**CUSTOMER PERCEPTIONS OF
SERVICE FAILURE, SERVICE RECOVERY
AND LOYALTY RECOVERY:
AN INVESTIGATION INTO THE AIRLINE INDUSTRY**

A Thesis submitted for the degree of Doctoral Philosophy

By

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ABSTRACT

Building sustainable customer relationships through effective service recovery is a worthwhile goal for all airline companies in an era of intense competition. Developing service recovery strategies that can strengthen customer loyalty in the event of service failure has become a major challenge for the airline business, but yet has received little attention from academics. To address the dearth in the literature, this study sets out to investigate how customers' perceptions of perceived justice of service recovery and those factors external to the recovery encounter, including service failure attributions and company reputation, impact their loyalty recovery in the airline context.

This study uses a quantitative method based on a surrey approach. A self-administered questionnaire was purposively distributed among airline customers at Suvarnabhumi International Airport in Bangkok, Thailand. The study was tested using data collected from 480 travellers who had previously experienced a full service airline's flight delay in the past 12 months and was analysed with Partial Least Squares Structural Equation Modeling (PLS-SEM).

First, the results of this research confirm the robustness of the Expectation Disconfirmation Paradigm (EDP) for understanding customer perceived justice of service recovery in an exchange relationship context by emphasising significant positive effects of all dimensions of justice in restoring positive customer relationships. Second, the findings clarify the interrelationships between post-recovery customer trust, customer's overall company satisfaction and customer loyalty by highlighting the important role of which trust plays in recovering customer loyalty. Third, The results further demonstrate how customer perceived justice of service recovery is contingent upon service failure attributions and company reputation. Lastly, the research provides airline managers with useful guidelines on developing cost-effective service recovery strategies focusing on maximising customer loyalty in different service failure situations.

DEDICATION

To my family for their endless love and support and encouragement

ACKNOWLEDGEMENTS

DECLARATIONS

I hereby declare that this is my original work; no portion of the work referred to in the thesis has been submitted for a degree in this or any other university, or institute of learning.

I also declare that all information in this thesis has been acquired and presented in accordance with academic rules and ethical conduct.

Some of material displayed herein has already been published in the from of the following publication:

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CHAPTER 1

INTRODUCTION

1.1 Introduction and Research Background

Services are intangible in nature (Wang et al., 2018; Tax et al., 1998). As they do not have physical existence, services cannot be tested before sale, making the evaluation of services different from that of manufactured products (Gronroos, 2000). While many service companies make considerable efforts to deliver quality services, service failure is a common occurrence (Chen et al., 2018). The airline industry is especially prone to service failures, there are many steps in each process that can induce service failure and the service delivery can be thought of as employing a high service (Migacz et al., 2017; Wang et al., 2018). These service failures may adversely affect relationships with customers, causing customer dissatisfaction and even customer defection if not handled properly (Keiningham et al., 2014). To preserve positive customer relationships, airline providers must learn how to enact the appropriate actions to correct any failure.

With increasing competition from globalisation and progressive market liberalisation, most airline providers focus on maintaining positive relationships with customers as an indispensable key to success (Chang and Chang, 2010; Migacz et al., 2017). However, developing strong customer–company relationships is a very difficult task, especially when competition is intensifying and consumers have an increasing number of choices for flying (Calisir et al., 2016). In this competitive environment, it is fundamental to airline companies to understand customers' preferences to create differential advantages (Wang et al., 2018). Airline companies recognise that service recovery strategies comprise essential resources for generating and sustaining a competitive advantage, even in the event of service failure. It is recognised that, if the airlines can convert dissatisfied customers into satisfied ones by providing effective service recovery, they will win customer loyalty (Nikbin et al., 2015a; Park and Park, 2016). Therefore, building strong customer relationships, through effective service recovery, has emerged as a major focal point in the business and a challenging issue for all airline providers.

The importance of service recovery emphasises the need for academics and airline practitioners to find approaches that are effective in developing sustainable customer relationships in the event of service failure (Chen et al., 2018; Migacz et al., 2017). Hence, this research intends to examine customer perceptions of fairness judgements of service recovery in relation to loyalty recovery in the airline industry. Further, to better understand customer behaviour following service recovery, this research endeavours to investigate the consequences of service failure attributions and company reputation on customer evaluation of the airline's recovery efforts in regaining their loyalty. This research proposes to contribute to a greater theoretical understanding in the service recovery literature on how to implement service recovery strategies to enhance sustainable relationships with customers. This study also provides airline practitioners with guidelines on developing their service recovery strategies to achieve a competitive position in today's market.

