of the study and was presented to the panel of experts for validation. The second part of the questionnaire was an adapted questionnaire from Safaeimanesh, Kiliç, Alipour & Safaeimanesh (2021) behavioral intention which was modified to fit in to the study and subjected to the validation of the experts.

In the statistical treatment of the data, the following statistical tools were used to compute data testing the hypothesis at a 0.05 significance level. Mean. This was used to determine the level of airport self-service technology, perceived use of ease, usefulness, enjoyment, and behavioral intention. Pearson Product Moment Correlation (Pearson r). This statistical technique was used to assess the significance of the correlation between Regression.

**RESULTS AND DISCUSSION**

**Perceived use of ease, usefulness, and enjoyment of passengers**

The level of perceived use of ease, usefulness, and enjoyment of passengers in Davao City International Airport is shown in Table 2. The overall mean score is 4.35, with a standard deviation of 0.34, considered very high. The standard deviation indicated that the respondents' responses were almost uniformly distributed across the scale. When the data was examined attentively, it was discovered that the mean and standard deviation scores differed slightly. All mean scores are in the "very high" level. Perceived ease of use had the highest mean score of 4.40 with a standard deviation of 0.44; perceived usefulness received a mean score of 4.35 with a standard deviation of 0.38; and perceived enjoyment received the lowest mean score of 4.32 with a standard deviation of 0.43.

Table 2. *Level of perceived use of ease, usefulness, and enjoyment of passengers in Davao City*

Indicators	Mean	SD	Descriptive Level
Perceived ease of use	4.40	0.44	Very High
Perceived usefulness	4.35	0.38	Very High
Perceived enjoyment	4.32	0.43	Very High
Overall	4.35	0.34	Very High

Based on the findings were authors have asserted that perceived ease of use, usefulness and enjoyment explains the passengers recognition that the interactive self-service kiosks innovation enhance their service delivery conveniently for checking in while reducing waiting times of the passengers as emphasized by Hussain, Mkpojiogu, and Yusof (2018). Therefore, self-service technology in the airport used by the passengers are effective and efficient in the operation.

**Behavioral intention**

Table 3 shows the level of behavioral intention of passengers at Davao City International Airport. The total mean score for behavioral intention is 4.12 with a standard deviation of 0.52, which is described as strongly agree or very high.

Table 3. *Level of the behavioral intention of passengers in Davao City*

Indicators		SD	Descriptive Level
Behavioral Intention	4.12	0.52	High

The finding supported the study Kim and Park, (2019) and cited by Olivar, Acquiatan & Palado,( 2023) that behavioral intention of the passengers were curious on the acquired self-service kiosk in the airport where check in kiosks help to reduce the work load at the check in counter. People with hand baggage only can check in at the kiosks and proceed straight to security check. This benefits both the passenger and the airline. The passenger does not have to stand in a queue and the airline has a more efficient check in process.

**Airport self-service technology quality**

Table 4 displays the data outputs of the airport self-service technology quality of travelers at Davao City International Airport. The overall mean score of 4.35 with a standard deviation of 0.31 may be noticed. The overall mean score is extremely high, indicating that the degree of airport self-service technology quality at Davao City International Airport was very good. When the data was examined closely, it indicated minor discrepancies in the mean and standard deviation ratings. All mean scores fall into the very high-level category. Functionality, assurance, and design got the highest mean score of 4.38, while enjoyment

obtained a mean score of 4.37 with a standard deviation of 0.41; convenience has a mean score of 4.33 and a standard deviation of 0.50; customization gained a 4.32 mean score and has a standard deviation of 0.49; and security and privacy achieved the lowest mean score of 4.35 with a standard deviation of 0.31.

Table 4. *Level of airport self-service technology quality of passengers in Davao City*

Indicators	Mean	SD	Descriptive Level
Functionality	4.38	0.37	Very High
Assurance	4.38	0.51	Very High
Design	4.38	0.48	Very High
Enjoyment	4.37	0.41	Very High
Convenience	4.33	0.50	Very High
Customization	4.32	0.49	Very High
Security/Privacy	4.28	0.50	Very High
Overall	4.35	0.316	Very High

The findings of this study were highlighted by Hamid et al., (2021) that the self-service technology quality has transformed the facets of interaction service to the passengers which is rapidly gaining the attention and innovation of passenger check in experience in the use of self-service technology in the airport concerning functionality, enjoyment, security, assurance, design, convenience, and customization. Indeed, this has a big impact on the operation of the Airport industry, which can reduce labour costs and improve operating efficiency as well as improve passenger convenience and reduce waiting time (Turner & Szymkowiak, 2019). Therefore, self-service technology quality of the interactive kiosk reduces wait times and ensures the accuracy of the delivery of innovative service which will simplify the passenger experience. As a result, airport staff may concentrate on giving exceptional customer service and expediting the exit of passengers from the airport.

**Correlation Matrix among the perceived use of ease, usefulness, enjoyment, and airport self-service technology, and airport self-service technology and behavioral intention**

Table 5 shows the correlation Matrix among the perceived use of ease, usefulness, enjoyment, airport self-service technology, and airport self-service technology and behavioral intention. It can be seen that the behavioral intention correlated to the perceived use of ease, usefulness, and enjoyment has  $r = 0.281^*$ , and behavioral intention and airport self-service technology quality has  $r = 0.374^*$ . All variables correlated to each other were significantly correlated.

Table 5. Correlation Matrix among the perceived use of ease, usefulness, enjoyment, airport self-service technology, and behavioral intention.

