

PASSENGERS' AWARENESS AND PERCEPTIONS ON SAFETY AND
SECURITY MEASURES AND PROCEDURES IN AIRPORT TERMINAL
BUILDING

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To my beloved family

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This thesis is not just meant to get the Master degree. This paper meant more than that to me. It is the matter of dignity, self-actualization, and a brand new start of an entity called life. I would like to express my sincere gratitude to God the Almighty that always open a window when all the doors seemed to be closed.

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ABSTRACT

This is a quantitative study looking at the passengers' awareness and perception on airport safety and security measures and procedures (ASMP) related to demographic factors. This current study is also looking at the difference between passengers with Malaysian nationality and passengers with non-Malaysian nationality in term of the awareness of ASMP in general, ASMP after 9/11, readiness of airport security service in handling unlawful acts, and consistency of ASMP among airports. A total of 100 passengers with international destination (22 Malaysian nationality and 78 non-Malaysians) at sterile area of the satellite building of Kuala Lumpur International Airport were selected via simple random sampling method to participate in this study. The scale for passengers' perception and awareness on ASMP was self-developed by the researcher, and statistical methods like t-test, gamma test, Cramers' V and Phi were utilized to test the hypotheses. Internal consistency reliability scores (Cronbach's alpha) were found to be above .60. Results showed that passengers with Malaysian nationality are significantly more aware of ASMP, both in general ($p = .02$) or after 9/11 ($p = .00$) compared to passengers from other nationality. It was also found that compared to passengers from other nationality, Malaysians passengers are significantly more aware on the readiness of airport security service in KLIA to confront any unlawful acts (.00) and they were also more aware on the consistency of ASMP among airports (.00). Out of several demographic factors studied in this research in term of their relationship with perception on ASMP, it was found that gender was the one with no significant relationship with the perception of ASMP ($p = .883$). Age group is strongly and significantly related to the perception of ASMP (gamma = .849; $p = .00$), while marital status is also significantly related to the perception of ASMP ($p = .00$). Meanwhile, educational level and perception of ASMP have very weak and insignificant relationship (gamma = .129; $p = .414$). Perception of ASMP and ethnicity have significant relationship (Phi = .665; Cramer's V = .470; $p = .00$). While being Malaysians and Non-Malaysians have no significant difference in term of the perception of ASMP ($p = .809$), frequency of air-travels was strongly and significantly related to the passenger perception of ASMP (gamma = .616; $p = .00$), as well as income level (gamma = .784; $p = .00$).

ABSTRAK

Kajian kuantitatif ini adalah mengenai kesedaran dan persepsi penumpang keatas ‘Ukuran Jaminan Keselamatan dan Prosedur Lapangan Terbang’ / Airport Safety and Security Measures and Procedures (ASMP) yang berkaitan dengan faktor demografi. Kajian ini juga melihat kepada perbezaan antara penumpang warganegara Malaysia dan penumpang bukan warganegara Malaysia dalam konteks kesedaran ASMP secara am, ASMP selepas peristiwa 9/11, kesediaan perkhidmatan keselamatan lapangan terbang dalam menangani tindakan yang melanggar peraturan dan ketetapan ASMP antara lapangan terbang. Seramai 100 orang penumpang destinasi antarabangsa (22 warganegara Malaysia dan 78 bukan warganegara Malaysia) di pilih melalui kaedah sampel rawak mudah di kawasan steril di bangunan satelit Lapangan Terbang Antarabangsa Kuala Lumpur (KLIA) untuk menyertai kajian ini. Skala untuk persepsi dan kesedaran penumpang ke atas ASMP telah dicipta sendiri oleh pengkaji dan kaedah statistik seperti t-test, gamma test, Cramers’ V dan Phi diguna untuk menguji hipotesis. Markah kebolehpercayaan konsisten dalaman (Cronbach’s alpha) didapati berada atas .60. Keputusan menunjukkan penumpang warganegara Malaysia lebih prihatin ke atas ASMP, kedua-dua secara am nya ($p = .02$) atau selepas peristiwa 9/11 ($p = .00$) jika dibandingkan dengan penumpang warganegara lain. Kajian juga mendapati penumpang warganegara Malaysia lebih prihatin kepada kesediaan perkhidmatan keselamatan lapangan terbang di KLIA untuk menangani tindakan yang menyalahi undang-undang jika dibandingkan dengan penumpang warganegara lain dan mereka juga lebih prihatin kepada ketetapan ASMP di antara lapangan terbang. Selain dari faktor demografi yang dikaji dalam kajian ini, iaitu dalam konteks perhubungan dengan ASMP, kajian mendapati bahawa jantina seseorang tidak mempunyai hubungan dengan persepsi ASMP ($p = .883$). Faktor usia mempunyai kaitan yang kuat dengan persepsi ASMP (gamma = .849; $p = .00$), manakala status perkahwinan juga mempunyai kaitan dengan persepsi ASMP ($p = .00$). Sementara itu, tahap pendidikan dan persepsi ASMP mempunyai kaitan yang lemah (gamma = .129; $p = .414$). Persepsi ASMP dan kumpulan etnik mempunyai kaitan yang penting (Phi = .665; Cramer’s V = .470; $p = .00$). Manakala antara warganegara Malaysia dan bukan warganegara Malaysia tidak mempunyai perbezaan yang penting dalam konteks persepsi ASMP ($p = .809$), kekerapan penerbangan udara adalah amat berkait dengan persepsi penumpang ke atas ASMP (gamma = .616; $p = .00$), dan juga tahap pendapatan (gamma = .784; $p = .00$).

