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AIRPORT CONGESTION AND CUSTOMER SATISFACTION AT SMALL AIRPORTS IN INDONESIA

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Abstract:-

Congestion is a growing trend at major airports in Indonesia, as there is a general sense of what to expect when a hub or home airport begins approaching maximum capacity. Airports increased their capacity, safe and secure operations. Given that airports – which used to be known as local monopolies – now operate in a competitive environment, they now have invested massively in facilities to ensure customer satisfaction. In this research, the researchers aim to study whether airport congestion impacts customer satisfaction at secondary airports in Indonesia. The research will take place at Adisucipto International Airport in Yogyakarta, Central Java, Indonesia, known as congested small airports. The utilization rate is exceeding 370% of its planned capacity. The researchers specifically targeted departing international passengers at Terminal A during peak hours (6:00 AM – 8:00 AM) and did secondary research towards those leaving outside the airport's peak hours (9:00 AM – 12:00 PM). The research approach is a descriptive analysis using questionnaires to 253 respondents (123 peak hour passengers & 130 non-peak hour passengers) to measure their expectations and perceived qualities at the airport. Based on the comprehensive service quality model, SERVQUAL, developed by Parasuraman, Zeithamal, and Berry (1988) and data processing using IBM's SPSS, the researchers found no significant correlation between departure time and passengers' perceptions in all five service dimensions. However, the discrepancy (gap) value between expectations and perceptions during non-peak hour departures is higher than that of the airport's peak hour departures.

INTRODUCTION

The airline deregulation in Indonesia since 2000 has contributed to higher competition and gives more access for the target market to travel by air. The aviation sector offers huge investment opportunities given the country's unique geographical condition with a rising middle class and great potential for its tourism industry (GBG Indonesia, 2018). In response to the aviation industry's exponential growth in Indonesia, airlines have been more confident to maintain sustainable growth. Airline expansion is inevitable through purchasing more aircrafts and adding more routes (Runway Aviation News, 2015). Nonetheless, one of the impacts of airline expansion is congestion which has become a growing trend at major airports in Indonesia and it gives a general sense of what to expect when a hub or home airport begins approaching maximum capacity. Increased capacity through airport development is urgent but given the complexity of the industry's nature namely of being capital intensive, it highly regulates the airport development projects, must be prudently planned, and requires time consuming. Horonjeff, McKelvey, and Young (2010) described an airport as having complex activities and different needs. Airports around the world are now on their roadmaps for development projects to increase capacity, hence safe and secure operations. Given that airports – which used to be known as a local monopoly – now operate in a competitive environment, they now have massively invested in facilities to ensure customer satisfaction. Regarding the service industry as a whole, in a constantly changing business environment, understanding customer perceptions of quality has become critical. As the perceived level of quality is an antecedent of customer satisfaction with the service performance, measuring service quality using customer-based variables may guide the organization's efforts to better deal with customer needs (Cronin et al., 2000; Falk et al., 2010; Wilson et al., 2012). In the current increasingly competitive environment, service quality is an important area, reflecting the evolution of airport management from having a primary focus on facilities and operations, to providing a passenger-driven service experience (Wyman, 2012). In the airport industry, service quality measures are based on passenger perceptions that have been typically considered for operational performance measurements and benchmarking purposes. With the growing interest in the subject, ASQ surveys have been systematically carried out by international agencies, regulatory authorities, airport operators, and other organizations (ACI, 2014; IATA, 2015; Kramer et al., 2013; Zidarova & Zografos, 2011). Many airports now have joined the ASQ (Airport Service Quality) surveys, which can be used to identify the customer satisfaction level at their major airports. In this context, Angkasa Pura Airport is the leading airport operator in Indonesia; it has not yet included all the airports that they manage in the ASQ programs. There are only 5 airports which have been included in the measurement program, namely: Bali, Surabaya, Balikpapan, Ujung Pandang, and Lombok. Therefore, one of the benefits of this reasearch can be to complement Angkasa Pura Airport to measure customer satisfaction at small secondary airports which have not been included in the ASQ programs.

This research aims to answer the following two research questions that shall be answered by the researchers:

1. What is the correlation between airport congestion and customer satisfaction at secondary small airports in Indonesia?
2. What impact does airport congestion have on customer satisfaction at small airports in Indonesia?

To effectively investigate the proposed research questions and the objectives, this research will be conducted through an inductive method. The main aim of the field study is to identfy the views of the end-users such as passengers; therefore, the researchers will use quantitative methodology. The researchers will mainly focus on quantitative methods in order to investigate the multidimensional factors that shape customer satisfaction. A survey will be conducted with a structured self-administered questionnaire adapted from the SERVQUAL model (Parasuraman et al., 1988), and to test the reliability of the questionnaire, a pilot questionnaire will be administered and minor changes will be made should there be any comments or input before finalizing the questionnaires. The survey will be self-administered by the researchers for a period of two days at Terminal A Adisucipto International Airport Yogyakarta, Central Java, Indonesia. Terminal A is the main terminal which is occupied by 6 airlines (5 domestic carriers and 1 international carrier). Approximately, 1,100 questionnaires will be distributed. The researchers plan to use iPad during the research, so it will be a paperless research. The researchers consist of three individuals who will work in shifts to distribute the questionnaires during the airport's peak-hour operations (6:00 AM – 8:00 AM) at Terminal A Adisucipto International Airport Yogyakarta. The survey distribution will be conducted at the departure terminal during the mentioned hours and for non-peak hours (8:00 AM – 3:00 PM). SPSS (Statistical Program for Social Sciences) software will be utilized to analyse the quantitative data, using a descriptive analysis, factor analysis, and gap analysis. Subsequently, according to the statistical analysis, data will be interpreted to extract findings about the expectations and perceptions based on the newly developed variables, as well as the demographic information of Terminal A Adisucipto International Airport's passengers. The results will also be compared between peak hours and non-peak hours.

A title of article should be the fewest possible words that accurately describe the content of the paper. Indexing and abstracting services depend on the accuracy of the title, extracting from it keywords useful in cross-referencing and computer searching. An improperly titled paper may never reach the audience for which it was intended, so be specific.

CONGESTION & THREE PHASE TRAFFIC OVERVIEW

The word 'congestion' was originally derived from the Latin –con which means 'together' and -gerere which means 'bring'. Both words are combined to become congere that means 'head-up' and according to the Oxford Dictionary (2018) 'congested' means the state of being congested. 'Congested' as an adjective means (of a road or place) the condition of being so crowded with traffic or people as to hinder or prevent freedom of movement. In the three phases of the traffic theory, the three phases in traffic consist of free flow and two congestion phases: synchronized flow and wide moving jam. The three phases offer qualitative features of traffic congestion phenomena. The theory focuses mainly on the explanation of the physics of a traffic breakdown and resulting congested traffic on highways. Kerner describes three

phases of traffic while the classical theories are based on the fundamental diagram of two phases of traffic: free flow and congested traffic (Kerner, 2013). Noting that this is not a focused math or physics research, the researchers will only provide these theories to give a brief overview of congestion in airports that may occur during peak hours where the demand surpasses the capacity. The congestion data will be taken directly from other sources such as Angkasa Pura Airport's data.

CUSTOMER SATISFACTION

Kotler and Keller (2012) define satisfaction as a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to expectations. Zani, Milioli, and Morlini (2013) define customer satisfaction as the degree of happiness that a customer experiences with a product or a service and is a personal function of the gap between expected and perceived quality. The customer satisfaction and customer purchase intent model was proposed by Oliver (1980) to explain customer satisfaction as a function of expectation and expectancy disconfirmation. It has reflected that expectancy is linked with satisfaction. Disconfirmation is defined as the difference between the customer's expectations and the actual performance for which it is observed (Bhattacherjee & Prem kumar, 2004). The outcome of the complete process is favorable if the customer's expectations have been exceeded, unfavorable if the customer's expectations have not matched the actual experience, and neutral if then expectations and experiences are equal (Parasuraman et a1., 1988; Bitner & Wang, 2014). Therefore, it can be concluded that customer satisfaction has a linear assosication with the disconfirmation process. Should there be a discrepancy, either positive or negative between expectations and performance, the outcome will be either satisfactory or dissatisfactory. However, this study will only focus on how we can improve customer satisfaction since good service quality is positive customer satisfaction. Kotler and Armstrong (2013) highlighted that long-term customer satisfaction builds customer loyalty towards a product or a service.

AIRPORT SERVICE QUALITY

The definition of an airport, according to the Federal Aviation Administration (FAA) is any area of land or water used or intended for landing or take-off of an aircraft including an appurtenant area used or intended for airport buildings, facilities, as well as rights of way together with the buildings and facilities (FAA, 2018). Horonjeff, McKelvey, and Young (2010) also defined a terminal as an interface area between an airfield and other parts of the airport including those areas that are equipped with facilities for passenger and luggage processing, cargo handling, and other administrative, operational, and airport maintenance. A passenger terminal has three main functions such as: operational function, the interchange between land transport and air transport, passenger services, and flow interface.

