

THE EFFECT OF SERVICE FAILURE ON CUSTOMER BEHAVIOR MEDIATED BY SERVICE RECOVERY IN BAGGAGE HANDLING SYSTEMS TERMINAL 3 SOEKARNO HATTA INTERNATIONAL AIRPORT

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Abstract. Terminal 3 of Soekarno Hatta International Airport is one of the largest airport terminals in Indonesia that uses a sophisticated baggage handling technology system. However, there are still baggage service failures caused by the distance of the parking stand that is too far to the operational area of the baggage reclaim. So the aims of this research are to analyze the correlation between service failure, service recovery and customer behavior. This paper is quantitative research. Questionnaires were collected from 140 respondents who have experienced service failure in Terminal 3 selected by simple random technique, and the data analysis was using SEM SMART PLS. The results of this study indicate the correlation between service failure, service recovery and customer behavior. Practical implications of the findings are also discussed.

Keywords: Service Failure, Service Recovery, Customer Behavior, Passenger, Baggage Handling, Airport

Introduction

Soekarno Hatta International Airport (SHIA) is the largest international airport in Indonesia (Jayateknik.com, n.d.), managed by PT. Angkasa Pura II, which has 3 terminals. At Terminal 1 there are Lion Air, Airfast, and TransNusa airlines for domestic flight routes. At Terminal 2, there are Batik Air, Citilink, AirAsia and Sriwijaya Air Group airlines for domestic flight routes and Scoot Airlines, Jetstar Airways, Malindo Air, Thai Lion airlines for international flights. At Terminal 3 there are Garuda Indonesia airlines for domestic and international routes, Emirates Airlines, Qatar Airways, Singapore Airlines, Japan Airlines, Korean Airlines, and 23 other airlines that serve international route flights as well. In 2019 Soekarno Hatta International Airport is ranked as a 3-Star Airport by SKYTRAX survey, the organization for airport quality survey that uses customer evaluations from around the world (SKYTRAX, 2019). As part of the International airport, one of the facilities that must be owned is a baggage handling system facility. The concept of baggage handling system at Terminal 3 Soekarno-Hatta International Airport was designed by Vanderlande Industries which is as providers of baggage handling system technology in many largest airports in the world. This research was conducted based on data in the period January 1, 2019 - 31 December 2019 in Terminal 3 of Soekarno Hatta International Airport. The 2019 Report on Terminal 3 Soekarno Hatta International is shown below

No	Information	Total
1	Passenger	
	Domestic	7.388.171
	International	4.122.398
	Total	11.510.569
2	Baggage	
	Domestic	6.294.960
	International	4.908.809
	Total	11.203.769

3	Traffic flight	
	Domestic	53.614
	International	19.133
	Total	72.747

Table 1. Total Passenger, Baggage and Flight in 2019

Based on all the annual data and records that have been analyzed, the authors found that the parking stand too far towards the arrival of the conveyor's baggage is the most common problem that needs to be addressed. Therefore, this research can be identified to find out service failures that cause of baggage delivery not on time at Terminal 3 of Soekarno Hatta International Airport, how is the service recovery from baggage handling officers to passengers and to find out the effect of baggage handling service failure caused by the distance of the parking stand and service recovery to the customer which impacts customer behavior.

Literature Review

Service Failure

The Baggage Handling System (BHS) is one of main operating systems of the airport. Baggage handling usually includes the three primary functions as suggested by (Abdelghany et al., 2006) as follows: to move passengers' bags or belongings from the check-in counter to the gates of departure, to transfers passengers bags from one gate to another gate, and to move the bags from the gates of arrival to the area of baggage claim. Service failure is defined as service performance that fails to meet the expectations of the customer during a service encounter (Hoffman and Bateson 2001). (RB, 2010) explained that service failure will affect customer satisfaction, customer trust, commitment of customers, and negative WOM. HU et al., (2013) argued that some of the causes leading to airline services, such as reservation, bill payment, check-in, passenger and cargo service, or airline service, that might lead to a failure of service due to various factors and circumstances. Taylor, (1994) showed that customers who encounter failure in service will likely undergo psychological refusal and attract unwanted surrounding public attention which may cause pressure in terms of psychology for customers and make it as a "stressful event."

Service Recovery

Bitner et al., (1990) explained that service recovery is a performance of employees due to failure to deliver services, as measured using the point of view of customers. Mattila & Patterson, (2004) defined that service recovery plays a vital role since it can improve not only customer perception of service quality focus but also customer satisfaction, which can result in a positive personal review, a better relationship with customer and loyalty as well as to get bigger profits. Colgate & Norris, (2001) found that service recovery is categorized as a measure set by a service provider who has the authority to respond to service failures. A proper recovery may give a reason for customers to maintain the loyalty of the customers to the party who provides the service after committing a failure in their service.