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LIST OF SYMBOLS

n_0	-	Sample size for infinite population
p	-	Proportion of the sample
$z_{\alpha/2}^2$	-	Critical value
e^2		Margin of error
n		Sample size
N		Population size
k	-	Number of items
$\sum \sigma_i^2$	-	The sum of total variances
σ_x^2	-	The variance of the total score

GLOSSARY OF TERMS

AAHK	-	Airport Authority Hong Kong
ACI	-	Airports Council International
AIDS	-	Acute immunity deficiency syndrome
ASMP	-	Airport security and safety measures and procedures
ASSR	-	Aviation Security Screening Records
ASU	-	Airport Security Unit
AVSECO	-	Hong Kong Police Force and Aviation Security Company
CAPPS	-	Computer Assisted Passenger Prescreening System
CATSA	-	Canadian Air Transport Security Authority
CISF	-	Central Industrial Security Force
DFT	-	Department for Transport UK
DHS	-	the U.S. Department of Homeland Security
EDT	-	Explosive trace detection
FAA	-	Federal Aviation Administration
FAMS	-	Federal Air Marshal Service
IATA	-	International Air Transport Association
ICAO	-	International Civil Aviation Organization
ITF	-	International Transport Forum
KLIA	-	Kuala Lumpur International Airport
MAHB	-	Malaysia Airports Holding Berhads SdnBhd
MATRA	-	Multi Agency Threat and Risk Assessment
RAIC	-	Restricted Area Identity Credential
SATS	-	Singapore Airport Terminal Services
SPSS	-	Statistical Program for Social Sciences
TSA	-	Transportation Security Administration

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In our days, the terms safety and security are used frequently in aviation. More importantly, organizations in the aviation industry are gaining strategic advantage by creating a favorable image in the minds of the public that portrays them as genuinely caring about the safety of their employees and customers. This is done with the idea of safety at a reasonable cost and without a standardized definition of safety and security in the aviation setting. In many aspects, the aviation industry resembles other high technology, high-risk industries such as the nuclear, oil and gas, and petrochemical industries, and therefore has similar concerns about safety. This similarity has influenced perception of safety and security in the aviation context.

For the purpose of this study, the following definitions will be used:

Awareness: To eliminate confusion in this study, the definition of “awareness” as it was provided by the Oxford Advanced Learner’s Dictionary (2005), namely, the “ knowing that something exists and is important the information, understanding and skills that you gain through education or experience”. Therefore, “awareness” in this study will be measured by the overall awareness measured by the survey.

Perception: The perception of a passenger is an important element of this study; thus, the definition of perception found in Oxford Advanced Learner’s

Dictionary (2005) will be used, namely, “an idea, a belief or an image you have as a result of how you see or understand something”. Thus, the measure of perception in this study will be based on self-understanding. The previous definitions will serve as identifiers to differentiate perception from knowledge; they will allow the reader a better understanding of the cross-sectional study.

Safety: The definition of “safety” as it was provided by the Oxford Advanced Learner’s Dictionary (2005), namely, “the state of being safe and protected from danger and harm”.

Security: The “security” is a “key” element of this study; the definition of security found in Oxford Advanced Learner’s Dictionary (2005) will be used, namely, “the activities involved in protecting a country, building or person against attack, danger, etc” .