AIRPORT PASSENGER ACTIVITIES

According to the International Air Transport Association (IATA, 2014), there are eleven airport domains for a departure and three domains for an arrival that can be used to map passengers' activities where the level of satisfaction can be measured.

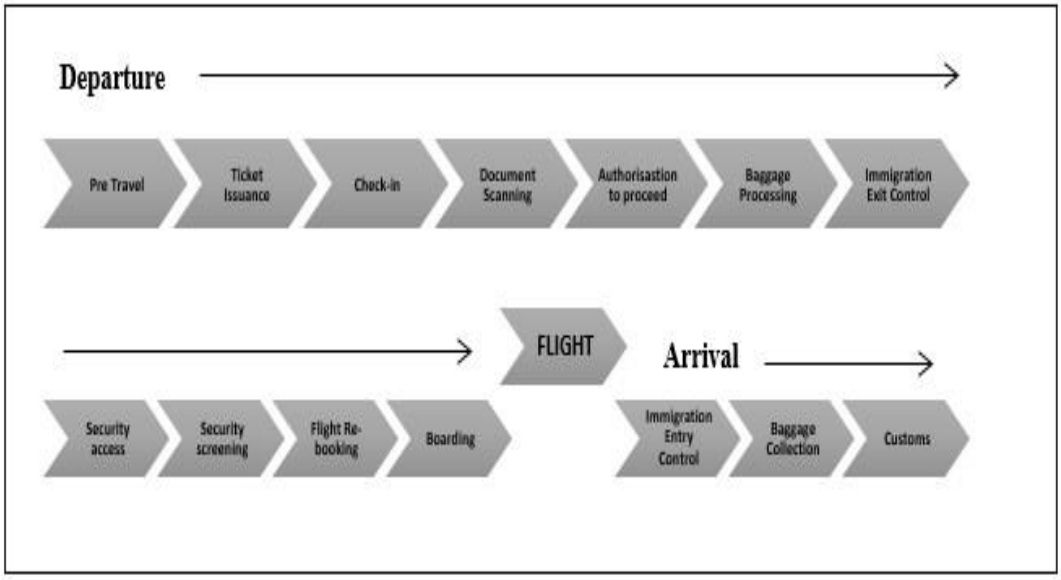


Figure 1: IATA's Processing Domains (IATA, 2014)

Taking into account the figure above, IATA's position of passenger experience focuses on the use of dedicated technology to improve passenger processing. Popovic et al. (2010) developed an airport domain which is based on passenger-centred activities. This approach categorizes passenger activities at airports into processing and discretionary (non-processing), including six departure domains and five arrival domains:

1. Departure
   a. Processing domains: Check-in, Security, Immigration, Boarding
   b. Non-processing domains: Arrival at the airport, Waiting/Retail Area

2. Arrival
   a. Processing domains: Disembarkation, Immigration, Baggage Claim, Customs
   b. Non-processing domains: Depart Airport

Popovic et al. (2010) described passenger experiences as activities and interactions that passengers undergo in an airport terminal building. Meanwhile, passenger experiences are categorized into two broad categories: processing activities and discretionary activities. Processing activities are those activities related to mandatory flow that must be completed by every passenger in sequence upon arrival at the airport such as check-in, security screening, immigration, and boarding. Discretionary activities are optional, unordered activities based on the passenger's freedom of choice (Kirk, 2013; Popovic et al., 2010).

In this research, airport passenger experience represents the complete set of passenger activities covering the departure, transit, and arrival terminals in both domains. Getting to know about airport passenger experience is important in determining both the expected and perceived values of airport service quality that will be measured and put in the questionnaires which will be distributed to the passengers.

AIRPORT SERVICE QUALITY KEY PERFORMANCE

Defining passenger satisfaction as a key performance indicator for airport operations, Yeh and Kuo (2003) conducted a study to evaluate the level of airport service quality according to six distinctive service attributes such as: (i) staff courtesy, (ii) processing time, (iii) security, (iv) comfort, (v) convenience, and (vi) information. According to Chen et al. (2002), the airport service category is categorized into convenience, check-in time, serviceableness, kindness of employees, visibility of information, and security as a conceptual system to contribute to the activation of quality control. Humphreys et al. (2002) highlighted that many performance measures currently in use are output variables applying quantitative models based on service indicators that are easy to measure, rather than those that are important to measure. They found that the following aspects were normally considered in the service performance of airports: (i) customer satisfaction; (ii) friendliness of terminal signage; cleanliness of the terminal and restrooms; (iii) check-in satisfaction; (iv) catering overall satisfaction; (v) value for money in shops; (vi) baggage delivery service; (vii) availability of baggage trolleys; and (viii) standard of carpark facilities. Currently, there are a number of key instruments available for measuring service quality performance of which, the SERVQUAL model has been the major generic model used to measure and manage service quality (Buttle, 1996; Park et al. 2005; Ladhari, 2010).

SERVQUAL Model

Parasuraman et al. (1988) built a 22-item instrument called SERVQUAL for measuring consumer perceptions of service quality. SERVQUAL addresses many elements of service quality divided into the dimensions of tangibles, reliability, responsiveness, assurance, and empathy. Tangibility refers to the physical characteristics associated with the airport operator's encounters during a congestion period. This element includes: the physical surroundings represented by objects, in this case the airport (for example, interior design) and subjects, as well as the appearance of airport employees. Reliability: The airport operator's ability to provide accurate and dependable services, consistently performing the services right during a congestion period. Responsiveness: The airport operator's willingness to assist its customers by providing fast and efficient service performances during a congestion period; the willingness that employees exhibit to promptly and efficiently solve customer requests and problems. Assurance: Diverse features that provide confidence to customers (such as the airport operator's specific service knowledge, polite and trustworthy behavior from employees.

Empathy: The service firm's readiness to provide each customer with a personal service.

Based on the SERVQUAL model, service quality can be measured by identifying the gap between customers' expectations to be rendered and their perceptions of the service's actual performance. Service quality is measured on the basis of the different scores by subtracting the expectation scores from the corresponding perception scores (Parasuraman et al., 1988). This study will use the SERVQUAL model to identify the customers' satisfaction with comprehensiveness of measurements. Service quality is an integral part of the product/service offering provided to a customer. Along with continuously identifying customer expectations and perceptions about service quality, it is imperative for service providers to also investigate whether the service quality increases customer satisfaction and their behavioral intentions.

ADISUCIPTO INTERNATIONAL AIRPORT (JOG)

Adisucipto International Airport is located in Yogyakarta, Special Province of Yogyakarta, and Central Java, Indonesia. The airport is located in the vicinity of Central Java, with two neighboring airports: Adisumarmo International Airport (Solo) and Ahmad Yani International Airport (Semarang). The airport is operated by Angkasa Pura Airport (Angkasa Pura I (Persero), a state owned airport operator company. It handled 6.3 million passengers in 2015 with a compound annual growth rate of 8%. The airport operates from 6:00 AM to 9:00 PM daily and is known to be one of an enclave of military-civil joint operations. The airport operates a single runway and two terminals (Terminal A and B), in which both terminals operate domestic and international flights. Terminal A serves 6 airlines (Garuda Indonesia, Citilink, Lion Air, Batik Air, Wings Air, and SilkAir), while Terminal B serves 2 airlines (AirAsia and Sriwijaya Air).

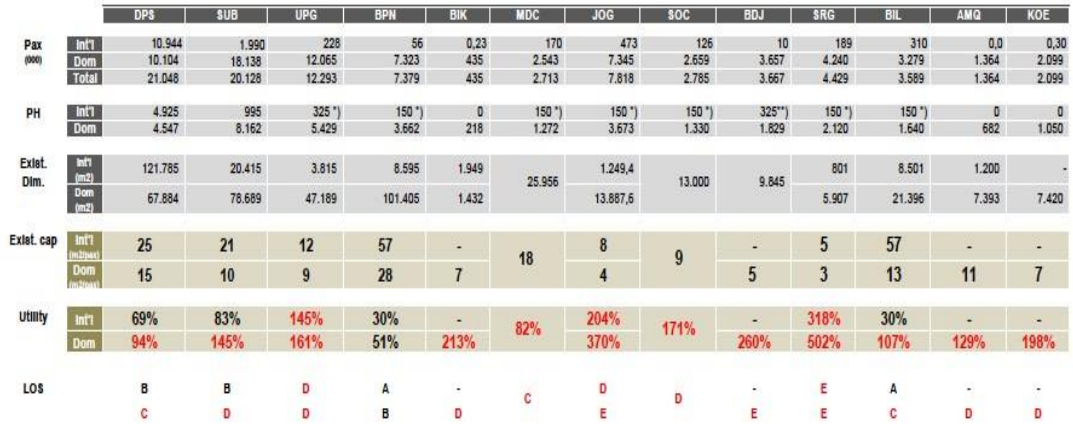


Figure 2: Utilization Rate of 13 Airports Managed by Angkasa Pura Airport (Angkasa Pura I (Persero), 2017)

Adisucipto International Airport (JOG) was chosen by the researchers due to its traffic performance that has exceeded its capacity. The airport is known as a small airport which has had its traffic exceeded by up to 370% more than its capacity. Terminal A itself is designed to accommodate 1 million passengers, but the traffic has increased by up to 6.3 million passengers in 2015. The average number of passengers' departures and arrivals at Terminal A in Adisucipto International Airport are shown below:

Table 1: Average Passenger Traffic at Terminal a Adisucipto International Airport Yogyakarta

Peak Hours	Departure	Arrival
	Domestic	
6:00 AM – 8:00 AM	1,462	1,366
4:00 PM – 6:00 PM	1,392	1,096
Non-Peak Hours 8:00 AM – 3:00 PM & 8:00 PM – 9:00 PM	5,575	5,772
	International	
6:00 AM – 8:00 AM	182	0
4:00 PM – 6:00 PM	310	286
Non-Peak Hours 8:00 AM – 3:00 PM	901	1,041

The peak hours on 6:00 AM – 8:00 AM does not seem to record the highest number for international passengers (more contributed by the domestic operations), the passenger processing is conducted inside the same terminal (no dedicated entrance for an international terminal) and airside operations are conducted under one jurisdiction or clearance by one air navigation service. Therefore, the peak hours of operation from 6:00 AM – 8:00 AM clearly will impact all the operations be it domestic and/or international departing passengers.