Customer Behavior

Grove et al., (2015) suggested that the service providers might experience failure in providing service in the event that the behavior of the customer is not strategically managed. Due to the inevitability of service failure, the service should attempt to minimize the harmful effects possibly caused by implementing several effective strategies in the service recovery (Chou, 2015)

Hypothesis development

Palmer & Bejou, (2016) explained that the The airline industry is particularly prone to service failures due to service processes used in service delivery, the recovery of services is the most

important strategy used by airlines to recover after service failures. Ngai et al., (2007) suggested that the potential negative consequences of service failures and effective recovery of services could lead to a mutually beneficial situation for both the customer and the organization. Many researchers have indicated that organizations can use a variety of strategies to recover from service failures, including communicating with customers to provide feedback, and offering to explain their failures (Boshoff & Staude, 2003) and apologizing for their failures (Smith et al., 1999) (Mattila & Cranage, 2005) (Mostert et al., n.d.) This discussion leads to the following hypotheses:

H1: Service failure gives the significant influence on service recovery

Smith et al., (1999) came to the conclusion that customers would likely get recovery in some conditions that are in line with their experience in committing failure, both in terms of value and in terms of recovery. Some features so-called as a perceived justice as suggested by the study consist of compensation, response speed, apology, and initiation of recovery. In accordance with the research investigating failure in service and its recovery (Mattila & Cranage, 2005), (Weber & Sparks, 2009), (Smith et al., 1999). Apologies and compensation might be the two main approaches which are used in the recovery of services. Tangible recovery is defined as tangible compensation given to customers for the reduction of damages caused by providing them services for free, reimbursements, gifts, reductions in price, and vouchers. Since a psychological recovery, apology, empathy, and explanation are specifically used to apply to rectify the problem due to the service failure and recover the satisfaction of customer (Kuo & Wu, 2012), while the previous study paid more attention to apology and compensation by considering them distinct activities, few studies looked at the type of service recovery "forgiveness and compensation" that can often be found in the daily business setting. Hence, the present study proposes the second hypothesis as follow:

H2: Service recovery gives the significant influence on customer behavior

Service failure is defined as the seeming intensity of the problem in providing service committed to the client: the stronger or severer the failure in providing service, the greater the loss will likely be received by the customers (Weun et al., 2004). Mccollough et al. (2000), Thøgersen et al. (2003) Suggested that the reaction given by customers towards a service failure depends mostly on how bad they think the failure to be, the reactions can be in the form of at least being silent or finding others who provide the service. Smith & Bolton (2002) revealed that responses with full of emotion given to the perceived failure expressively affect the satisfaction of customer towards service recovery. Tsarenko & Tojib, (2012) Tsarenko & Tojib, (2015) find that perceived severity most likely has an effect on the customer's forgiveness of failure. Accordingly, the following hypothesis is posited:

H3: Service failure gives the significant influence on customer behavior

Both the characteristics of service failure and the efforts for service recovery results in the level of customers' behavior in complaining. Features of the service failure can be presented in two classifications: type and severity. First, the type of failure in providing service both might be in the form of technique or function. Technical failures/ outcome failures describe the concrete aspect of what is received by customers. Functional failures, in another term so-called process failures, describe the imperceptible perception of the customers of the numerous interactions when the service is provided (Storbacka et al., 1994). Second, the service failure severity rate may be varied ranging from minor to major problems. Further, recovery strategies attributes can be classified into four categories: 1) no recovery, 2) practical recovery actions such as compensation, 3) functional recovery actions such as apology, and 4) both practical and functional recovery actions. If service recovery is provided severely, it might lower the

customers' satisfaction and their trust toward the company (Bitner et al., 1990). Handling customer complaint plays a vital role for service managers to maintain customer satisfaction and loyalty (Homburg & Fürst, 2005) (Liao & Chuang, 2007) (Mccollough et al., 2000). This study therefore proposes another hypothesis as follows:

H4: Service failure gives the significant influence on customer behavior mediated by service recovery

