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THE GAME ON 2022:

THE FUTURE IS
BRIGHT

FHPK, UMK

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THE FUTURE IS BRIGHT**

**FACUTLY OF HOSPIATLITY, TOURISM AND WELLNESS,
UNIVERSITI MALAYSIA KELANTAN**

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Published by: Faculty of Hospitality, Tourism and Wellness Universiti Malaysia Kelantan
Kampung Kota, Pengkalan Chepa Karung Berkunci 36 16100 Kota Bharu, Kelantan

e ISBN 978-967-0021-47-8



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Tourists' Satisfaction Towards Airport Self-Service Technology: A Study in Kelantan

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ABSTRACT

Airports are rapidly deploying self-service technologies (SSTs) as a strategy to improve passenger experience by eliminating operational inefficiencies. This places some responsibility on the passenger to shape their experience. The research aimed to determine tourist satisfaction with airport self-service technology in Kelantan. Thus, this study empirically measures self-check-in kiosk quality, airline e-tickets, biometric technology and customer satisfaction among tourists in Kelantan. This study was structured through a self-administered survey with tourists in Kelantan who were identified and chosen for data collection. With 268 respondents, the data was analysed by a process of descriptive, frequency, and inferential analysis using SPSS. The Pearson correlation results show a linkage between self-check-in kiosk quality, airline e-tickets, biometric technology and customer satisfaction. The findings show that tourist satisfaction has the most significant impact on the airport self-service technology in Kelantan.

Keywords: *self-check-in kiosk quality, airline e-ticket, biometric technology, customer satisfaction*

INTRODUCTION

ATMs, online banking, mobile scanners, and ticketing machines are examples of self-service technologies (SSTs), which have become a discrete field of research, a source of competitive advantage for service providers, and a part of customers' daily life.

Nowadays, self-service has been used in many places in Malaysia and around the world. This research will focus on the determinant factor of using airport self-service for local tourists in Malaysia. This is because the airport has received a large number of passengers so SST can help to ensure all the passengers could move smoothly. With long lines and waiting times, the airport can be a very congested and stressful place. Airports are discovering that self-service kiosk, similar to how supermarkets have begun to provide technology enabling customers to scan and pay for their purchases, is a helpful tool in reducing waits (Abdelaziz et al., 2010; Seetanah et al., 2018).

SST can allow more airports to use automated equipment or switch to self-service kiosks to replace flight check-in, luggage check-in, and parking process going smoothly and reduce high traffic of people in one place. It can help passengers to save more time while at the airport. This study also refers to the example of an airline company providing Self Service Check-In Kiosks to their passengers. The airport is Kuala Lumpur International Airport, Malaysia (KLIA). Malaysia Airlines also allows its passengers to use Self Service Check-In Kiosks at Singapore Changi Airport, Singapore, and Adelaide Airport, Australia (Malaysia Airlines, 2021).

The objectives of this study are to:

1. To determine the relationship between self-check-in kiosk quality and customer satisfaction toward airport self-service technology in Kelantan
2. To determine the relationship between biometrics technologies and customer satisfaction toward airport self-service technology in Kelantan
3. To determine the relationship between airline e-tickets and customer satisfaction toward airport self-service technology in Kelantan

Significance of the study

Researchers

In Malaysia, the use of self-services at the airport has been widely used, especially at the airport that is mostly being used by tourists around the world. This study, will provide about the benefits and provide a lot of information about the determinant factor of using airport self-services for local tourists in Kelantan. The use of self-service technology or SST will provide fast and easy services to users and indirectly, SST will also increase productivity and user satisfaction at the airport. This study will also help certain parties to improve the self-service system at the airport. In addition, the information in this study can also be used in the academic field to study the use of self-service technology. This study can provide and share information about SST with future researchers to study the technology. Researchers in the field of tourism can also use this study to examine the improvements that can be done in the tourism industry.

National Economy

At the same time, this study will also give importance to the national economy. This is because the use of technology such as SST will be able to provide many advantages to consumers and will indirectly have a positive impact on the national economy. Such as further expanding the use of this SST which is not only concentrated at the airport but in every service that requires self-services. In addition, the significance of the study can be seen from the term of nation. With such a study, the nation will not be left behind with the existence of advanced technology such as SST. The nation can not only use this technology but also the knowledge about it.