---

	Perceived use of ease, usefulness, enjoyment	Airport self-service Technology Quality
Behavioral Intention	0.281*	0.374*

---

\* $p < 0.05$

The finding supported the study of Novita and Husna, (2020) that both perceived usefulness and perceived ease of use have an influence on behavioural intention to use, which is defined as the degree to which a person has formulated conscious plans to perform or not perform some specified future behaviour.

**CONCLUSION**

In this part, conclusions are reached after considering the study's findings. The above findings can be summarized as follows:

In determining the level of perceived use of ease, usefulness, and enjoyment of passengers in Davao City International Airport, it was found to be very high or very much observed concerning perceived ease of use, usefulness, and enjoyment.

The level of behavioral intention of passengers at Davao City International Airport was very high.

The level of airport self-service technology quality of passengers in Davao City International Airport in terms of functionality, assurance, design, enjoyment, convenience, customization, and security or privacy. It is important to have self-service technology in the airport because it provides convenience and time-saving benefits to customers. You see this most commonly in retail stores with self-checkout systems and restaurants that enable customers to customize their orders and make payments without relying on waitstaff.

**RECOMMENDATION**

Based on the findings and the conclusions, the researchers suggest the following recommendations:

The researcher, therefore, recommended to continue and alleviate the perceived use of ease, usefulness, and enjoyment of passengers in the International Airport of Davao City. As an individual's perceived ease of use, usefulness, and enjoyment of using a given technology increase, their intentions to use the technology also increase.

Also, to recommend the behavioral intention of the passengers the integration of the advanced technology. Since the behavioral intention to use the information technology is a predictor of behavioral use, self-service enables this by putting them in control and giving them fast access to information and answers. The net effect is greater customer satisfaction as routine queries do not need to be escalated, saving time and effort for consumers. This can be done by giving information to all passengers through posters or promotional ads on how to navigate the self-service technology.

Similarly, to maintain and continue the airport self-service technology quality concerning functionality, assurance, design, enjoyment, convenience, customization, and security or privacy.

#### REFERENCE:

- [1]. Gures, N., Inan, H. and Arslan, S., 2018. Assessing the self-service technology usage of Y-Generation in airline services. *Journal of Air Transport Management*, 71, pp.215-219.
- [2]. Hamid, R., Jamal, S. A., Sumarjan, N., & Ong, M. H. A., 2016. Perceived value antecedents and guest satisfaction in Malaysian green hotels. *Heritage, Culture and Society: Research Agenda and Best Practices in the Hospitality and Tourism Industry - Proceedings of the 3rd International Hospitality and Tourism Conference, IHTC 2016 and 2nd International Seminar on Tourism, ISOT 2016*, 595–600.
- [3]. Hussain, A., Mkpojiogu, E.O. and Yusof, M.M., 2018, August. Perceived usefulness, perceived ease of use, and perceived enjoyment as drivers for the user acceptance of interactive mobile maps. In *AIP Conference Proceedings* (Vol. 1761, No. 1). AIP Publishing.
- [4]. KG, O., Ubaldo, K.T., Espinosa, S.R. and Gutierrez, J.C., 2023. The Mediating Effect of Career Competency from Management to Employees' Satisfaction of Tourism Industry.
- [5]. Kim, J.H. and Park, J.W., 2019. The effect of airport self-service characteristics on passengers' perceived value, satisfaction, and behavioral intention: based on the SOR model. *Sustainability*, 11(19), p.5352.
- [6]. Lien, C.H., Hsu, M.K., Shang, J.Z. and Wang, S.W., 2021. Self-service technology adoption by air passengers: a case study of fast air travel services in Taiwan. *The Service Industries Journal*, 41(9-10), pp.671-695.
- [7]. Olivar, K.G. (2025). Modelling Self-service Technology Quality, Acceptance and Customer Delight Toward Sustainable Practices in Fast-Food Kiosk Use. *African Journal of Hospitality, Tourism and Leisure*, 14(2):259-273. DOI: <https://doi.org/10.46222/ajhtl.19770720.606>
- [8]. Novita, D. and Husna, N., 2020. The influence factors of consumer behavioral intention towards online food delivery services. *TECHNOBIZ: International Journal of Business*, 3(2), pp.40-42.
- [9]. Olivar, K.G., Ocio, R.L. and Sitier, N.J.S., 2022. Influence of Managerial Styles on Career Satisfaction and Occupational Stress: The Mediating Role of Followership Styles and the Interaction Effects of Organizational Citizenship Behavior of Three Star Hotels. *Archives of Business Research*, 10(10), pp.26–38.
- [10]. Olivar, K.G., Bulac, C.J.A., Genovia, R.M. and Sarip, N.D., The Influence of Ecotourism Performance on Quality Tourism Experience and Sustainable Consciousness.
- [11]. Olivar, K. G., & Tangonan, M. E., 2022. Effects of Global Leadership Style on Employee Work Engagement: Followership Styles as Mediator and Perceived Organizational Support as Moderator of MICE. *Journal of Production, Operations Management and Economics (JPOME) ISSN 2799 1008*, 2(02), 30-44.
- [12]. Olivar, K. G., Acquiatan, K. S., & Palado, P. M. S. (2023). The Mediating Effect of Social Media on the Relationship Between Travel Preference and Tourist Behavior of Local Tourists in Davao City. *Journal of Tourism and Hospitality Management*, 11(2), 51-59.
- [13]. Turner JJ, Szymkowiak A., 2019. An analysis into early customer experiences of self service checkouts: lessons for improved usability. *Eng Manag Prod Serv* 11(1):36-50