METHODS

This research will use deductive approach as it relies on deduction. The primary data gathered with self-administered questionnaires. The questionnaire was designed and divided into three sections: First, the survey will ask about demographic information from the respondents containing their names, gender, age, travel frequency per month, occupations, departure/ arrival times, traveling class (business or economy), purpose of traveling, and nationalities. Second, the survey will ask the passenger expectations consisting of 20 statements, and third will ask about the passenger perceptions which also consisted of 17 questions. The wording of these statements used strong words such as 'must' and 'should' to measure customers' expectations using a Likert scale. A Likert scale was chosen due to the answer categories in a specific order. For example, if a respondent chooses '1' he or she will agree less with the statement than if the individual chooses '2', and so on. In this research, the Likert scale was:

(1) Strongly Disagree
(2) Disagree
(3) Somehow Agree
(4) Agree
(5) Strongly Agree

The use of the scale development is if there are 30 respondents; 3 respondents answer strongly disagree (3x1=3), 8 respondents disagree (8x2=16), 5 respondents somehow agree (5x3=15), 9 persons agree (9x4=36), and 5 persons strongly agree (5x5=25), then the accumulated score will be 95 and divided by the total number of respondents 30, 95/30 = 3.167. Then it can be concluded that the average number of respondents somehow agree with the statement or the items given

that the average score is still around somehow agree. These questions were divided into 5 dimensions: *Reliability*, *Responsiveness*, *Assurance*, *Empathy*, and *Tangiblity*. The details are in Table 2.

Table 2: Variables and Attributes to Measure Passengers' Expectations and Perceptions

Variables	Expectations	Perceptions
Airport's Reliability	1. All facilities such as toilets, luggage carts, check-in kiosks, restaurants, check-in counters, lounges, and shops at the airside must be located at a convenient place.	1. All facilities such as toilets, luggage carts, check-in kiosks, restaurants, check-in counters, lounges, and shops at the airside are located at a convenient place. 2. The airport provides wheelchairs for disabled passengers. 3. There is no queue line at the security check point.
	2. The airport must provide wheelchairs for disabled passengers. 3. There must not be a queue line at the security checkpoint. 4. There must not be a queue line at the immigration area. 5. The flight information display system must provide accurate information.	4. There is no queue line at the immigration area. 5. The flight information display system provides me with accurate information.
Responsiveness	1. The airport staff must respond to questions quickly. 2. The airport staff must give individual attention to passengers. 3. The airport information staff must deliver the latest information about my gate promptly.	1. The airport staff responds to my questions quickly. 2. The airport staff gives me individual attention. 3. The airport information staff delivers the latest information about my gate promptly.
Assurance	1. The airport staff must take the time to know passengers personally. 2. The airport staff must be ready to answer all passengers' questions.	1. The airport staff takes the time to know you personally. 2. The airport staff is always ready to answer my questions.
Empathy	1. The airport staff must be polite and courteous to passengers. 2. The airport staff must display personal warmth in their behavior.	1. The airport staff is polite and courteous. The airport staff displays personal warmth in their behavior.
Tangibles	1. The passenger lounge must look appealing. 2. The toilets must be clean. 3. The Wi-Fi connection must be strong. 4. The airport signage must be clear and not confusing. 5. The airport staff must dress nicely and look professional.	1. The passenger lounge looks appealing. 2. The toilets are clean. 3. The Wi-Fi connection is strong. 4. The airport signage is clear and does not confuse me. 5. The airport staff dresses nicely and looks professional.

The reliability of the questionnaire is checked with Cronbach Alpha through SPSS. The value should be higher than 0.70 or closer to 1, which means the constructed questions have high reliability. The high reliability which means that all the

items in the questionnaire measured the same construct. The reliability test was conducted to test the relation of the items or questions with each other.

The population of this research is the International flight passengers who are departing from a small airport in Indonesia during morning peak hours of operation. Therefore, the target population was International flight passengers who are departing from Terminal A Adisucipto International Airport, Yogyakarta (JOG) during morning peak hours (6:00 AM – 8:00 AM). The sample is divided into two groups, of which both were more specifically targeted to international passengers only with similar characteristics explained in the population above. The decision to divide them into two groups was mainly due to the researchers' objective to compare both results between peak hours of operation and non-peak hours of operation.

Group A sample: International flight passengers who are departing from Terminal A Adisucipto International Airport Yogyakarta (JOG) during peak hours (6:00 AM – 8:00 AM)

Group B sample: International passengers who are departing from domestic flights only at Terminal A Adisucipto International Airport Yogyakarta (JOG) during regular hours (nonpeak hours). The researchers determine the number of the sample based on the population size of domestic passengers presented in Table 5.

Table 5: Sample Size for Each Group

Group Sample	Population (Average recorded pax)	Sample
Group A sample: *International flight passengers who are departing from Terminal A Adisucipto International Airport Yogyakarta (JOG) during peak hours (6:00 AM – 8:00 AM)*	182	*123 sample*
Group B sample: *International flight passengers who are departing from Terminal A Adisucipto International Airport Yogyakarta (JOG) during regular hours (non-peak hours)*	200	*130 sample*

The researchers coded the expectation and perception questions using 'E' and 'P'. Subsequently, the questions were coded individually using an alpha numerical and a three letter code for the SERVQUAL variables that were used in the research, such as in the following table.

Table 6: Questionnaire Coding

Variables	Attributes (Expectations)	Expected	Perceived
Airport's Reliability	1. All facilities such as toilets, luggage carts, check-in kiosks, restaurants, check-in counters, lounges, and shops at the airside must be located at a convenient place.	E1REL	P1REL
	2. The airport must provide wheelchairs for disabled passengers.	E2REL	P2REL
	3. There must not be a queue line at the security checkpoint.	E3REL	P3REL
	4. There must not be a queue line at the immigration area.	E4REL	P4REL
	5. The flight information display system must provide accurate information.	E6REL	P6REL
Responsiveness	1. The airport staff must respond to questions quickly.	E1RES	P1RES
	2. The airport staff must give individual attention to passengers.	E2RES	P2RES
	3. The airport information staff must deliver the latest information about my gate promptly.	E3RES	P3RES
Assurance	1. The airport staff must take the time to know passengers personally.	E1ASS	P1ASS
	2. The airport staff must be ready to answer all passengers' questions.	E2ASS	P2ASS

Empathy	1. The airport staff must be polite and courteous to passengers. 2. The airport staff must display personal warmth in their behavior.	E1EMP E2EMP	P1EMP P2EMP
Tangibles	1. The passenger lounge must look appealing. 2. The toilets must be clean. 3. The Wi-Fi connection must be strong. 4. The airport signage must be clear and not confusing. 5. The airport staff must dress nicely and look professional.	E1TAN E2TAN E3TAN E4TAN E5TAN	P1TAN P2TAN P3TAN P4TAN P5TAN

A descriptive analysis is to describe the general pattern of the responses and measures such as the central tendency (mode, mean, and median) and variability (standard deviation and variances). The paired sample T-Test is used to compare the means across the service quality related questions whether it is expected or perceived services. The Gap Analysis is used to calculate the difference between customer expectations and perceptions. It used a dissimilarity test, which calculate the distance or gap; the higher the value of the variable was, the wider the gap was.

The Pearson correlation test is used to prove which hypotheses are relevant, for example, if there is a strong assosication between departure or arrival times (peak hours and non-peak hours) with customers' perceptions. The association can be seen through the p value of which is below 0.05, which indicates a strong association.
The Importance-Performance analysis is used to complete the analysis about perception vs expectation of the passengers in the peak house in Adisucipto International Airport.

RESULTS AND DISCUSSION
The following is the result of this research about investigate service quality based on the passengers' perceptions through a gap analysis. The data was taken from personal administered questionnaires with individual passengers at Terminal A Adisucipto International Airport, Yogyakarta. There are 17 statements that were classified into five dimensions of airport service quality which are Reliability, Responsiveness, Assurance, Empathy, and Tangibility.