Community

Apart from that, this study will also provide a lot of information to the community, especially among tourists about the use of self-services at the airport. This is because most people are unaware of the existence of this SST. So, this study to some extent will help the community who often use airport services by providing information about SST. People should know about SST because it is widely used around the world, especially in airports. Air passengers these days are encouraged to use SST, and Malaysian travelers are experiencing the same situation. SST will be expected to reduce waiting time and increase satisfaction among users at the airport.

LITERATURE REVIEW

Self-Check-In Kiosk Quality

A self-service check-in kiosk is an essential component of airline non-contact services. During and after the COVID-19 era, its performance is more important than ever. Self-service kiosk check-ins, kiosk bag tagging, airport mobile apps, self-boarding gates, and baggage tracking are all examples of current technologies that play an important role in modern air travel (Patel, 2018). The quality of the self-service check-in kiosk will have an impact on customer satisfaction and passenger loyalty to the airlines (Moon, Lho, & Han, 2021).

The SSTQUAL (self-service technology service quality) parameters are used to determine the features of SSTs (Iqbal, Hassan, & Habibah, 2018). Furthermore, by offering a full grasp of the features of SSTs as precursors of service excellence. Service excellence is defined as providing a degree of service quality that delights customers. Delight is an intense expression of pleasant effect stemming from a good surprise performance (Safaeimanesh, Kılıç, Alipour, & Safaeimanesh, 2021). Research has proved that SSTQUAL was employed in the study to assess the service quality of SSTs and that using investigated that the quality of self-checkout service favourably increases loyalty through the indirect effect of customer satisfaction. SSTQUAL has seven dimensions named; Functionality, Enjoyment, Security, Design, Assurance, Convenience, and Customisation (Iqbal, Hassan, & Habibah, 2018).

Airline E-Ticket

Globally, digital flight bookings have increased over time, with advanced countries such as the United States, the United Kingdom, and Japan leading the way (WNS, 2014). Airlines often have significant operating costs, which have a detrimental influence on earnings. The International Air Transport Association (IATA) has been urging all of its members to use e-ticketing to save money in order to save the troubled airline industry since 2008. Tourists can use e-ticketing to book flights directly online, bypassing travel agents and airline ticketing offices. Tourists that purchase airline e-tickets are more likely to be satisfied with the e-services supplied by airlines, which leads to increased customer loyalty.

According to Ruiz-Mafé et al. (2009), performance risk has a significant impact on travelers' decision to purchase air e-ticket. While most tourists are aware of the benefits of e-ticket such as being more convenient and usually lower fees (Crespo-Almendros & Del Barrio-Garca, 2016; Gu et al., 2009) study shows that most people have no understanding of the disadvantages. Furthermore, to purchase airline tickets online, a customer must utilise self-service technology to search in the internet for ticket prices, routes, and comparisons before entering the correct flight information (Cunningham et al., 2005; Bukhari et al., 2012). According to previous research, consumers' perceptions of the internet's efficiency can impact their intention to book air e-tickets in Malaysia (Mohd Suki & Mohd Suki, 2017). Tourist satisfaction with an airline e-ticket purchase is determined by their perception of the use of the airline e-ticket service.

Biometric Technology

Personal authentication may be made more secure and convenient with biometrics. Biometrics is the study of human physical and behavioral traits through measurement and statistical analysis. Biometrics technology can properly identify every person based on physical or behavioral characteristics (Boussadia, 2009; Margaret, 2019). Physical and behavioral biometrics are the two types of biometrics. Iris, fingerprints, hand, retinal, face recognition, and DNA is physical biometrics, whereas stride, voice, keystroke, and signature are behavioral biometrics (Agrawal, 2017). To create a significantly strong security system, a successful biometric application relies on the combination of two or more of these approaches. Many companies have used biometric technology to verify identities, such as fingerprint verification, eye or retina detection, and facial recognition. Biometric technology was employed in the aviation industry for airport check-in, customs clearance, on-boarding activities, and, in the future, baggage claim.

The focus of airport technology has been on strengthening security, with less emphasis on the impact of security enhancements on customer experience. Gait, lip movement, signature recognition, and keystroke are all examples of behavioural biometrics (Miller, 2019; Liu and Silverman 2001). Passengers will be able to authenticate themselves during the boarding procedure more safely and efficiently according to the use of biometrics technology. The successful implementation of biometrics in airports will result in significant time and cost savings. Meanwhile, providing seamless, increased security might create a new generation of air travel.