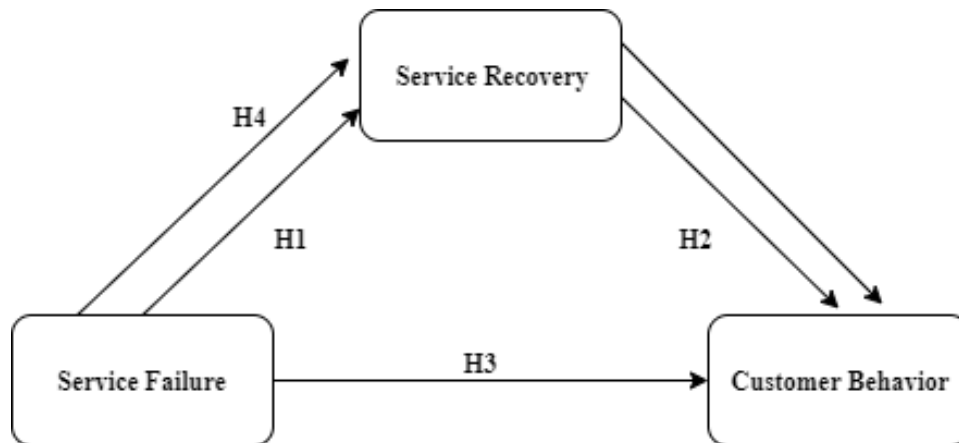


Figure 1. Framework

Method

This research is a quantitative method. The population consisted of airline passengers who were landing at Terminal 3 Soekarno Hatta International Airport Jakarta (Period January 1, 2019 – December 31, 2019). This study uses probability sampling with simple random sampling, and the research questionnaires were distributed to 140 respondents. All indicators for service failure, service recovery and customer behavior were based on previous research of (Chou, 2015). The five-point Likert scale was used to measure all the indicators by the respondents, start from “strongly disagree” (1), “disagree (2)”, neither agree or disagree (3), agree (4), and “strongly agree” (5). Data analyzed is using SEM SMART PLS.

Tabel 2. Key Indicator

No	Variable	Indicator
1	Service Failure	Baggage arrival information on the monitor screen is not updated immediately
		Baggage handling employee had a lack of capabilities to give a response to the complaints given by the passenger
		Baggage handling employee had a lack of capabilities to give a response to the complaints about lost baggage given by the passenger
		Baggage handling employee had a lack of capabilities to give a response to sudden changes; for example, delay in baggage arrival
2	Service Recovery	Baggage handling employee apologized after a service failure on baggage handling
		Baggage handling employee immediately explain and respond to such situation
		Baggage handling employee was enough to satisfy me because of their promise and immediate resolution
		Baggage handling employee give the compensation because service failure that occurs

		Baggage handling employee compensation was enough to satisfy me
3	Customer Behavior	I behaved well in Terminal 3 of Soekarno Hatta International Airport
		I provide information regarding baggage data required by baggage handling employee
		I answered all the Baggage handling employee service-related questions
		I follow all procedures in the baggage claim area (baggage reclaim)
		I followed the baggage handling employee directives or orders for the successful delivery of service

Discussion and Result

Table 3. Convergent Validity and AVE

Construct	Item	Sample Mean	Outer Loading	T-Statistics	AVE	Result
Service Failure	S-F.1	0,767	0,767	15,273	0,658	Valid
	S-F.2	0,803	0,807	15,870		Valid
	S-F.3	0,870	0,870	39,114		Valid
	S-F.4	0,796	0,797	17,210		Valid
Service Recovery	S-R.1	0,741	0,742	14,863	0,608	Valid
	S-R.2	0,822	0,825	24,787		Valid
	S-R.3	0,772	0,777	17,858		Valid
	S-R.4	0,777	0,778	18,954		Valid
	S-R.5	0,775	0,775	18,804		Valid
Customer Behavior	C-B.1	0,795	0,799	14,734	0,697	Valid
	C-B.2	0,742	0,746	13,511		Valid
	C-B.3	0,857	0,857	32,805		Valid
	C-B.4	0,896	0,894	48,155		Valid
	C-B.5	0,870	0,870	28,057		Valid

According to Hair Jr.; M, Hult; Ringle; Marko, (2016) outers loading will declare valid if > 0.5 . In Table 3, it can be seen that all outer loading has values above 0.5. It can be concluded that the indicators used in this study achieved results convergent validity.