A total of 253 respondents participated in the survey at Terminal A Adisucipto International Airport from 6:00 AM to 8:00 AM, and the survey was administered over a week in October 2018. Terminal A is the first and oldest terminal at Adisucipto International Airport. This terminal is known to be the most crowded terminal compared to the latest Terminal B. Mostly the operations are dominated by domestic flights, but international carriers such as Silk Air and Air Asia operate daily flights to Singapore and Kuala Lumpur respectively. The researchers had the opportunity to survey passengers who were waiting in the lounge area near the gates to board their flights, at the check-in areas before passing immigration. It was the perfect time to ask those passengers to participate in the survey as they were in a relaxed disposition as they had completed their check-in and immigration formalities. Most of the passengers agreed to complete the survey under our supervision. They clearly understood each section of the survey between the expectations and perceptions.

RESPONDENTS' DEMOGRAPHICS
In this section, the researchers provide an overview of the respondents' demographic information which will provide an insight into the international flight passengers departing from Terminal A Adisucipto International Airport, Yogyakarta, and give a further explanation of this research's discussion.

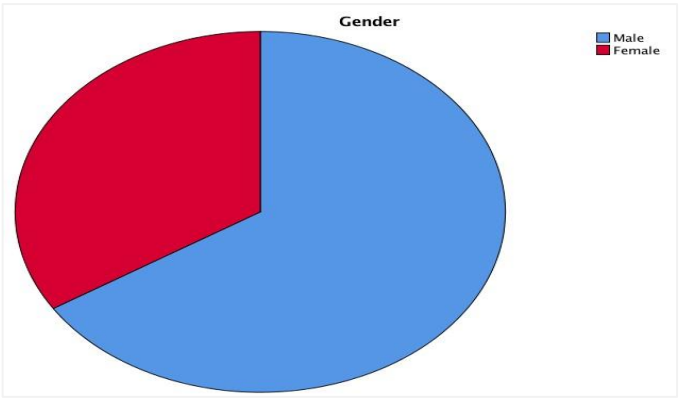
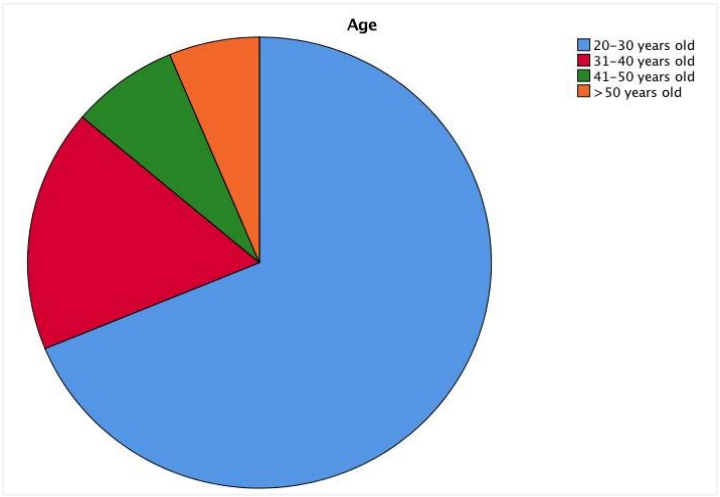


Figure 1: Respondents' Demographic Share in Terms of Gender (IBM SPSS, 2018)

The figure above shows that from the 253 respondents, most of them are males, who account for 167 respondents (66%), while female travellers only contributed 86 respondents (34%).



2: Respondents' Demographic Share in Terms of Age (IBM SPSS, 2018)

The above chart shows that most of the respondents are still in a productive age, between 20-30 years old, who account for 174 respondents (68%), followed by 31-40 years old passengers with 44 respondents, while the 41-50 year old category only contributed 19 respondents (7.5%), and >50 years old group had 16 respondents (6.3%).

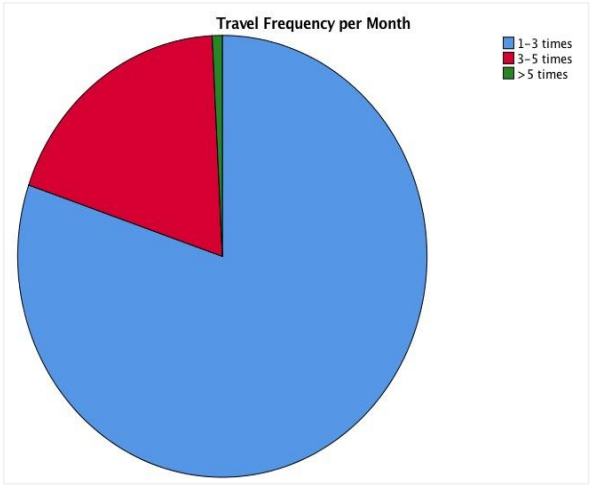


Figure 3: Respondents' Demographic Share in Terms of Age (IBM SPSS, 2018)

The figure above shows that the majority of the respondents are those who only travel 1-3 times per month with 203 passengers (80%), followed by 3-5 times monthly with 48 respondents (19%) presumably business travelers. This may indicate that these are leisure passengers who travel to different countries periodically.

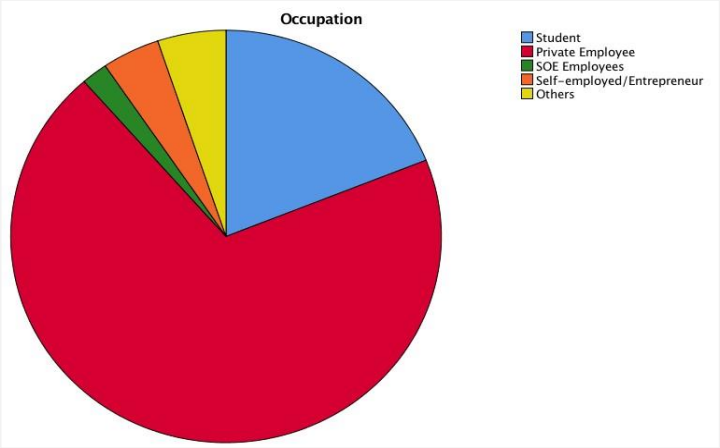


Figure 4: Respondents' Demographic Share in Terms of Occupation (IBM SPSS, 2018)

The figure above shows that the majority of respondents are private employees with 176 respondents (69%) and followed by students with 48 respondents (19%). The occupation results indicate that most of the productive age respondents have already entered their career phase (graduates) rather than university students, assuming that most of the passengers are in the 20-30 year- old category.

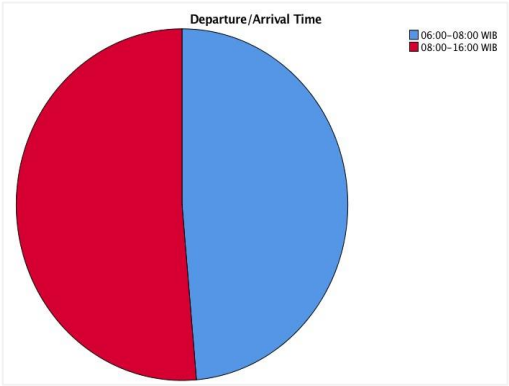


Figure 5: Respondents' Demographic Share in Terms of Departure/Arrival Time (IBM SPSS, 2018)

The figure above shows that the respondents matched with the minimum sample criteria based on the population, in this case, international flight passengers departing from Terminal A Adisucipto International Airport during peak-hour times, ideally 123 respondents and non-peak-hour times, ideally 130 respondents. The non-peak hour time respondents have a larger share (51.4%) due to the bigger departing traffic during the time frame (9:00 AM – 12:00 PM).

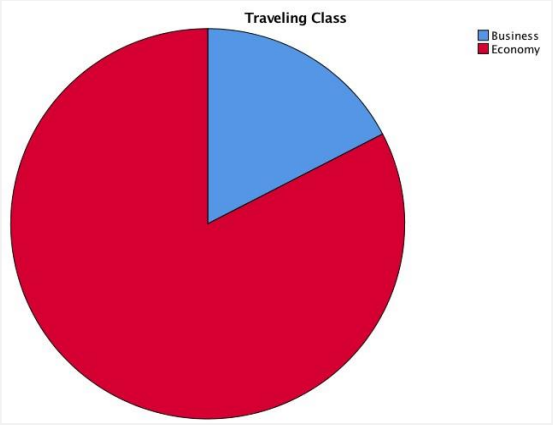


Figure 6: Respondents' Demographic Share in Terms of Traveling Class (IBM SPSS, 2018)

The chart above shows that most of the respondents who participated in the survey traveled on economy class with 209 respondents (83%) compared with business class passengers with 44 respondents (17%). The only international airline that offers business class is SilkAir, while AirAsia to Kuala Lumpur only serves a 1 class configuration aircraft (all economy).