Biometrics provide a lot of benefits because they are reliable and long-lasting. The main benefit is that, unlike a key, a smart card, or a token, biometrics cannot be lost. It is not forgettable in the same way that a password or pin is. Patterns in biometrics can last a lifetime. This research looks towards creating a seamless airport interface while retaining a high level of security through the use of a single biometric token ID (Patel, 2018).

Customer Satisfaction

Based on (Hyeon & Woo, 2019), customer satisfaction is defined as a customer's expectation of service and demand for confirmation, as well as the general joy and pleasure experienced while the service is being performed. The combination of cognitive and emotional factors

evaluation of specific goods or services may be included in satisfaction. While on (Farooq, Salam, Fayolle, Jaafar, & Ayuppd, 2018), customer satisfaction is founded on the idea that for a business to be viable and successful, it must please its customer. Customer satisfaction is a good indicator of how helpful a product or service is to consumers. Several researchers have concluded that customer happiness is closely linked to repurchase intent.

Customer satisfaction is also an important factor in customer retention. Also, customer happiness leads to good and pleasant word-of-mouth, which is widely recognised as an important source of indirect marketing for brand promotion (Farooq, Salam, Fayolle, Jaafar, & Ayuppd, 2018). Customer satisfaction with SST, on the other hand, links SST performance to customer electronic word-of-mouth (EWOM) goals. Given the growing relevance of (EWOM) in customers' purchasing decisions, it's critical to evaluate this relationship scientifically. Satisfied customers to sutilise are said to approach, rather than avoid, the company that makes them feel good. Positive communication about the company is one of the approach behaviours. It may thus be claimed that in an era of netizens (i.e., regular internet users), passengers are more inclined to talk about the airport that makes them happy (Antwi, Ren, Wilberforce, Mensah, & Aboagye, 2021).

Furthermore, because customer satisfaction is subjective, a thorough knowledge of its drivers has remained difficult. Customer satisfaction is far more difficult to establish and sustain for organisations that operate in the service industry (Farroq, Salam, Fayollec, Jaafar, & Ayuppd, 2018).

Research Hypothesis

The hypothesis must involve a relationship between the two variables stated in the study. It also needs a hypothesis based on realistic facts and relevant knowledge to the study case. This study involves two relationships between independent variables and dependent variables:

- H¹** There is a relationship between self-check-in kiosk quality and customer satisfaction toward airport self-service technology in Kelantan
- H²** There is a relationship between airline e-ticket and customer satisfaction toward airport self-service technology in Kelantan.
- H³** There is a relationship between biometric technology and customer satisfaction toward airport self-service technology in Kelantan.

