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The Impact of Passenger Characteristics on Use of Self-Service Technologies for Check-In Process: A Case Study of Sydney Airport

Sarika Tyagi and Gabriel Lodewijks

University of New South Wales

Abstract

Due to the severe global competition in the aviation industry, airports give top priority to passenger services. Therefore, a study of characteristics associated with passenger services is one of the most important measurements in the aviation industry. The objective of this study was to analyze the impact of passenger characteristics on the use of self-service technology (SST) for the check-in process at Sydney Kingsford Smith Airport. A survey was conducted online amid the COVID-19 pandemic for data collection. Based on the collected responses, this study analyzed the sociological and demographic characteristics of the passengers and situational factors related to characteristics of SST usage. *T*-test and Chi-square test were used to gain an understanding of the impact of these characteristics in the context of SST usage. With these analyses, this study was able to show the impact of passengers' sociological and demographic characteristics such as level of education, flying experience, and age on the use of SST. In addition, this study showed the impact of situational factors related to characteristics such as better signage to locate the service, better corporation by staff members, less crowd or waiting time, and less processing time on the use of SST. Further, the results obtained in this study showed that traveling frequency impacts the passenger processing time at self-service kiosks, and that the use of a self-service kiosk impacts passenger arrival time at the airport. The findings in this study could potentially help airports in improving passenger experience and SST usage.

Keywords: airport, check-in process, passenger characteristics, self-service technology (SST), self-service kiosk (SSK), passenger satisfaction, statistical analysis

1. Introduction

Over the last 15 years, the number of air travelers has almost doubled (Jaffer & Timbrell, 2014). It is to be expected that, after the global recovery from the effects of the COVID-19 pandemic, this trend will continue (Bouwer et al., 2021; Serrano & Kazda, 2020). An important challenge most airports currently face is a shortage of infrastructure capacity. This shortage can be dealt with by developing new infrastructure. This, however, is expensive, and time-consuming and some airports simply do not have the physical space to realize expansion. Another option is to optimize the use of current infrastructure by redesigning the processes currently undertaken at airports. Besides changing the actual processes, for example, the process of booking a ticket, which has moved from being a predominantly physical process to an online process, new technology

can be introduced to reshape a specific process. Notably, so far, the maximum use of technology adoption is for online ticket bookings (Kalakou et al., 2014; SITA, 2019). An important new technology that has been introduced globally in service industries over the last 10 years is self-service technology. Online banking and shopping, ATMs, paying a bill using a mobile phone, and compactly designed self-service kiosks (SSKs) at airports and supermarkets are a few examples of SSTs.

A self-service kiosk (SSK) is a stand-alone device that uses software to provide an interactive interface to passengers and that can be used for checking in and the printing of boarding passes, baggage receipt slips, and baggage tags (Orencia, 2017). Additionally, SSKs at airports, a technological interface, allow passengers to use services independent of the direct involvement of service staff members. Consequently, SSKs enable passengers to actively participate in their service experience outputs. These passenger experiences not only include the interaction with SSTs, but also include service support, product delivery, and product and service consumption (Ku & Chen, 2013).

These SSTs are replacing many face-to-face service interactions to make service transactions more accurate, convenient, consistent, and faster. Namely, SSTs aim to help service industries in improving efficiency, productivity, and the optimization of space usage (Gualandi et al., 2011). SSTs could help in saving costs by freeing up space that can be used for other purposes (AltexSoft, 2017). Further, the growing use of SSTs in service industries enables new channels for doing business and changes the way of interaction between service providers and customers. To keep up with the current trends, airlines have adopted online check-in and SSKs at airports to provide services to passengers (customers).

Nowadays SSTs are a significant part of the whole passenger process at airports; as a result, a change in passenger perspectives towards the traditional passenger process can be noticed. The passenger process is the process that starts from the instance when a passenger books a ticket up until the moment where passenger and baggage are reconciled at his/her destination. Many airlines have implemented SSKs for passenger self-check-ins. However, some airlines are still struggling with the much-anticipated SSK usage by passengers. To know why some passengers are reluctant to use SST for their check-in process at airports, this study analyses passenger characteristics and their impact on SST usage. This study mainly focuses on passenger background and demographic characteristics and on situational-factor-related characteristics. To know passenger perspectives, the authors had intended to conduct face-to-face interviews at an airport in April 2020 and, for that, an ethics approval (HC number: HC200090) was obtained. However, an online survey was the only option due to the restrictions imposed by the COVID-19 pandemic. The survey was conducted in