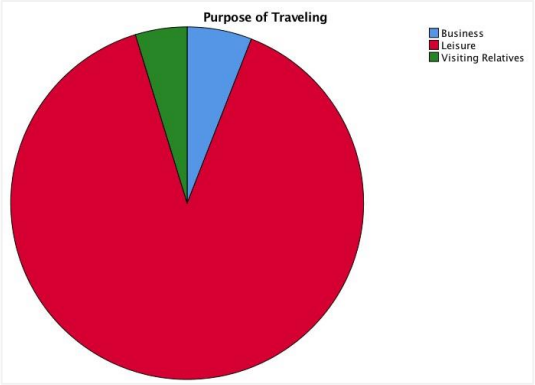


Figure 7: Respondents' Demographic Share in Terms of Purpose of Traveling (IBM SPSS, 2018)

Leisure passengers contribute most (89%) of the total respondents. It shows that Yogyakarta as a tourism destination is dominated by inbound and outbound passengers with a traveling purpose. Business travelers only accounted for 15 respondents (6%), and 12 respondents were traveling to visit their relatives overseas.

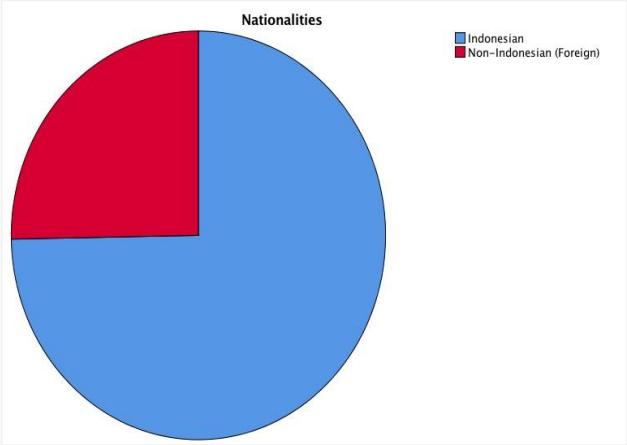


Figure 8: Respondents' Demographic Share in Terms of Nationalities (IBM SPSS, 2018)

Over 74% of the respondents are Indonesian respondents, while the remaining are non-Indonesian (foreign) respondents. This figure shows that the majority of respondents reside in Yogyakarta and its surrounding areas who travel overseas.

DESCRIPTIVE STATISTICS

In this section, the researchers aim to present the results of a descriptive analysis of five dimensions, as the first procedure and most important reference for the researchers to draft an analysis. During the procedure, the researchers were able to obtain the mean (average), as well as the standard deviation values of each variable and dimension (Reliability, Responsiveness, Assurance, Empathy, and Tangibles).

Below are the results of the expected reliability gathered from the respondents during the peak hours of operation?

Table 8: Descriptive Analysis Results for the Expected Reliability Dimension (EREL) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hour Departure (6:00 AM – 8:00 AM)						
		N	**Min**	**Max**	**Mean**	**Std. Deviation**	**Average Mean Variable**
RELIABILITY	Expected Reliability - Convenient location of airport facilities (toilets, check-in kiosks, lounges)	123	3.00	5.00	4.6748	0.52002	**4.53821**
	Expected Reliability - Wheelchair facilities for disabled passengers is important	123	4.00	5.00	4.9350	0.24761	
	Expected Reliability - There must not be a queue line at the security check point	123	2.00	5.00	4.1382	0.78223	
	Expected Reliability - There must not be a queue line at the immigration desk	123	3.00	5.00	4.3415	0.62501	
	Expected Reliability - The flight information display system must provide accurate information	123	3.00	5.00	4.6016	0.50797	

The average mean of the passengers' responses is 4.5 which is considered as 'High'. The highest mean for reliability is regarding wheelchair facilities for disabled passengers. The average mean shows that most of the passengers' expectations for airport reliability is high during peak hours of operation.

The following table shows the expected responsiveness gathered from the respondents during peak hours of operation:

Table 9: Descriptive Analysis Results for the Expected Responsiveness Dimension (ERES) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
RESPONSIVENESS	Expected Responsiveness – The airport staff must respond to questions quickly	123	3.00	5.00	4.1301	0.57202	3.99187
	Expected Responsiveness – The airport staff must give individual attention to passengers	123	2.00	6.00	3.9268	0.93362	
	Expected Responsiveness – The airport information staff must deliver the latest information about my gate promptly	123	3.00	5.00	3.9187	0.77453	

The average mean of passengers' responses is 3.9 or close to 4 which is considered as 'High'. The result indicates that most passengers have high expectations in terms of responsiveness. The largest share of the mean is regarding the airport staff's ability to respond to passengers' questions quickly.
The following table shows the expected assurance gathered from the respondents during peak hours of operation.

Table 10: Descriptive Analysis Results for the Expected Assurance Dimension (EASS) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
ASSURANCE	Expected Assurance – The airport staff must take the time to know passengers personally	123	2.00	5.00	2.9756	0.79407	3.58130
	Expected Assurance – The airport staff must be ready to answer all passengers' questions	123	3.00	5.00	4.1870	0.66959	

The average mean of passengers' responses is 3.5 or close to 4 which is considered as 'Medium'. This table indicates that the respondents do not have high or low expectations towards the assurance dimension. The largest share of the mean is regarding the airport staff's readiness to answer all passengers' questions. The respondents acknowledge that the staff needs to reconfirm with their colleagues before delivering an answer or statement.
The following table shows the expected empathy gathered from the respondents during peak hours of operation.

Table 11: Descriptive Analysis Results for the Expected Empathy Dimension (EEMP) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
EMPATHY	Expected Empathy – The airport staff must be polite and courteous to passengers	123	3.00	5.00	4.2846	0.62095	4.33333
	Expected Empathy – The airport staff must display personal warmth in their behavior	123	3.00	5.00	4.3821	0.60761	

The average mean of passengers' responses is 4.3, which is considered as 'High'. This table indicates that on average, the respondents have high expectations for the empathy dimension as shown by the airport staff. Most of the respondents attribute this to the airport staff's ability to demonstrate warmth in their behavior.
The following table shows the expected tangibility gathered from the respondents during peak hours of operation.

Table 12: Descriptive Analysis Results for Expected Tangibility Dimensions (ETAN) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
TANGIBLES	Expected Tangibles - The passenger lounge looks appealing	123	3.00	5.00	4.3008	0.49481	4.40325
	Expected Tangibles - The toilets are clean	123	4.00	5.00	4.3984	0.49157	
	Expected Tangibles - The wifi connection is strong	123	3.00	5.00	4.4472	0.64278	
	Expected Tangibles – The airport signage is clear and not confusing	123	3.00	5.00	4.4228	0.52804	
	Expected Tangibles – The airport staff dress nicely and look professional	123	3.00	5.00	4.4472	0.66780	

The average mean of passengers' responses is 4.4, which is considered as 'High'. This table indicates that most of the respondents' expectations towards the airport tangibility is high and they attribute it to two items: the WiFi connection and toilet cleanliness.

The following table shows the respondents' perceptions of reliability during peak hours of operation.

Table 13: Descriptive Analysis Results for the Perceived Reliability Dimension (PREL) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Variable Mean
RELIABILITY	Perceived Reliability - Convenient location of airport facilities (toilets, check-in kiosks, lounges)	123	1	5	2.983739 837	0.98333440 6	3.33659
	Perceived Reliability - Wheelchair facilities for disabled passengers is important	123	1	5	3.674796 748	0.88239553 7	
	Perceived Reliability - There must not be a queue line at the security check point	123	1	5	3.146341 463	1.07644623 9	
	Perceived Reliability - There must not be a queue line at the immigration desk	123	2	5	3.203252 033	0.66479812 8	
	Perceived Reliability - The flight information display system must provide accurate information	123	2	5	3.674796 748	0.74102205 6	

The average mean of passengers' responses is 3.3, which is below the mean for the reliability expectation. This table indicates that passengers' perceptions about airport reliability are lower than their expectations. Passengers are not satisfied with all the variables in the reliability aspect. The highest mean for reliability is only regarding wheelchair facilities for disabled passengers and the flight information display system (FIDS), which are the basic facilities that the airport must have.

The following table shows the respondents' perceptions of the responsiveness during peak hours of operation.

Table 14: Descriptive Analysis Results for Perceived Responsiveness Dimension (PRES) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
RESPONSIVENESS	Perceived Responsiveness – The airport staff must respond to questions quickly	123	2	5	3.845528455	0.62767487	
	Perceived Responsiveness – The airport staff must give individual attention to passengers	123	3	4	3.62601626	0.485838366	
	Perceived Responsiveness – The airport information staff must deliver the latest information about my gate promptly	123	1	4	2.585365854	0.599546677	3.35230

The average mean of passengers' responses is 3.3, which is below the mean for the responsiveness expectation. This figure shows that passengers are not satisfied with the airport responsiveness. The highest mean for responsiveness is regarding the airport staff's willingness to respond to questions quickly while the lowest is regarding information about the boarding gates. The following table shows the respondents' perceptions of assurance during peak hours of operation.