Research Framework

Figure 1 below shows the research framework used in this study

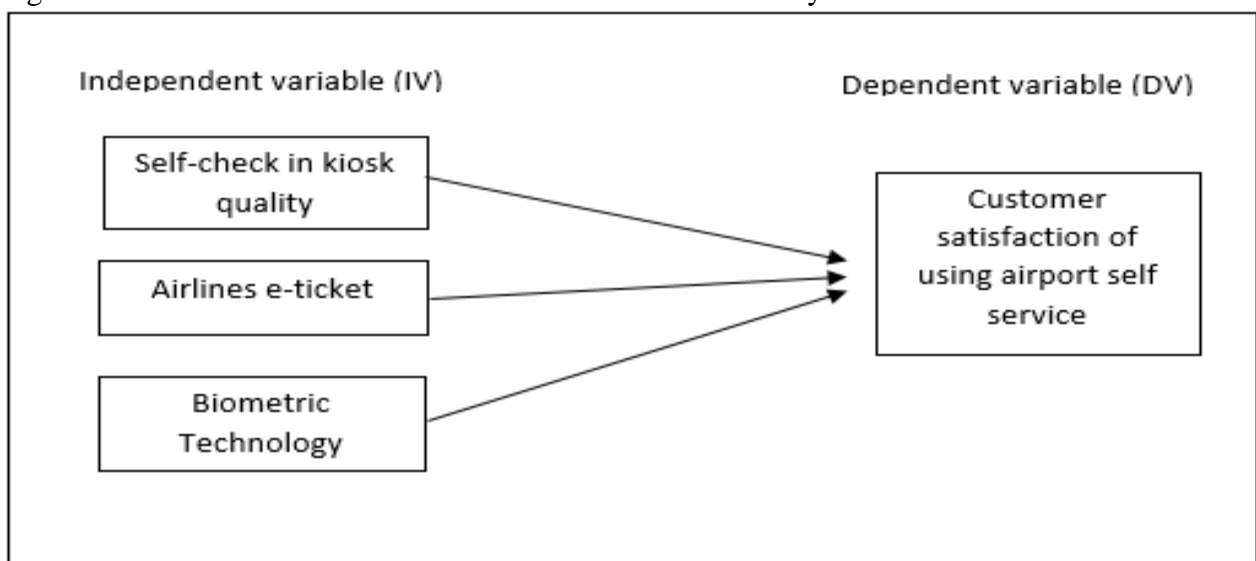


Figure 1: Research Framework

METHODOLOGY

Research Design

The qualitative method was applied in this study with 268 respondents who received questionnaires. In this research, all respondents are ever used self-service at airports. Questionnaires will be the primary research tool in a quantitative approach. The respondents must answer all the questions to measure the tourist satisfaction towards airport self-service technology. All the data will be analysed with Statistical Packages for Social Science (SPSS). SPSS allows researcher to identify the variables target of respondents accepts or rejected from the sample's mean value range.

In the questionnaire, the researcher provides five sections which are Section A, Section B, Section C, Section D and Section E. For Section A, the questionnaire is about demographic characteristics such as gender, race, age and income. However, questions in Section B until Section E are related to independent variable and dependent variable such as self-check in kiosk quality, airlines e-ticket, biometric technology and customer satisfaction. Each question in this section has multiple choice answers. The respondent needs to tick either Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) or Strongly Agree (5).

Data Collection

This research was conducted using primary data. Primary data is information gathered directly from primary sources by researchers through interviews, questionnaires, and experiments. The best data in research is primary data, which is acquired directly from the source from which the statistics were derived. The tool used in this research is a questionnaire through google form. The questionnaire is aimed to collect information regarding customer attitudes, expectations, and perceptions towards the local tourists in Kelantan. The questionnaire was distributed online and collects data on the consumption of the students. The survey was conducted online due to Covid-19 situation in Malaysia.

Sampling

In this research, the sample size was calculated using the Krejcie and Morgan formula. Non-probability sampling procedures are used to obtain samples in such a way that no single member of a given population has a chance of being chosen. Therefore, the sample selection tendency is unknown. The samples were chosen because they are publicly available to the researchers, implying that any collection of available respondents might be used. As a result, the researchers used simple sampling, which is possibly the most frequent of all sampling strategies for covering a large number of surveys rapidly and cost-effectively.

$$s = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)}$$

s = Required sample size (80)

X²= The table value of chi-square for 1 degree of freedom at the desired confidence level (95%)

N = The population size (100)

P = The population proportion (0.5)

d =The degree of accuracy expressed as a proportion (.05)

Data Analysis

Frequency analysis, descriptive analysis, reliability test, and Pearson correlation analysis were the three methods of data analysis used in this research. To demonstrate the outcome, the Statistical Package for Social Science (SPSS) software was used to analyse the data. The descriptive analysis would be used to determine the demographic profile of the respondents, including percentages, frequencies, means, and mean averages. However, Reliability analysis is a method used to measure scales. Reliability analysis calculates the number of numbers used to measure the reliability scale and also provides information about the relationship between individual items in the scale and The Pearson Correlation is used to measure the relationship between two quantitative variables and the degree to which the two variables coincide with one another.

FINDINGS

Table 2: Analysis of Theme 1

Research Question	Respondent	Theme
	R1 R3 R4 R7	Theme 1

Table 3: Analysis of Theme 2

Research Question	Respondent	Theme
		Theme 2

Table 4: Analysis of Theme 3

Research Question	Respondent	Theme
		Theme 3

Results of Frequency Analysis

Table 5: Frequency Analysis

Characteristics	Frequency	Percentage
Income (RM)		
0-1000	241	89.9
2000-4000	23	8.6
< 5000	4	1.5
Gender		
Male	91	34.0
Female	177	66.0
Age		
18-23 years old	161	60.0
24-29 years old	99	36.9
30-35 years old	5	1.9
< 36 years old	3	1.1
Race		
Malay	230	85.8
Chinese	7	2.6
Indian	23	8.6
Others	7	2.6