May 2020 with participants who had traveled by air to and from Sydney Kingsford Smith Airport (SYD) in the last five years. To analyze the collected survey data, two sets of hypotheses are developed based on the passenger characteristics in this study. Further, a *T*-test is used to analyze the impact of passenger characteristics on SST usage (for the first set of hypotheses) and the Chi-square test is used to study the independence or dependence of passenger characteristics on SST usage (for the second set of hypotheses). Previous studies such as that of Arif et al. (2013) have used a similar methodology for studying customer services at different airports.

2. Background and Development of Hypotheses

In today's world, almost every industry aims to leverage technologies as much as possible to fulfill their and their customers' requirements. Similarly, the aviation industry shows its inclination by investing more in technologies. For instance, globally airports and airlines planned to spend US\$10 billion and US\$40.8 billion, respectively, on information technology (SITA, 2018). Further, 85% of global airports are planning major investments in self-service processes by 2022, although this may be slowed down by the effects of the COVID-19 pandemic. In the same way, airlines were planning to replace traditional check-in desks with a mobile check-in app by 2021 (SITA, 2021).

Significant challenges at airports are caused by the consistent growth of passenger numbers, whom all have different social backgrounds and demographic characteristics. Characteristics such as gender, nationality, age, trip purpose, and flying experience categorize the passenger background (Chang & Yang, 2008; Tyagi & Lodewijks, 2022). The following findings depict the impact of passenger background and demographic characteristics on the choice of SST or traditional check-in desk at airports. First, female passengers, young passengers, and passengers with a higher level of education prefer SSKs compared to the traditional check-in desks (Castillo-Manzano & López-Valpuesta, 2013). Second, older passengers give preference to face-to-face interaction while purchasing air travel tickets. Third, age-related obstacles in elders create distress and intricacy while adapting to any online services, new technology, and products. Fourth, the income level of passengers does not impact SST usage. Finally, passengers traveling frequently (12 flights or more in a year) are less willing to use a traditional check-in desk compared to a seldom traveling passenger (no other flight in the same year). On the contrary, other findings suggest that passengers traveling frequently use SSKs only when there is a long queue at the traditional check-in desk, as they prefer face-to-face service over an SSK (Chang & Yang, 2008). Further, passengers traveling frequently perform fewer discretionary activities (Rozema, 2017). In addition,

findings indicate that passengers traveling frequently check in faster than the seldom traveling passengers at SSKs.

A research study mentioned that a crowded environment attracts SST use (Gelderman et al., 2011). Further, a survey study states that when both alternatives are available, that is, a traditional check-in desk and an SSK, only 18.68% of participants would select the SSK (Kokkinou & Cranage, 2013). The authors further added that, if both services are busy, and two passengers are waiting for a staff member and no one is waiting for an SSK, then 79.11% of participants would choose an SSK.

The passenger processing time at an SSK partly determines the impact of technology on airport performance and passenger satisfaction (Alodhaibi et al., 2017). Typically, passenger satisfaction is associated with passenger expectations and preferences (Tsafarakis et al., 2018). A study result shows that the passenger processing time at an SSK ranges from 23 seconds to 60 seconds (Kokkinou & Cranage, 2013). However, the airline industry estimates that the passenger processing time ranges from 60 seconds to 90 seconds.

Airports replace staff members with SSKs with the aim of cost reduction. However, such staff members could uplift passenger satisfaction (Akamavi et al., 2014; Haylen, 2014). In addition, a study added that staff members are no less important than any other resource (Tyagi & Lodewijks, 2022; Yoo & Choi, 2006).

Personal factors such as age, occupation, income; social factors; psychological factors; and cultural factors impact passenger behavior (Kotler & Keller, 2006). Therefore, airports and airlines use these factors to analyze, classify, and forecast passengers' behavior (Tseng, 2019). For those reasons, a conceptual model was developed in this study. The model uses characteristics such as demographic and socio-background characteristics, situational factors, and behavioral characteristics of passengers to assess their relationship with the SSTs used at SYD. Specifically, seven characteristics used in the conceptual model were gender, age, level of education, flying experience, perceived satisfaction, staff members, and processing time, as shown in Figure 1. Further, these characteristics were used to develop two sets of hypotheses as follows.