Table 15: Descriptive Analysis Results for the Perceived Assurance Dimension (PASS) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
ASSURANCE	Perceived Assurance – The airport staff must take the time to know passengers personally	123	1	5	2.845528455	1.056071597	
	Perceived Assurance – The airport staff must be ready to answer all passengers' questions	123	1	5	3.260162602	0.885561768	3.05285

The average mean of passengers' responses is 3.0, which is below the mean for the assurance expectation, meaning that the passengers are not satisfied with the assurance. The highest mean for assurance is regarding the airport staff's readiness to answer questions quickly, while the lowest is regarding the airport staff's willingness to know passengers personally. The following table shows the respondents' perceptions of the empathy dimension during peak hours of operation.

Table 16: Descriptive Analysis Results for the Perceived Empathy Dimension (PEMP) (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
EMPATHY	Perceived Empathy – The airport staff must be polite and courteous to passengers	123	1	5	3.723577236	0.812815518	
	Perceived Empathy – The airport staff must display personal warmth in their behavior	123	1	5	3.796747967	0.868004586	3.76016

The average mean of passengers' responses is 3.7, which is close to 4 and below the mean for the empathy expectation but still considered high. The highest mean for assurance is regarding the warmth of the airport staff in their behavior. The following table shows the respondents' perceptions of the tangibility dimension during peak hours of operation.

Table 17: Descriptive Analysis Results for the Perceived Tangibility Dimension (IBM, SPSS, 2018)

Descriptive Statistics							
	Peak Hours of Operation (6:00 AM – 8:00 AM)						
		N	Min	Max	Mean	Std. Deviation	Average Mean Variable
TANGIBLES	Perceived Tangibles - The passenger lounge looks appealing	123	1	5	2.81300813	1.089063318	3.28455
	Perceived Tangibles - The toilets are clean	123	1	5	2.926829268	1.001398462	
	Perceived Tangibles - The wifi connection is strong	123	1	6	3.170731707	1.114048275	
	Perceived Tangibles – The airport signage is clear and not confusing	123	1	5	3.739837398	0.797921463	
	Perceived Tangibles – The airport staff dress nicely and look professional	123	2	5	3.772357724	0.687273159	
	Valid N (listwise)	123					

The average mean of passengers' responses is 3.2, below the mean for the tangibility expectation and still considered as mediocre. The highest mean for assurance is regarding the warmth of the airport staff in their behavior.
The following table is the paired t-test for the reliability dimension during peak hours of operation.

Table 18: Paired T-Test Results of the Reliability Dimension during Peak Hours of Operation (IBM, SPSS, 2018)

PAIRED SAMPLE TEST (PEAK-HOURS)		Paired Differences for peak hour departure					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Expected Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges) - Perceived Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	1.69106	0.96776	0.08726	1.51832	1.86380	19.380	122	0.000
Pair 2	Expected Reliability - Wheel chair facilities for disabled passengers is important - Perceived Reliability - Wheel chair facilities for disabled passengers is important	1.26016	0.90388	0.08150	1.09882	1.42150	15.462	122	0.000
Pair 3	Expected Reliability - There must not queue line at security check point - Perceived Reliability - There must not queue line at security check point	0.99187	1.43433	0.12933	0.73585	1.24789	7.669	122	0.000
Pair 4	Expected Reliability - There must not queue line at immigration - Perceived Reliability - There must not queue line at immigration	1.13821	0.87145	0.07858	0.98266	1.29376	14.485	122	0.000
Pair 5	Expected Reliability - The flight information display system must provide accurate information - Perceived Reliability - The flight information display system must provide accurate information	0.92683	0.91590	0.08258	0.76335	1.09031	11.223	122	0.000

The table above shows that most of the variables' (expected and perceived) similarities are significant, as the significance is less than the p-value (0.05). Meanwhile, the mean differences indicate that most of the passengers' expectations are not met in this variable, as the mean differences between expectations and perceptions are positive, so that the expectation means are still higher than the perception means.
The following table is the paired t-test for the responsiveness dimension during peak hours of operation.

Table 19: Paired T-Test Results for the Responsiveness Dimension during Peak Hours of Operation (IBM, SPSS, 2018)

PAIRED SAMPLE TEST (PEAK-HOURS)		Paired Differences for peak hour departure					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 6	Expected Responsiveness - Airport staff must respond to question quickly - Perceived Responsiveness - Airport staff must respond to question quickly	0.28455	0.82502	0.07439	0.13729	0.43181	3.825	122	0.000
Pair 7	Expected Responsiveness - Airport staff must give individual attention to passengers - Perceived Responsiveness - Airport staff must give individual attention to passengers	0.30081	1.07074	0.09654	0.10969	0.49193	3.116	122	0.002
Pair 8	Expected Responsiveness - Airport information staff must deliver the latest information about my gate promptly - Perceived Responsiveness - Airport information staff must deliver the latest information about my gate promptly	1.33333	0.87466	0.07887	1.17721	1.48946	16.906	122	0.000

The table above shows that most of the variables' (expected and perceived) similarities are significant, as the significance is less than the p-value (0.05). Meanwhile, the mean differences indicate that most of the passengers' expectations are not met in this variable, but the gap for two items such as airport staff must respond to questions quickly and the airport must

give individual attention are close to zero, which means that it is close to meeting their expectations. However, for the last item regarding gate information, the gap is very significant.
The following table is the paired t-test of the assurance dimension during the peak hours of operation.

Table 20: Paired T-Test Results of the Assurance Dimension during Peak Hours of Operation (IBM, SPSS, 2018)

PAIRED SAMPLE TEST (PEAK-HOURS)		Paired Differences for peak hour departure					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 9	Expected Assurance - Airport staff must take the time to know passenger personally - Perceived Assurance - Airport staff must take the time to know passenger personally	0.13008	1.33649	0.12051	-0.10848	0.36864	1.079	122	0.283
Pair 10	Expected Assurance - Airport staff must be ready to answer all passengers questions - Perceived Assurance - Airport staff must be ready to answer all passengers questions	0.92683	0.98489	0.08880	0.75103	1.10263	10.437	122	0.000

The table above shows that most of the variables' (expected and perceived) similarities are significant, as the significance is less than the p-value (0.05), except for the first item, where the airport staff must take the time to know passengers personally. This figure means that customers do not really expect the airport staff to know them personally, while the mean is still below their expectations.
The following table is the paired t-test for the empathy dimension during peak hours of operation.

Table 21: Paired T-Test Results of the Empathy Dimension during Peak Hours of Operation (IBM, SPSS, 2018)

PAIRED SAMPLE TEST (PEAK-HOURS)		Paired Differences for peak hour departure					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 11	Expected Empathy - Airport staff must be polite and courteous to passengers - Perceived Empathy - Airport staff must be polite and courteous to passengers	0.56098	1.13185	0.10206	0.35895	0.76300	5.497	122	0.000
Pair 12	Expected Empathy - Airport staff must display his or her personal warmth in their behaviour - Perceived Empathy - Airport staff must display his or her personal warmth in their behaviour	0.58537	0.96604	0.08710	0.41293	0.75780	6.720	122	0.000

The table above shows that most of the variables' (expected and perceived) similarities are significant, as the significance is less than the p-value (0.05). Meanwhile, the mean differences indicate that most of the passengers' expectations are not met in this variable, but the gap is close to zero, which means it is close to meeting their expectations.
The following table is the paired t-test for the tangibility dimension during peak hours of operation.

Table 22: Paired T-Test Results of the Tangiblity Dimension during Peak Hours of Operation (IBM, SPSS, 2018)

PAIRED SAMPLE TEST (PEAK-HOURS)		Paired Differences for peak hour departure					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 13	Expected Tangibles - The passenger lounge looks appealing - Perceived Tangibles - The passenger lounge looks appealing	1.48780	1.08163	0.09753	1.29474	1.68087	15.255	122	0.000
Pair 14	Expected Tangibles - The toilet is clean - Perceived Tangibles - The toilet is clean	1.47154	1.11859	0.10086	1.27188	1.67121	14.590	122	0.000
Pair 15	Expected Tangibles - The wifi connection is strong - Perceived Tangibles - The wifi connection is strong	1.27642	1.22341	0.11031	1.05805	1.49479	11.571	122	0.000
Pair 16	Expected Tangibles - Airport signage is clear and not confusing - Perceived Tangibles - Airport signage is clear and not confusing	0.68293	1.07366	0.09681	0.49128	0.87457	7.054	122	0.000
Pair 17	Expected Tangibles - Airport staff dress nicely and look professional - Perceived Tangibles - Airport staff dress nicely and look professional	0.67480	0.94519	0.08522	0.50609	0.84351	7.918	122	0.000

The table above shows that most of the variables' (expected and perceived) similarities are significant, as the significance is less than the p-value (0.05). Meanwhile, the mean differences indicate that most of the passengers' expectations are not met in this variable, except for the last two items such as the airport signage and airport staff clothing, where the gap is close to zero, which means that it is close to meeting their expectations.
The following table is the paired t-test of the reliability dimension during non-peak hours of operation.