Results of Descriptive Analysis

Table 6: Descriptive Analysis

Variable	Item Descriptive	Mean	Standard Deviation
Self-Check In Kiosk	Are you satisfied with using airport self-check in kiosk quality?	4.24	0.694
	Do you think that Malaysian airports have good enough technology and facilities when using self-check in kiosk?	4.02	0.719
	The self-service check-in kiosk has interesting additional functions	4.21	0.692
Airlines E-Ticket	Purchase airline e-ticket will not cause financial risk	3.99	0.795
	As compare to other website, airline e- ticket website is secure	4.10	0.735
	I feel that airline e-ticketing is trustworthy and honest	4.31	0.722
Biometric Technology	As passengers, did you agree that biometric technology can allow us to check-in easily at the kiosk?	4.10	0.604
	The operation of biometric technology is interesting	4.28	0.649
	Overall, I am satisfied with The biometric technology	4.39	0.670
Customer Satisfaction	Do you agree that Malaysia's airports provide good service quality?	4.16	0.620
	The service process for the self-check-in kiosk is clear	4.17	0.688
	Do you typically purchase your plane tickets directly from an airline, through an online travel discount site?	4.08	0.739

Results of Reliability Analysis

The Table 7 below shows the result of reliability analysis

Table 7: Reliability Analysis

Variable	Number of Items	Cronbach Alpha
Self-Check in Kiosk	3	0.777
Airline E-Ticket	3	0.819
Biometric Technology	3	0.823
Customer Satisfaction	3	0.803

Results of Pearson Correlation Analysis

The Table 8 below shows the Pearson Correlation Analysis

Table 8: Pearson Correlation Analysis

Hypothesis	P-Value	Result (Supported/Not Supported)
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H₁: There is a relationship between self-check-in kiosk quality and customer satisfaction toward airport self-service technology in Kelantan.	0.680	H ₁ is supported
H₂: There is a relationship between airline e-ticket and customer satisfaction toward airport self-service technology in Kelantan.	0.544	H ₂ is supported
H₃: There is a relationship between biometric technology and customer satisfaction toward airport self-service technology in Kelantan.	0.532	H ₃ is supported

DISCUSSION AND RECOMMENDATION

The discussion aims to resolve the questions and address the hypotheses that have been stated in the first chapter of this case study. Overall, this research has made a study on tourist satisfaction towards airport self-service technology in Kelantan. Based on the findings of this study, the current study would like to provide some recommendations to future researchers that allow them to play their roles towards tourist satisfaction in using self-service at the airport and express concern regarding the improvement that can be made in future studies.

First, go from quantitative to qualitative data collection approaches. Future researchers can collect data not just through questionnaires but also through qualitative methods such as the questionnaire method and face-to-face conversations. Specifically, during face-to-face or telephone interviews, the questions asked might reveal the respondents' behaviour. As a result, it delivers more accurate, consistent, and efficient data for study into whether the degree of self-check-in kiosk quality, airline e-ticket, and biometrics technology can impact customer satisfaction with using airport self-service.

In future, this study suggest that in the future, additional studies can be conducted in all states in Malaysia rather than just one, and that this research can be expanded to include foreign tourist travel in Malaysia, as this study only focused on local tourists in Malaysia in Kelantany, to see if there are any similarities in the findings. The findings may change if this study is applied to international tourists in Malaysia. As a result, instead of focusing on just local tourists, international tourists can also participate in this surveys.

Lastly, the current study only focuses on three factors that influence customer satisfaction toward airport self-service among local tourists in Kelantan. However, this study might be ignoring other significant factors that also play an important role in influencing tourist satisfaction of using airport self-service among local tourists in Kelantan. Therefore, researchers can recommend and consider other factors like other technology to carry out the new findings in their study, especially on customer satisfaction when using airport self-service.

CONCLUSION

In conclusion, this study has been accomplished to discover the tourist satisfaction towards airport self-service technology in Kelantan. Three independent variables self-check-in kiosk quality, airline e-ticket and biometric technology were selected to test their relationship with the dependent variable, customer satisfaction of using the airport self-service in Kelantan. The total number of respondents for this case study was 268 people from the age group of 18 years and above were randomly selected from all over the state of Kelantan to study their satisfaction in using self-service technology at the airport.

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