1.2 Background of the research

Airport security has gone through significant changes in recent years. Notably, these changes have been driven largely by terrorist activities around the globe. Airports, prime targets of terrorism and unfriendly attacks, are installing improved systems for detection of weapons, explosives and explosive devices.

Thus, the airport security has been modified and enhanced tremendously to “protect passengers, the public, and airline and airport employees from armed attacks, hijackings and bombings” (Flynn and Kosatka, 2005).

According to Simonsen and Spindlove (2007), many reporters believe that the attacks of September 11, 2001, could have been stopped by airport security guards. However, they failed to prevent the hijackers from boarding the planes. The lack of training and scarce benefits airline employees received before September 11, attributed to their inability to perform and “airport security suffered a major blow to its performance and credibility” (Simonsen and Spindlove, 2007).

It was noted that aviation security policies mainly seem to respond to a need “to do something”. Some recent changes in security measures have been labeled “security theatre”, because the measures are quite visible but their effectiveness is questionable. Such an approach seems more in line with policy-making, in the sense of attempting to reduce public concerns about security, rather than effectively reducing the probability of attacks (ITF, 2009).

1.2.1 The impact of the security measures on passengers

Before the tragedy on September 11, airport check-in in America and worldwide was fairly casual. Passengers showed their ID s to get a boarding pass, walked through a basic security search, and boarded the plane. As the airlines and airports review safety measures over the next few years you can expect big changes at airport check-in. Now, before boarding the plane, passengers and their baggage are required to be checked and go through the security check. Airline security is highlighted as the most important section at international airports. As a result, airport security is now handled differently with an increased amount of procedures aimed not only at protecting the airline industry and the lives of the public, but the national economy as well (Bullock et al., 2006). Travelers who are not familiar with those measures will probably encounter tough process of security check.

The immediate impacts of the new security measures on passengers are the increased taxes on airline tickets. Given the state of the economy, the demand for travel is weak. The problems are compounded further by increased taxes on tickets that could increase the total airfare by 25 to 40 percent. Because leisure travel is price-dependent, the demand for air travel has suffered considerably. Also, some passengers have chosen other means of travel in fear of repeated attacks similar to 9/11. Business travel also has declined given the general state of the economy and the need to find alternate means to flying large air carriers. Many business travelers have chosen to fly discounted, no-frills carriers. Others changed their travel behavior by purchasing advanced tickets.

Prior to increased security procedures, passengers could arrive at the airport approximately 2 hours before a flight and still be able to check-in and be at the gate in time for departure. Passengers now have to allow ample time for the long lines at check-in counters and at security check points before boarding. This is sometimes referred to as the hassle factor. Increases in security could continue to cause delays and inconveniences for travelers and for airport operators. During holidays and summer periods, airports will have to reduce sophisticated electronic screening and resort to less sophisticated screening to avoid causing operational delays. The problem is a prime example of the difficulties that are faced by the TSA and airports when attempting to balance security and efficiency (Airport Security Report, 2003). On the positive side, lines are now relatively shorter as airlines have implemented kiosk machines for self-service check-in of passengers holding electronic tickets. It is still inconvenient and worrisome for passengers as to how early they should be at the airport to avoid missing their flights.

As passengers face the possibilities of increased ticket prices, they must also prepare themselves to be searched before boarding the aircraft. Some passengers have abandoned air travel all together or have cut back on flying due to the hassle factor. Many travelers who would have normally chosen a one-hour flight over a four- or five-hour drive would now rather drive. This new pattern is affecting the demand for air travel, especially in short-haul markets.

In addition to the physical searches, air travelers must become more accustomed to extensive and sometimes intrusive searches. The new security measures have implied some privacy risk for passengers.

It should be noted that The European Union has agreed to share information about its airline passengers with the U. S., in a deal announced on December 16, 2003. The deal ends yearlong negotiations over a new U.S. law intended to fight terrorism. International airlines will turn over data about their U.S.-bound passengers, such as a traveler's name, e-mail address, telephone number and credit card number to the U.S. Department of Homeland Security's (DHS) Customs and Border Protection unit. The U.S. agency will then screen the traveler data and use it

for terrorist investigations and other international probes into crimes such as drug trafficking and money laundering (Goo, 2003, December). In January 2004, major U.S. airlines agreed to work with the Homeland Security Department on ways to protect travel privacy, as the government seeks to use passenger information to keep terrorists off planes (Airlines ordered, 2004).