Set (i)

- H₀₁: SSK use is not specific to passenger gender.
- H₀₂: SSK use is not guaranteed for passengers with a certain level of education.
- H₀₃: SSK use is not always a priority for frequent travelers.
- H₀₄: SSK use is not a priority for young passengers.
- H₀₅: SSK use does not always have less processing time.
- H₀₆: SSK use is not capable to hold experienced passengers.
- H₀₇: SSK use does not completely remove the need for staff members.

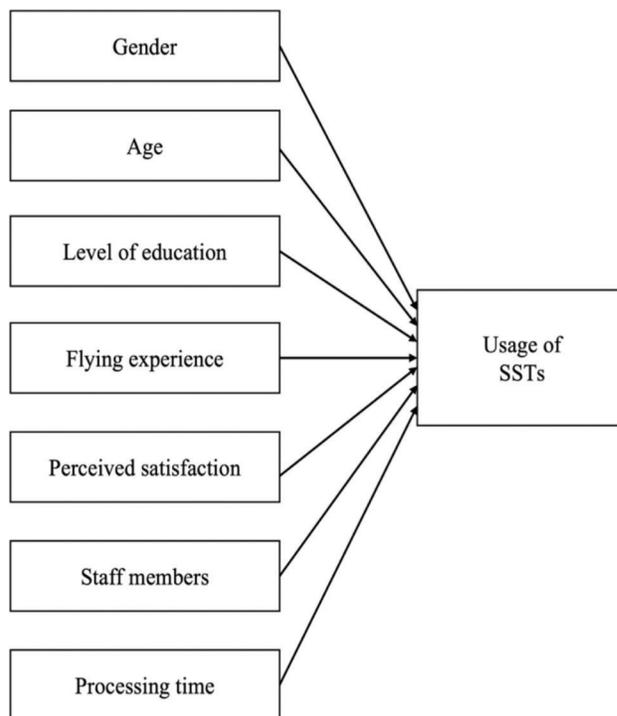


Figure 1. A conceptual model.

Set (ii)

- H₀₁: Passenger gender and use of SSK are independent.
- H₀₂: Level of education and use of SSK are independent.
- H₀₃: Frequent traveler and use of SSK are independent.
- H₀₄: Passenger age and use of SSK are independent.
- H₀₅: SSK processing time and use of SSK are independent.
- H₀₆: Passenger experience and use of SSK are independent.
- H₀₇: Required number of staff members and use of SSK are independent.

These hypotheses were developed to test whether there is a relationship between these seven characteristics and the use of SSKs. To assess the relationship between the seven studied characteristics and the use of SSKs at the airport, statistical analysis methods-based *T*-test and Chi-square test were used for the first and the second set of hypotheses, respectively. To know passenger perspectives on SSK use, a survey was designed to collect data and test the hypotheses. There are several analytical studies in the literature related to SST implementation at airports and its use by passengers. However, this study analyses the characteristics of SYD passengers and their impact on SSTs and traditional check-in desks. The results obtained in this study significantly suggest the characteristics that positively influence the use of SSTs at SYD. Moreover, this study

helps in better understanding passenger perspectives, and airport/airline management could use the findings to improve SST facilities for passengers.

3. Research Methodology

A survey was developed to evaluate passenger perspectives related to the seven characteristics (i.e., gender, age, level of education, flying experience, perceived satisfaction, staff members, and processing time) of the developed conceptual model. The survey was distributed online in the English language using the Qualtrics software. More specifically, the survey was distributed on different online platforms such as LinkedIn, Facebook, and Email to office colleagues using the link provided by the Qualtrics software. At the beginning of the survey, a brief explanation of the purpose of this study was given to the participants to become familiar with the survey needs. This information was followed by 14 questions (see Appendix A). A total of 58 responses were collected using the online survey; however, 18 responses were not usable for the study, and therefore, the remaining 40 responses were used in this paper. Participation in the survey was voluntary. Passenger (respondent) demographic characteristics are shown in Table 1.