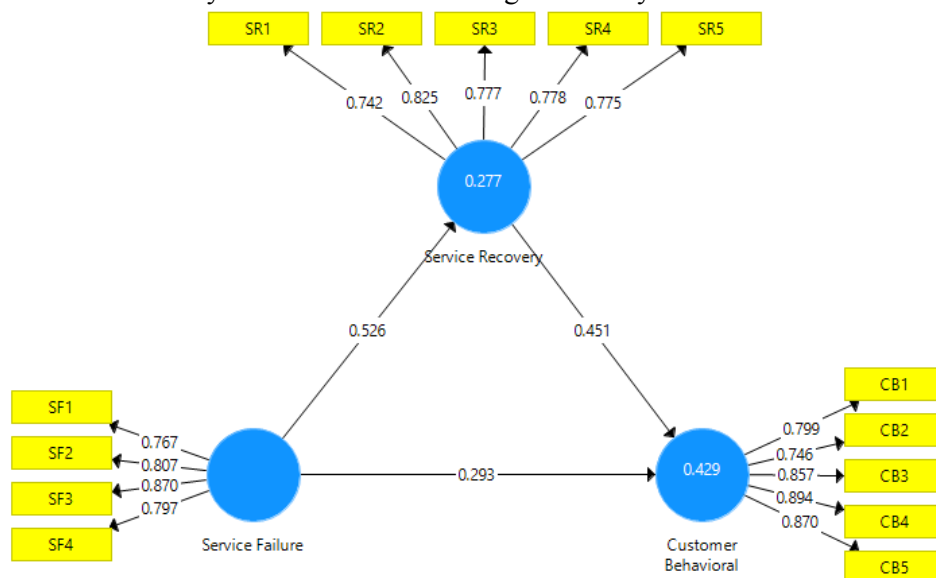


Figure 2. PLS Alogarithm

Tabel 4. Discriminant Validity

	Customer Behavior	Service Failure	Service Recovery
CB1	0,799	0,390	0,584
CB2	0,746	0,441	0,391
CB3	0,857	0,493	0,510
CB4	0,894	0,450	0,529
CB5	0,870	0,445	0,498
SF1	0,395	0,767	0,450
SF2	0,433	0,807	0,370
SF3	0,444	0,870	0,394
SF4	0,447	0,797	0,483
SR1	0,498	0,361	0,742
SR2	0,503	0,465	0,825
SR3	0,443	0,439	0,777
SR4	0,464	0,406	0,778
SR5	0,451	0,374	0,775

Based on Table 4, it can be seen that all indicators in each construct has a higher relationship than the result of other loading constructs, so it can be concluded that discriminant validity is good. This reliability testing uses the Composite Reliability method (CR) and Alpha-Cronbach method. The questionnaire can be trusted if the value of CR and Alpha-Cronbach is greater than 0,6. According to Ghazali (2011), if Cronbach's Alpha value > 0.6, the research instrument is reliable. Below is the results of Reliability testing

Tabel 4. Reliability Testing

	Composite Reliability	Cronbach's Alpha	Result
Customer Behavior	0,920	0,890	Reliable
Service Failure	0,885	0,826	Reliable
Service Recovery	0,886	0,839	Reliable

Tabel 5. R Square and Hypothesis Testing

Path	Path Coef	Sample Mean	Standard Deviation	T Statistics	P Values	Decisions	R Square
SF - CB	0,293	0,291	0,082	3,567	0,000	Support	0,429
SF - SR	0,526	0,532	0,078	6,743	0,000	Support	0,277
SR - CB	0,451	0,452	0,076	5,943	0,000	Support	0,429

In Table 5 it can be seen that the service failure and customer behavior is supported because of P-value < 0.05. Furthermore, the correlations among service failure and service recovery is supported because the P-value < 0.05, and also the relationship between service recovery and customer behavior is supported because the P-Value < 0.05

Tabel 6. Indirect Table

	T Statistics	P Values	Result
Service Failure -> Service Recovery -> Customer Behavior	3,705	0,000	Acceptable

Based on table 6, it can be concluded that H4 Service failure has a positive relationship on Customer Behavior mediated by Service recovery with a $T_{\text{statistics}} 3,705 > T_{\text{table}} 1.977$ and P-value of $0,000 < 0,05$.

Conclusion and Implications

The results of this study indicate a relationship between service failure, service recovery, and customer behavior. The results show that service failure gives the significant influence on service recovery in which passengers feel that baggage handling officers do not have the ability to handle passenger claims. But when baggage handling officers continue to try to explain the problem related to the late arrival of baggage properly and clearly so that passengers feel baggage handling officers have the ability and responsibility to handle the complaints of the passenger. In the relationship of service recovery to the customer behavior shows that when officers make efforts service recovery by explaining why baggage delays can occur and passengers are expected to follow the procedures given by officers so that problems can be quickly resolved. Service failure also affects customer behavior in which when luggage is delayed, passengers follow the directions and procedures of the officer so that problems can be resolved quickly. In this study passengers were mostly satisfied with the fast response, behavior or attitude of the clerk when performing service recovery and the passenger was also very satisfied with compensation and apologies from the baggage handling officer. This is supported by theories from (Smith et al., 1999), (Mattila & Cranage, 2005), (Weber & Sparks, 2009) which said that the service recovery most influential on customer behavior is compensation, apologies, fast responses, and employee behavior during the service recovery. In this study passengers at Terminal 3 Soekarno Hatta International Airport felt the monitor screen was not updated, so this needs to be considered by the management of PT. Angkasa Pura II to be more intens to update all information regarding to the late arrival of the baggage. Besides, when a service failure occurs in Terminal 3 Soekarno Hatta, the employee does not ask to the passengers for data on passenger baggage, so officers need to be given more soft skills training such as guest service / customer service on how to solved the problem well. Next, the researcher suggested that the next research can be carried out on other service industries, get more respondents and select research objects in other place.

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