Table 23: Paired T-Test Results of the Reliability Dimension During Peak Hours of Operation (IBM, SPSS, 2018)

		Paired Differences (Non-Peak Departure)					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Expected Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges) - Perceived Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	-0.04615	0.92226	0.08089	-0.20619	0.11388	-0.571	129	0.569
Pair 2	Expected Reliability - Wheel chair facilities for disabled passengers is important - Perceived Reliability - Wheel chair facilities for disabled passengers is important	0.61538	1.05936	0.09291	0.43156	0.79921	6.623	129	0.000
Pair 3	Expected Reliability - There must not queue line at security check point - Perceived Reliability - There must not queue line at security check point	0.68462	1.03456	0.09074	0.50509	0.86414	7.545	129	0.000
Pair 4	Expected Reliability - There must not queue line at immigration - Perceived Reliability - There must not queue line at immigration	1.53077	0.98978	0.08681	1.35901	1.70252	17.634	129	0.000
Pair 5	Expected Reliability - The flight information display system must provide accurate information - Perceived Reliability - The flight information display system must provide accurate information	0.89231	0.99803	0.08753	0.71912	1.06549	10.194	129	0.000

The table above shows the significance of the major similarities among reliability variables as the significance value is less than the p-value (0.05), except for the first item which highlights the location of airport facilities, but the mean difference is negative which means their perceptions are higher than their expectations. Most of the items are still higher than 0, which means their expectations are also still not met. The highest gap is the immigration queue line where passengers are mostly unsatisfied.

The following table is the paired t-test for the responsiveness dimension during nonpeak hours of operation.

Table 24: Paired T-Test Results of the Responsiveness Dimension during Non-Peak Hours of Operation (IBM, SPSS, 2018)

		Paired Differences (Non-Peak Departure)					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 6	Expected Responsiveness - Airport staff must respond to question quickly - Perceived Responsiveness - Airport staff must respond to question quickly	0.80769	0.94086	0.08252	0.64443	0.97096	9.788	129	0.000
Pair 7	Expected Responsiveness - Airport staff must give individual attention to passengers - Perceived Responsiveness - Airport staff must give individual attention to passengers	0.27692	1.14807	0.10069	0.07770	0.47615	2.750	129	0.007
Pair 8	Expected Responsiveness - Airport information staff must deliver the latest information about my gate promptly - Perceived Responsiveness - Airport information staff must deliver the latest information about my gate promptly	0.70000	1.09012	0.09561	0.51083	0.88917	7.321	129	0.000

To summarise this chapter, the researchers would like to highlight several pointers below:

The table above shows that all the items under the responsiveness dimension are similarly significant, as the significance value is less than the p-value (0.05). Meanwhile, in regards to the mean difference, they are all still above but close to 0, which means that they nearly meet their expectations during non-peak hours of operation.

The following table is the paired t-test for the assurance dimension during non-peak hours of operation.

Table 25: Paired T-Test Results for the Assurance Dimension during Non-Peak Hours of Operation (IBM, SPSS, 2018)

Paired Samples Test									
		Paired Differences (Non-Peak Departure)					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 9	Expected Assurance - Airport staff must take the time to know passenger personally - Perceived Assurance - Airport staff must take the time to know passenger personally	0.82308	1.10296	0.09674	0.63168	1.01447	8.508	129	0.000
Pair 10	Expected Assurance - Airport staff must be ready to answer all passengers questions - Perceived Assurance - Airport staff must be ready to answer all passengers questions	0.01538	1.47845	0.12967	-0.24117	0.27194	0.119	129	0.906

The table above shows that all items under the assurance dimension are similarly significant, as the significance value is less than the p-value (0.05). Meanwhile, in regards to the mean difference, they are all still above but close to 0, which means that they nearly meet their expectations during non-peak hours of operation.
The following table is the paired t-test for the empathy dimension during non-peak hours of operation.

Table 26: Paired T-Test Results for the Empathy Dimension during Non-Peak Hours of Operation (IBM, SPSS, 2018)

Paired Samples Test									
		Paired Differences (Non-Peak Departure)					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 11	Expected Empathy - Airport staff must be polite and courteous to passengers - Perceived Empathy - Airport staff must be polite and courteous to passengers	0.33077	0.86615	0.07597	0.18047	0.48107	4.354	129	0.000
Pair 12	Expected Empathy - Airport staff must display his or her personal warmth in their behaviour - Perceived Empathy - Airport staff must display his or her personal warmth in their behaviour	0.13077	0.98350	0.08626	-0.03989	0.30143	1.516	129	0.132

The table above shows that only one item under empathy is significant, which highlights the importance of the airport staff to show courtesy and politeness. Meanwhile, the following item where passengers' expectations that airport staff must show warmth in their behavior is not similarly significant with their expectations (P> 0.05). Meanwhile, in regards to the mean difference, they are all still above but close to 0, which means that they nearly meet their expectations during non-peak hours of operation.
The following table is the paired t-test for the tangibility dimension during non-peak hours of operation.

Table 27: Paired T-Test Results for the Tangibility Dimension during Non-Peak Hours of Operation (IBM, SPSS, 2018)

Paired Samples Test									
		Paired Differences (Non-Peak Departure)					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 13	Expected Tangibles - The passenger lounge looks appealing - Perceived Tangibles - The passenger lounge looks appealing	0.56923	1.19390	0.10471	0.36206	0.77641	5.436	129	0.000
Pair 14	Expected Tangibles - The toilet is clean - Perceived Tangibles - The toilet is clean	1.00769	1.11018	0.09737	0.81504	1.20034	10.349	129	0.000
Pair 15	Expected Tangibles - The wifi connection is strong - Perceived Tangibles - The wifi connection is strong	1.14615	1.26437	0.11089	0.92675	1.36556	10.336	129	0.000
Pair 16	Expected Tangibles - Airport signage is clear and not confusing - Perceived Tangibles - Airport signage is clear and not confusing	0.57692	1.06287	0.09322	0.39249	0.76136	6.189	129	0.000
Pair 17	Expected Tangibles - Airport staff dress nicely and look professional - Perceived Tangibles - Airport staff dress nicely and look professional	0.71538	0.88251	0.07740	0.56224	0.86853	9.243	129	0.000

The table above shows that most of the tangibility variables' (expected and perceived) similarities are significant, as the significance is less than the p-value (0.05). Meanwhile, the mean differences indicate that most of the passengers' expectations are not met in this variable, where the mean differences are mostly significant.

Table 28: Pearson Correlation Test between Customer Perceptions and Departure Time (IBM, SPSS, 2018)

		Departure Time
Departure	Pearson Correlation	1
	Sig. (2-tailed)	
	N	253
Perceived Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	Pearson Correlation	.638**
	Sig. (2-tailed)	0.000
	N	253
Perceived Reliability - Wheel chair facilities for disabled passengers is important	Pearson Correlation	0.042
	Sig. (2-tailed)	0.508
	N	253
Perceived Reliability - There must not queue line at security check point	Pearson Correlation	.231**
	Sig. (2-tailed)	0.000
	N	253
Perceived Reliability - There must not queue line at immigration	Pearson Correlation	-.173**
	Sig. (2-tailed)	0.006
	N	253
Perceived Reliability - The flight information display system must provide accurate information	Pearson Correlation	-0.019
	Sig. (2-tailed)	0.768
	N	253
Perceived Responsiveness - Airport staff must respond to question quickly	Pearson Correlation	-.212**
	Sig. (2-tailed)	0.001
	N	253
Perceived Responsiveness - Airport staff must give individual attention to passengers	Pearson Correlation	-.464**
	Sig. (2-tailed)	0.000
	N	253
Perceived Responsiveness - Airport information staff must deliver the latest information about my gate promptly	Pearson Correlation	.528**
	Sig. (2-tailed)	0.000
	N	253
Perceived Assurance - Airport staff must take the time to know passenger personally	Pearson Correlation	.292**
	Sig. (2-tailed)	0.000
	N	253
Perceived Assurance - Airport staff must be ready to answer all passengers questions	Pearson Correlation	.205**
	Sig. (2-tailed)	0.001
	N	253
Perceived Empathy - Airport staff must be polite and courteous to passengers	Pearson Correlation	.226**
	Sig. (2-tailed)	0.000
	N	253
Perceived Empathy - Airport staff must display his or her personal warmth in their behaviour	Pearson Correlation	.125*
	Sig. (2-tailed)	0.047
	N	253
Perceived Tangibles - The passenger lounge looks appealing	Pearson Correlation	.288**
	Sig. (2-tailed)	0.000
	N	253
Perceived Tangibles - The toilet is clean	Pearson Correlation	.234**
	Sig. (2-tailed)	0.000
	N	253
Perceived Tangibles - The wifi connection is strong	Pearson Correlation	0.066
	Sig. (2-tailed)	0.297
	N	253
Perceived Tangibles - Airport signage is clear and not confusing	Pearson Correlation	0.055
	Sig. (2-tailed)	0.383
	N	253
Perceived Tangibles - Airport staff dress nicely and look professional	Pearson Correlation	-0.084
	Sig. (2-tailed)	0.182
	N	253

*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

Below is the gap analysis table that was applied to the peak hours of operation.