Data Collection Using Survey

The data were collected online using the survey questionnaire. Specifically, the survey was divided into three sections. The first section was about the participant inclusion criteria as follows: (1) A person who has traveled by air in the past 5 years. (2) A person who has used an SSK at least once. Further, the passenger exclusion criteria were as follows: (1) A person who did not meet the above two criteria. (2) Any person below the age of 18. In addition, the purpose of the first section was to provide information about this study and the following survey questionnaire. The participants meeting the inclusion criteria proceeded to the second section where they were asked to provide their consent. If the participant gave his/her consent by agreeing, he/she would proceed to the third survey questionnaire section. In the questionnaire section, the first question was to collect passengers' demographic and background characteristics (i.e., age, gender, education level, and traveling frequency). Next, 13 questions were about the passenger perception of the SSTs and traditional check-in desk service at the airport. For most of the questions, passengers were also encouraged to add their opinions to the given options to increase the credibility of this study.

T-Test and Chi-Square Test

The *T*-test and Chi-square test were used to test the plausibility of null hypotheses. Tables 2 and 3 show each

Table 1
Characteristics of respondents.

Characteristic	Sample May 2020 (%)
Gender	
Male	77.5
Female	22.5
Age	
25 and below	7.5
26–35	45
36–45	5.0
46–55	17.5
56–65	7.5
66 and above	17.5
Flying frequency	
Every week	5.0
Twice a month	7.5
Once a month	10.0
Every two months	5.0
Every six months	52.5
Most rarely	7.5
Other	12.5
Level of education	
High school certificate	7.5
Diploma	5.0
Bachelor's degree	22.5
Post-graduate (master's, PhD, etc.), or equivalent	65.0

Table 2
Each criterion and null hypothesis for the *T*-test.

Criterion	Hypothesis for <i>T</i> -test
1	H_0 = SSK use is not specific to passenger gender
2	H_0 = SSK use is not guaranteed for passengers with a certain level of education
3	H_0 = SSK use is not always a priority for frequent travelers
4	H_0 = SSK use is not a priority for young passengers
5	H_0 = SSK use does not always have less processing time
6	H_0 = SSK use is not capable to hold experienced passengers
7	H_0 = SSK use does not completely remove the need for staff members

criterion with its respective null hypothesis for both sets of developed hypotheses. The tests were used to investigate SSK use and passenger characteristics. More specifically, the first set of hypotheses was tested using the *T*-test to investigate users (passengers) with different characteristics. The second set of hypotheses was tested using the Chi-square test to determine an association between the use of SSK and the user. In addition, the Chi-square test was used to assess the relationship between variables (nominal), to find whether they are associated or not. Both test results helped us to determine whether there is a significant difference between users for SSK use and whether the use of SSK is dependent on or independent of the user characteristics.

Table 3
Each criterion and null hypothesis for the Chi-square test.

Criterion	Hypothesis for Chi-square test
1	H_0 = Passenger gender and use of SSK are independent
2	H_0 = Level of education and use of SSK are independent
3	H_0 = Frequent traveler and use of SSK are independent
4	H_0 = Passenger age and use of SSK are independent
5	H_0 = SSK processing time and use of SSK are independent
6	H_0 = Passenger experience and use of SSK are independent
7	H_0 = Required number of staff members and use of SSK are independent

4. Results and Discussion

The following subsections discuss the *T*-test and Chi-square results, and the plausibility of the hypotheses listed in Tables 2 and 3.

First Set of Hypotheses Testing Using the T-Test

The 2-tailed *T*-test is used to test the hypothesis for each criterion in Table 2. The descriptive statistics were carried out first with the data, which consisted of the mean, standard deviation, and standard error of the mean. The descriptive statistics were generated with the help of Statistical Package for Social Science (SPSS) software. Afterwards, the *T*-test was used to determine the differences. A summary of the results is presented in Tables 4 and 5.

The *T*-test results in Table 5 for each hypothesis test show that every null hypothesis is accepted except for criterion 6 (Sig. (2-tailed) < 0.05). This revealed an understanding that there could be a difference in expectations and preferences of two groups with different levels of experience with SSK usage.

Second Set of Hypotheses Testing Using the Chi-Square Test

The Chi-square test was used to analyze the collected survey data to explore the statistical dependence between SSK use and the respective criteria. The objective in applying the Chi-square test was to analyze the association of SSK use with the passenger characteristics. Table 6 shows the Chi-square test results.