1.3 Purpose of study

The aim of this study is to identify and analyze the perception and awareness of passengers about the security and safety measures in airport terminal building. Specifically, to determine the awareness that the measures are adequate, and what are the factors that influence perceptions towards airport safety and security measures and procedures (ASMP).

1.4 Study Objectives

The following main objectives are addressed for this study,

1. To determine the awareness of the passengers on security measures in airport terminal building.
2. To determine the awareness of the passengers on higher security measures in airport terminal building after 9/11
3. To determine the awareness of the passengers on readiness of the airport security service to confront any acts of unlawful interference.
4. To determine the awareness of the passengers on the consistency of airport safety and security policies and procedures from airport to airport.
5. To determine the demographic factors that influence perception on ASMP.

1.5 Research questions

The primary research questions of this study are:

1. Is there any difference between passengers with Malaysian nationality and other nationality in term of the awareness of the security measures in airport terminal building?
2. Is there any difference between passengers with Malaysian nationality and other nationality in term of the awareness of higher security measures in airport terminal building after 9/11?
3. Is there any difference between passengers with Malaysian nationality and other nationality in term of the awareness of the readiness of the airport security service to confront any acts of unlawful interference?
4. Is there any difference between passengers with Malaysian nationality and other nationality in term of the awareness aware of the consistency of airport safety and security policies and procedures from airport to airport?
5. What is the relationship between demographic factors and the perception on ASMP?

1.6 Hypothesis

1. Passengers' awareness of the safety and security measures in airport terminal building.
 - a. Null Hypothesis: There is no significant difference between Malaysians and Non-Malaysians in term of the awareness of ASMP.
 - b. Null Hypothesis: There is no significant difference between Malaysians and Non-Malaysians in term of the awareness of higher ASMP after 9/11.

- c. Null Hypothesis: There is no significant difference between Malaysians and Non-Malaysians in term of the awareness on the Airport Security Service's Readiness to confront any Unlawful Acts.
- d. Null Hypothesis: There is no significant difference between Malaysians and Non-Malaysians in term of the awareness of ASMP's Consistency among Airports

2. Passengers' demographical characteristics:

- a. Null Hypothesis: There is no significant difference between male and female in term of perception of safety in the airports.
- b. Null Hypothesis: There is no significant relationship between age group and perception of safety in the airports.
- c. Null Hypothesis: There is no significant difference between being single and married in term of perception of safety in the airports.
- d. Null Hypothesis: There is no significant relationship between education level and perception of safety in the airports.
- e. Null Hypothesis: There is no significant relationship between ethnicity and perception of safety in the airports.
- f. Null Hypothesis: There is no significant difference between Malaysian and Non-Malaysian in term of perception of safety in the airports.
- g. Null Hypothesis: There is no significant relationship between travel frequency and perception of safety in the airports.
- h. Null Hypothesis: There is no significant relationship between income level and perception of safety in the airports.

1.7 Scope of the Study

The study is focusing on the airport safety and security measures and procedures and passengers' awareness and perception on the matters. This study would as well investigate relationship of some demographic factors on the perception and awareness of the passengers on ASMP. The demographic factors involved are as follows:

- i. Gender
- ii. Age
- iii. Marital Status
- iv. Education Level
- v. Ethnicity
- vi. Nationality
- vii. Travelling Frequency
- viii. Income

Additionally, the study is also investigating about the passengers' feeling on ASMP.

This study does not control the extraneous variables that might involve, such as passenger' physical conditions or any other dispositional differences that might influence their levels in term of the variables mentioned in this study.

1.8 Limitation of Study

The limitation of the survey is that it will be conducted at sterile area, a part of the security-restricted area, where the access is highly controlled to ensure security of civil aviation; it is the place between the screening checkpoint and the aircraft (ANNEX 17). The study area is located in the satellite building of the Kuala-Lumpur International airport, and covered security procedures and measures in airport terminal building. Other limitation is that the research will be focused on determine passengers perception to security measures that is implemented in terminal and found out a factors that influence on passengers' opinion.

The KLIA was chosen because it is one of Asia's major aviation hubs, and it Malaysia's main international airport. Kuala Lumpur International Airport (KLIA) has been congratulated by the International Airlines Transport System (IATA) for having one of the best security screening processes for passengers and baggage (Jong, 2002).