Table 29: Gap Analysis Results from Perceptions and Expectations for Five Dimensions during Peak Hours of Operation (IBM, SPSS, 2018)

SATISFACTION		PEAK HOUR			
		Average		Average	Gap (P-E)
RELIABILITY	Expected Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	4.6748	Perceived Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	2.9837	-1.6911
	Expected Reliability - Wheel chair facilities for disabled passengers is important	4.9350	Perceived Reliability - Wheel chair facilities for disabled passengers is important	3.6748	-1.2602
	Expected Reliability - There must not queue line at the security check point	4.1382	Perceived Reliability - There must not queue line at the security check point	3.1463	-0.9919
	Expected Reliability - There must not queue line at immigration desk	4.3415	Perceived Reliability - There must not queue line at immigration desk	3.2033	-1.1382
	Expected Reliability - The flight information display system must provide accurate information	4.6016	Perceived Reliability - The flight information display system must provide accurate information	3.6748	-0.9268
RESPONSIVENESS	Expected Responsiveness - Airport staff must respond to question quickly	4.1301	Perceived Responsiveness - Airport staff must respond to question quickly	3.8455	-0.2846
	Expected Responsiveness - Airport staff must give individual attention to passengers	3.9268	Perceived Responsiveness - Airport staff must give individual attention to passengers	3.6260	-0.3008
	Expected Responsiveness - Airport information staff must deliver the latest information about my gate promptly	3.9187	Perceived Responsiveness - Airport information staff must deliver the latest information about my gate promptly	2.5854	-1.3333

SATISFACTION		PEAK HOUR			
		Average		Average	Gap (P-E)
ASSURANCE	Expected Assurance - Airport staff must take the time to know passenger personally	2.9766	Perceived Assurance - Airport staff must take the time to know passenger personally	2.8465	-0.1301
	Expected Assurance - Airport staff must be ready to answer all passengers questions	4.1870	Perceived Assurance - Airport staff must be ready to answer all passengers questions	3.2602	-0.9268
EMPATHY	Expected Empathy - Airport staff must be polite and courteous to passengers	4.2846	Perceived Empathy - Airport staff must be polite and courteous to passengers	3.7236	-0.5610
	Expected Empathy - Airport staff must display his or her personal warmth in their behaviour	4.3821	Perceived Empathy - Airport staff must display his or her personal warmth in their behaviour	3.7967	-0.5854
TANGIBLES	Expected Tangibles - The passenger lounge looks appealing	4.3008	Perceived Tangibles - The passenger lounge looks appealing	2.8130	-1.4878
	Expected Tangibles - The toilet is clean	4.3984	Perceived Tangibles - The toilet is clean	2.9268	-1.4715
	Expected Tangibles - The wifi connection is strong	4.4472	Perceived Tangibles - The wifi connection is strong	3.1707	-1.2764
	Expected Tangibles - Airport signage is clear and not confusing	4.4228	Perceived Tangibles - Airport signage is clear and not confusing	3.7398	-0.6829
	Expected Tangibles - Airport staff dress nicely and look professional	4.4472	Perceived Tangibles - Airport staff dress nicely and look professional	3.7724	-0.6748

Table 30: Gap Analysis Results from Perceptions and Expectations for Five Dimensions during Non-Peak Hours of Operation (IBM, SPSS, 2018)

SATISFACTION		NON PEAK HOUR			
		Average		Average	Gap
RELIABILITY	Expected Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	4.3308	Perceived Reliability - Convenient location of airport facilities (toilet, check-in kiosk, lounges)	4.3769	0.0462
	Expected Reliability - Wheel chair facilities for disabled passengers is important	4.3615	Perceived Reliability - Wheel chair facilities for disabled passengers is important	3.7462	-0.6154
	Expected Reliability - There must not queue line at the security check point	4.2846	Perceived Reliability - There must not queue line at the security check point	3.6000	-0.6846
	Expected Reliability - There must not queue line at immigration desk	4.4692	Perceived Reliability - There must not queue line at immigration desk	2.9385	-1.5308
	Expected Reliability - The flight information display system must provide accurate information	4.5385	Perceived Reliability - The flight information display system must provide accurate information	3.6462	-0.8923
RESPONSIVENESS	Expected Responsiveness - Airport staff must respond to question quickly	4.3692	Perceived Responsiveness - Airport staff must respond to question quickly	3.5615	-0.8077
	Expected Responsiveness - Airport staff must give individual attention to passengers	3.4231	Perceived Responsiveness - Airport staff must give individual attention to passengers	3.1462	-0.2769
	Expected Responsiveness - Airport information staff must deliver the latest information about my gate promptly	4.1846	Perceived Responsiveness - Airport information staff must deliver the latest information about my gate promptly	3.4846	-0.7000

SATISFACTION		NON PEAK HOUR			
		Average		Average	Gap
ASSURANCE	Expected Assurance - Airport staff must take the time to know passenger personally	4.2538	Perceived Assurance - Airport staff must take the time to know passenger personally	3.4308	-0.8231
	Expected Assurance - Airport staff must be ready to answer all passengers questions	3.6308	Perceived Assurance - Airport staff must be ready to answer all passengers questions	3.6154	-0.0154
EMPATHY	Expected Empathy - Airport staff must be polite and courteous to passengers	4.3923	Perceived Empathy - Airport staff must be polite and courteous to passengers	4.0615	-0.3308
	Expected Empathy - Airport staff must display his or her personal warmth in their behaviour	4.1308	Perceived Empathy - Airport staff must display his or her personal warmth in their behaviour	4.0000	-0.1308
TANGIBLES	Expected Tangibles - The passenger lounge looks appealing	3.9846	Perceived Tangibles - The passenger lounge looks appealing	3.4154	-0.5692
	Expected Tangibles - The toilet is clean	4.4000	Perceived Tangibles - The toilet is clean	3.3923	-1.0077
	Expected Tangibles - The wifi connection is strong	4.4615	Perceived Tangibles - The wifi connection is strong	3.3154	-1.1462
	Expected Tangibles - Airport signage is clear and not confusing	4.4077	Perceived Tangibles - Airport signage is clear and not confusing	3.8308	-0.5769
	Expected Tangibles - Airport staff dress nicely and look professional	4.3769	Perceived Tangibles - Airport staff dress nicely and look professional	3.6615	-0.7154

Based on the table above, the satisfaction value for the majority of the variables is still red (minus), although the first variable of the reliability dimension (the facility's strategic location) is positive. Generally, the gap value gained from passengers who travel during nonpeak hours of operation is still better than the peak hours of operation, although they are also still negative but most of them are close to zero.

Below in the Importance-Performance analysis, where the numbers were obtained from the difference means between the expectations and perceptions of each variable under each of the five dimensions.

Figure 9: Importance Performance Analysis of Five Service Dimensions for Peak Hour Departures

The figure above shows that there is plenty of room for improvement that can be done by the airport operator. Mostly, the aspects concerning reliability, tangiblility, and responsiveness are scattered throughout Quadrant 2 (concentrated here). RES 1 (the airport staff's responses to questions quickly), EMP 2 (the airport staff's personal warmth), and TAN 5 (the airport staff's appearance) are the assets that have to be maintained by the company, as these indicators are located in Quadrant 1.

MANAGERIAL IMPLICATION

The researchers suggest that there are other factors that influence the satisfaction level apart from congestion. It is important for the airport operator to consider dealing with the overcapacity at Terminal A Adisucipto International Airport Yogyakarta and build a state-ofthe-art airport with modern facilities which hopefully will help to improve passenger satisfaction for those who depart during peak hours or non-peak hours, especially for reliability, tangibility, and assurance dimensions. The researchers would like to suggest a more specific research that can be carried out following the completion of this study. Given that the researchers have been able to retrieve the demographic data for the respondents, there is plenty of follow-up research that may further allow a more comprehensive study. That study may identify the correlation between demographic items with the satisfaction level such as the group statistics between gender and the expectations and/or perceptions, and note that the research has already focused on international passengers. Then the study may also identify the expectations and perceptions from Indonesian and non-Indonesian (foreign) passengers.

CONCLUSION (10 PT)

The study aims to answer the research question of the correlation between airport congestion and customer satisfaction at small airports in Indonesia. Furthermore, the research investigate the impact does airport congestion provide to customer satisfaction at small airports in Indonesia.

Based on the findings, it is concluded that passengers' expectations for all service dimensions are higher than their perceptions, and from the gap analysis it indicates they are not satisfied. In general, the gap analysis figures from each service dimension differ from one another and the dissatisfaction figure at the peak hours of departure are higher than non-peak hours of departure. However, based on the Pearson correlation test (Table 26), between the departure time and perceived service values (shown in the right hand table), it is revealed that there is no significant correlation between the departure time and passengers' perceptions of all 5 service dimensions (N=253). Therefore, the H0 hypotheses is accepted. It is also supported by the satisfaction table. The researchers also carried out a survey on international flight passengers traveling at non-peak hours (9:00 AM – 12:00 PM) (Table 25 & Table 26). The benchmark analysis suggests that the satisfaction level carried out towards a total of 130 international flight passengers who departed at non-peak hours (9:00 AM – 12:00 PM) shows that on average the gap values among 5 service dimensions during non-peak hours of operation are generally higher than peak hours of operation. The Pearson test (Table 27) proves that there is no correlation between the departure time and passengers' perceptions and the gap expected values by passengers during non-peak operations.

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