The null hypothesis was accepted for criterion 1 shown in Table 3 (which shows the relationship between passenger gender and use of SSKs) as the *p*-value is greater than 0.05 (see Table 6 for the *p*-value). Thus, the results revealed that passenger gender is not associated with SSK usage at the airport. In addition, the data revealed that male passengers preferred an SSK over a traditional check-in desk if it was nearby (means near to the departure terminal gate and easily visible) and easy to use. On the other hand, female passengers preferred an SSK over a traditional check-in desk if the latter was too crowded.

Table 4
Sample statistics for the 2-tailed T-test.

Criterion	<i>N</i>	Mean	Standard deviation	Standard error of mean
1	40	1.23	0.423	0.067
2	40	1.65	0.483	0.076
3	40	1.78	0.423	0.067
4	40	1.40	0.496	0.078
5	40	1.38	0.490	0.078
6	40	1.18	0.385	0.061
7	40	1.28	0.452	0.071

The null hypothesis was rejected for criterion 2 (which shows the relationship between passengers' level of education and use of SSKs). Thus, the plausible null hypothesis for criterion 2 ($p = 0.015 < 0.05$) showed that passenger level of education and SSK usage were not independent. Further, the results for criterion 2 in Table 4 illustrated that passengers with a higher level of education used SSK more than the others.

The null hypothesis was accepted for criterion 3 (which shows the relationship between passengers' flying frequency and use of SSKs). Thus, a *p*-value greater than 0.05 for the plausible null hypothesis meant that the flying frequency was independent of SSK usage. More specifically, no relationship was observed between the use of SSK and passengers' flying frequency.

The null hypothesis was accepted for criterion 4 (which shows the relationship between passenger age and use of SSKs) with a *p*-value of 0.356 (see Table 6). Thus, the plausible null hypothesis showed that the age of a passenger was independent of SSK usage. In addition, when passengers were asked about how often they use SSKs over a traditional check-in desk, half of the respondents opted for always/most of the time and half of the respondents opted for half of the time/sometimes.

The null hypothesis was rejected for criterion 5 (which shows the relationship between processing times and use of SSKs) with a *p*-value of 0.046, which is less than 0.05 (see Table 6). Thus, the observed results indicated that the processing time and the use of an SSK are not independent. Further, the data revealed that the processing time of an SSK was seen by passengers as a little lower when compared to the processing time of a traditional check-in desk at SYD. Additionally, the processing time of an SSK and a desk as shown in Figure 2 indicated that the passenger experience of different processing times varies broadly in the case of SSK use compared to a traditional check-in desk. For instance, the majority of respondents revealed that an SSK usually takes up to 5 minutes and a traditional check-in desk takes up to 15 minutes, excluding the waiting time. Further, as can be seen in Figure 2, the actual processing time for an SSK check-in is significantly longer for some passengers; however, this contradicted the statement of the airline industry which estimated that the time for

Table 5
T-test results.

Hypothesis	T	df	Sig. (2-tailed)	Mean difference	95% confidence interval of the difference	
					Lower	Upper
1	0.462	38	0.646	0.229	-0.775	1.234
2	1.959	38	0.057	0.813	-0.027	1.654
3	0.115	38	0.909	0.057	-0.950	1.064
4	0.147	38	0.884	0.062	-0.921	0.796
5	1.814	38	0.078	0.747	-0.087	1.580
6	2.298	38	0.027*	1.177	0.140	2.215
7	0.162	38	0.872	0.075	-1.017	0.866

*Sig. (2-tailed) < 0.05.

Table 6
Chi-square test results.

Criterion	χ^2	Degree of freedom	p-value
1	1.171	1	0.279
2	5.934	1	0.015*
3	1.529	1	0.216
4	.851	1	0.356
5	4.000	1	0.046*
6	7.388	1	0.007*
7	3.009	1	0.083

*Significant at $p < 0.05$.