DETAILED DEPARTURE FLOW MAP

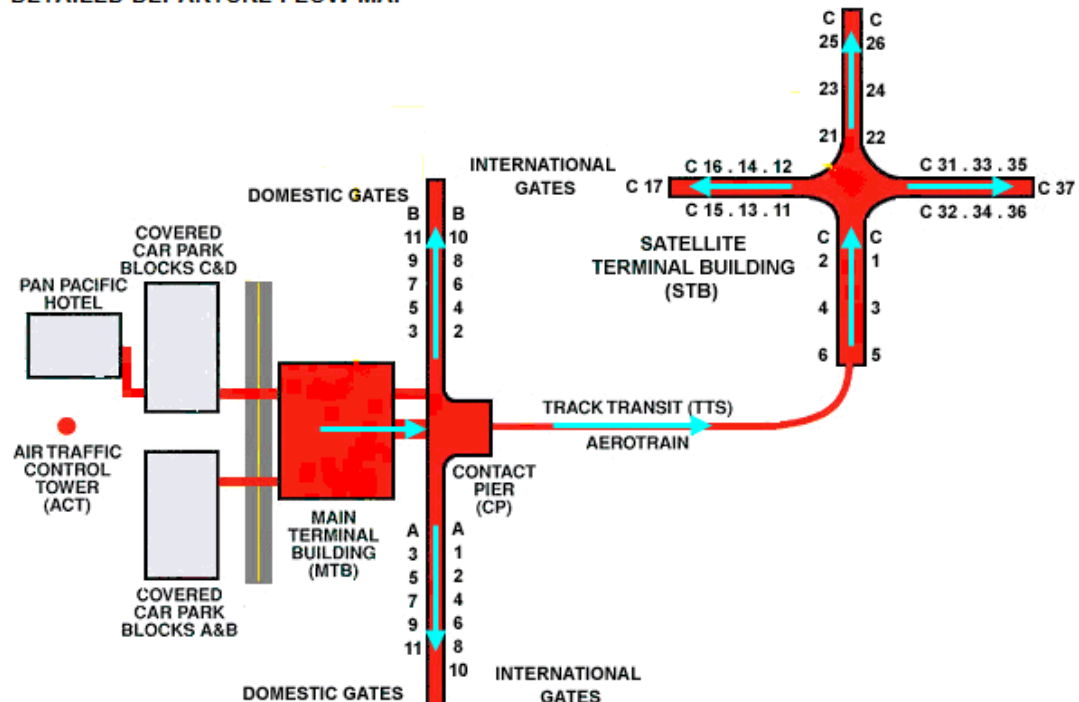


Figure 1.1: KLIA scheme

Source: www.cuti.com.my (2009)

According to ACI Asia Pacific July, 2007, Kuala Lumpur International Airport is capable of handling 35 million passengers and 1.2 million tonnes of cargo a year in its current phase. As of 2007, it was ranked as the 13th busiest airport in the world by international passenger traffic, and is the seventh busiest international airport in Asia.

1.9 Expected Contributions

Generally, it can be said that this study should be able to identify the knowledge and passengers' attitude on security measures. Performing the study with international passengers rather than the public will enhance the body of knowledge since passengers could be politicians, policy makers or governmental associates; therefore, their point of view can be of great value to this study.

The outcome of this study will contribute and augment the knowledge about passengers' perception on security measures. Information that will be sought from the passengers could be utilized by government and airport administrators in their implementation of security measures and procedures in airport.

1.10 Chapter Outline

First, the existing literature will be analyzed in order to gather information in regards to airport security measures after 9/11. After analyzing the literature, the next step will be to identify passengers' perception and awareness of the Kuala-Lumpur international airport security and safety measures and procedures.

The author, in Chapter 2, will begin with overview of the legislation focusing on the issue of Annex 17 to the Convention of Civil Aviation. Then the Airport security measures principles, responsibility and organization will be described. After a historical overview on attacks of September 11, 2001, the description and

assessment of new and modified security measures and procedures will be done. Finally, Chapter 2 will end with a description of passengers' perception and awareness on safety and security measures and procedures.

In Chapter 3 the author will describe the methodology used in the study. The quantitative study will rely on the implementation of a survey distributed to passengers of international flights. The survey questions focused on the knowledge and perception of the passengers.

In Chapter 4 the author aims to explain in detail the results of the analysis using the Statistical Program for Social Sciences (SPSS). In this chapter, an explanation of the survey findings will be provided, along with some conclusions. The answers of the respondents will be compared, to find out whether their knowledge and perception is statistically significant. Furthermore, Chapter 5 contains discussion and recommendations for further study.

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