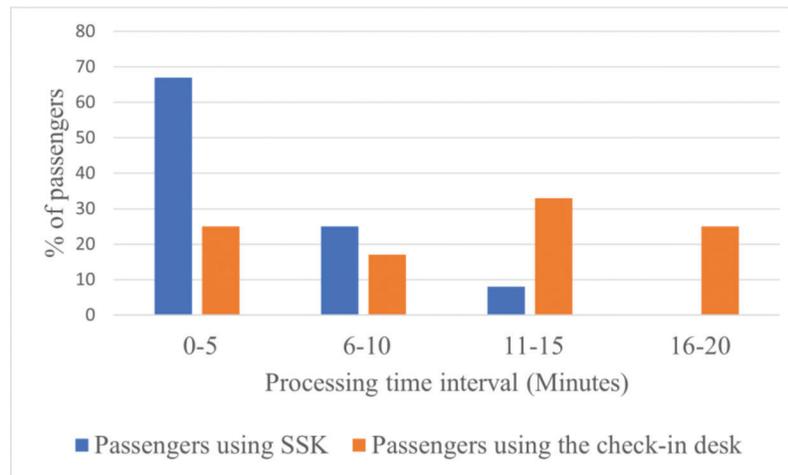


Figure 2. Processing time at SSK and traditional check-in desk.

self-service check-in ranges from 60 seconds to 90 seconds (Kokkinou & Cranage, 2013). Moreover, the data revealed that the processing time for frequent travelers was lower when compared to the processing time for seldom travelers using SSKs at SYD.

The null hypothesis was rejected for criterion 6 (which shows the relationship between passenger experience and use of SSKs) with a p -value of 0.007, which is less than 0.05 (see Table 6). Thus, the observed result indicated that passengers with prior experience of SSK and its use were not independent. For example, results for criterion 6 in Table 4 showed that the use of SSKs was greater for

passengers who had better prior experience of SSKs compared to others.

The data showed that the majority of the respondents experienced first-time SSK use as moderately easy. However, some of the respondents experienced SSKs as slightly difficult. Further, passengers were asked whether SSKs were helping them in making their progress faster at SYD on a scale from 0 to 10, where “0 = not at all likely” and “10 = extremely likely.” Passengers of age below 55 opted for ratings above 5 whereas passengers of age above 55 opted for ratings below 5 mostly, with an average likely rating of 6.75 for all the respondents.

The check-in timeframe varies approximately from 3 hours to 2 hours before the scheduled flight departure time, primarily depending on airline policy and destination. The respondents were asked how many hours before the departure they prefer arriving at the airport. The collected data revealed that the majority of passengers prefer arriving 1.5 to 2.5 hours before departure whether using SSK or the traditional check-in desk at the airport.

The null hypothesis was accepted for criterion 7 (which shows the relationship between the required staff members and SSK facilities) with a p -value of 0.083, which is greater than 0.05 (see Table 6). Hence, the result showed that SSK facilities and required staff members at the airport were independent. Further, a follow-up survey question was “Do the passengers think that an SSK must have a dedicated agent to help passengers?” The result indicated that the majority of the passengers using an SSK facility at the airport want a dedicated agent for self-services. In addition, to assess passenger satisfaction with the use of SSKs, four follow-up questions (11 to 14 shown in Appendix A) were asked about the airport’s cooperativeness, airport facilities in terms of clear indicators and signs regarding the SSK facility, and their reliability (here, reliability means if passengers need to ask staff despite existing signs because of confusion) and SSK use experience. The results revealed that passengers were satisfied with the airport-provided services such as a designated agent for passenger enquiries, better signage to locate service, and better cooperation.

The main contribution of this research study is assessing passenger demographic and socio-background characteristics and situational factors related to SST use. In the results, this analytical study has shown the demographic characteristics which positively impact the use of SSKs. As the data for this study were collected online from respondents who have been to SYD before, there are characteristics to be examined that may affect the responses. For instance, the inability of passengers to provide a more accurate response if they have not traveled recently. Further, with the online collected data, it is possible that a passenger’s perception of their behavior might differ from their actual behavior. If possible, unlike in this case due to the COVID-19 pandemic, a face-to-face interview should be done for data collection.

5. Conclusions

Implementation of new technologies at airports is important for improving facilities, passenger facilitation, and operation. In addition to innovative facilities, airports need to meet the expectations of passengers who come from different backgrounds with a different array of expectations.

The study of SYD has observed that the analysis of passengers’ demographic and socio-background characteristics and situational factors related to SST use meets six

criteria from the studied seven criteria of the first set of hypotheses. The second set of hypotheses meets four criteria from the studied seven criteria. More specifically, the results revealed that the characteristics such as level of education, processing times at SSKs, and previous experience with SSKs have a positive impact on the use of SSKs at SYD. Other characteristics such as age, gender, and traveling frequency of passengers, and staff members at SSKs were observed to be independent of SSK usage at the airport. Further, the results showed that a longer processing time at SSKs negatively impacts their use. However, a dedicated agent for an SSK could positively impact the use of SSKs.

In addition, the results indicated that the frequent traveler processing time at SSKs was lower than that for other travelers. The results also revealed that SSKs were not significantly helpful in making the passenger process faster at the airport, especially for older passengers (age above 55). Further, SSKs were seen not to change the arriving time of passengers. The data also showed that the facility of SSKs was independent of staff members.

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Appendix A

Survey Questionnaire

1. General information

a. How old are you, please choose a range?

- below 25
- 25–35
- 36–45
- 46–55
- 56–65
- above 65

b. What is your gender?

- Male
- Female
- Other
- Prefer not to say

c. What is the highest level of education you have achieved?

- Primary school
- High school certificate
- Diploma
- Bachelor's degree
- Post-graduate degree (Master's, PhD, etc.), or equivalent

d. Please indicate how often you travel by aeroplane.

- Every week
- Twice a month
- Once a month
- Every two months
- Every six months
- More rarely
- Other

2. Please name the airport and country at which you have used self-service kiosks.

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3. How many hours before departure you will prefer to arrive at the airport using self-service technology or a traditional check-in desk?

- 3 hours
- 2.5 hours
- 2 hours
- 1.5 hours
- 1 hour

4. How often do you use self-service kiosks over the traditional check-in desk?

- Always

- Most of the time
- About half the time
- Sometimes
- Never

5. In what scenarios do you prefer self-service kiosks over the traditional check-in desk?

- If traditional check-in desks are too crowded
- If the processing time of a self-service kiosk is low
- If a self-service kiosk has a low waiting time
- If self-service kiosks are nearby and easy to use
- If self-service kiosks have fewer passengers in the queue
- Other (please specify)

6. On a scale from 0 to 20 minutes, please indicate how much time it takes approximately to complete the check-in process using

- Self-service kiosks (minutes)
- Traditional check-in desk (minutes)

7. How strongly do you agree that your arrival pattern at the airport has changed due to self-service technology such as online check-in and self-service kiosks?

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

8. How would you rate your experience with the first-time use of self-service kiosks?

- Extremely easy
- Moderately easy
- Slightly easy
- Neither easy nor difficult
- Slightly difficult
- Moderately difficult
- Extremely difficult

9. Do you think a self-service kiosk must have a dedicated agent to help passengers?

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

10. On a scale from 0 to 10, how likely do you think that the self-service kiosk helps in making the passenger process faster?

- 0 (not at all likely) to 10 (extremely likely)
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11. How would you rate the cooperativeness of the airport with kiosk usage-related queries?
- Extremely satisfied
 - Moderately satisfied
 - Slightly satisfied
 - Neither satisfied nor dissatisfied
 - Slightly dissatisfied
 - Moderately dissatisfied
 - Extremely dissatisfied
12. How would you rate your experience with self-service kiosks, with regards to any related concern, whether it was a delay because of long queues, failure issues, passenger with limited respective knowledge, or any other issues?
- Extremely satisfied
 - Moderately satisfied
 - Slightly satisfied
 - Neither satisfied nor dissatisfied
 - Slightly dissatisfied
 - Moderately dissatisfied
 - Extremely dissatisfied
13. Please rate the extent to which the airport is equipped with clear indicators and signs regarding the various facilities and services, like self-service kiosks etc. and their reliability (reliability means if passengers need to ask staff despite existing signs because of confusion).
- Extremely satisfied
 - Moderately satisfied
 - Slightly satisfied
 - Neither satisfied nor dissatisfied
 - Slightly dissatisfied
 - Moderately dissatisfied
 - Extremely dissatisfied
14. Overall, how satisfied or dissatisfied are you with the self-service kiosks at the airports?
- Extremely satisfied
 - Moderately satisfied
 - Slightly satisfied
 - Neither satisfied nor dissatisfied
 - Slightly dissatisfied
 - Moderately dissatisfied
 - Extremely dissatisfied