1.2 Rationale for the Choice of Context

The main purpose of this study is to understand how to implement successful service recovery strategies to maximise customer retention in the event of service failure. The airline context is chosen for investigation in this research for several reasons. Given the nature of airline services, service mistakes are, unfortunately, inevitable. Since there are many human-involved processes employed in the airline's service delivery, the airline services are particularly susceptible to service failures (Chang and Chang, 2010; Migacz et al., 2017). To offset the negativity of a problem, if it is not feasible to diminish the failure, it is vital for the airline companies to understand how to implement successful service recovery strategies in the event of service failure. Research has found that service recovery, which is the cornerstone of relationship marketing, not only helps airlines to convert dissatisfied customers into satisfied ones, but also strengthens the customer–airline relationship and subsequently leads to future loyalty customer (Cambra-Fierro et al., 2015b; Hess, 2008; Weber and Sparks, 2010).

According to a review of the existing services marketing literature, a substantial volume of work exists from previous scholars investigating on service failure and recovery in general, but not specific to the airline context except in a very few cases.

In the airline industry, a highly complex service business catering to a large number of passengers from various backgrounds at the same time, issues of perceived justice of service recovery are of concern (Migacz et al., 2017). Previous studies have empirically examined service failure and recovery within a wide array of service sectors, such as hotel (e.g. Kim et al., 2009; Smith et al., 1999), restaurant (e.g. Matilla and Patterson, 2004; Siu et al., 2013) and banking (e.g. Binh and Vi, 2013; Chebat and Slusarczyk, 2005; Maxham and Netemeyer, 2002). Surprisingly few studies have focused on the airline industry (Chang and Chang, 2010; Nikbin et al., 2015b; Park and Park, 2016). Due to the different perceptions of service fairness in the service industry (Schoefer, 2008; Tax et al., 1998; Tolba et al., 2015), there is a need for solid empirical research on how passengers evaluate the airline's service recovery efforts in the event of service failure to preserve a positive relationship. Thus, this research is aimed to provide valuable insights into building strong customer relationships, specifically, for airline managers interested in developing service recovery strategies that can maximise customer retention in the event of service failure.

In recent years, the majority of airline service failure occurrences, in order of frequency, have been delayed or cancelled flights, lost luggage, and overbooking, respectively (Bowen and Headley, 2017). Flight delay has been counted as the type of service failure of most concern in the airline sector because one incident has high potential to induce many customer dissatisfactions at the same time (Barakat et al., 2015). Flight delays are very costly to both the airlines and their passengers. According to Serrano and Kazda (2017), flight delays cost the airlines and their customers about 60 billion dollars per year, or around 8% of the worldwide airline revenue. As of today, these flight delays are far away from being solved due to unpredictable and unpreventable circumstances, such as airport constraints and weather conditions (Rita, 2018). Therefore, decisions need to be taken to deal with these unfavourable incidents in order to maintain good relationships with customers and minimise damages caused to the airline.

Service recovery has become a key strategic component used by the airlines to restore positive relationship with customers after a service failure (Hess et al., 2008; Vlachos and Lin, 2014). In fact, today's customers have higher expectations and

demands than ever before. Developing a successful service recovery strategy to satisfy all customers when service failure occurs is the most difficult task for any airline company. Research shows that the number of customer complaints to airline companies increased by about 20% in 2015 (IATA, 2016). Many are left dissatisfied with the way airlines handle and recover their dissatisfaction (CAA, 2016; Cambra-Fierro et al., 2015b). Hence, in this globally competitive era, it is critically important for airline companies to find approaches that are effective in rectifying customer dissatisfactions, and even salvaging the customer–airline relationship.

1.3 Global Airline Industry

The airline industry, which is a part of the aviation industry, is one of the industries that transformed the world (ATAG, 2017). Air transport has enabled the development of globalisation that has shaped modern business and the experiences of individuals. Air travel has made the world a smaller place as it provides rapid connections to almost any destination on the planet (IATA, 2016). The airline sector also plays a central role in supporting tourism and leisure businesses as over half of the world's tourists now travel by air (ATAG, 2017; Wang et al., 2018). At the present time, the airline industry is one of the fastest growing modes of transport, which has a market value of 6.1 trillion dollars. The airline industry is expected to expand at a growth rate of 2.8% of the world economy (GDP) per year during 2017–2036 (Boeing, 2017).

According to IATA (2017), the global airline industry consists of over 5,000 airlines operating more than 25,000 aircrafts, providing service to over 3,800 commercial airports. The worldwide demand for air transportation has experienced a sharply increase in the past decade, as shown in Figure 1.2. The airline industry has proven to be a resilient market, with robust traffic growth expected of 4.7% per year (Boeing, 2017). In 2016, there are almost 35 million scheduled flight departures carrying more than 3.7 billion passengers around the globe (IATA, 2017). Notably, as presented in Figure 1.3, the Asia Pacific is expected to be the biggest travel market in the world, growing at 5.7% annually, and by 2036, passenger traffic throughout Asia will constitute nearly 40% of the global passenger traffic (Boeing, 2017).

Figure 1.1: Overview of airline market
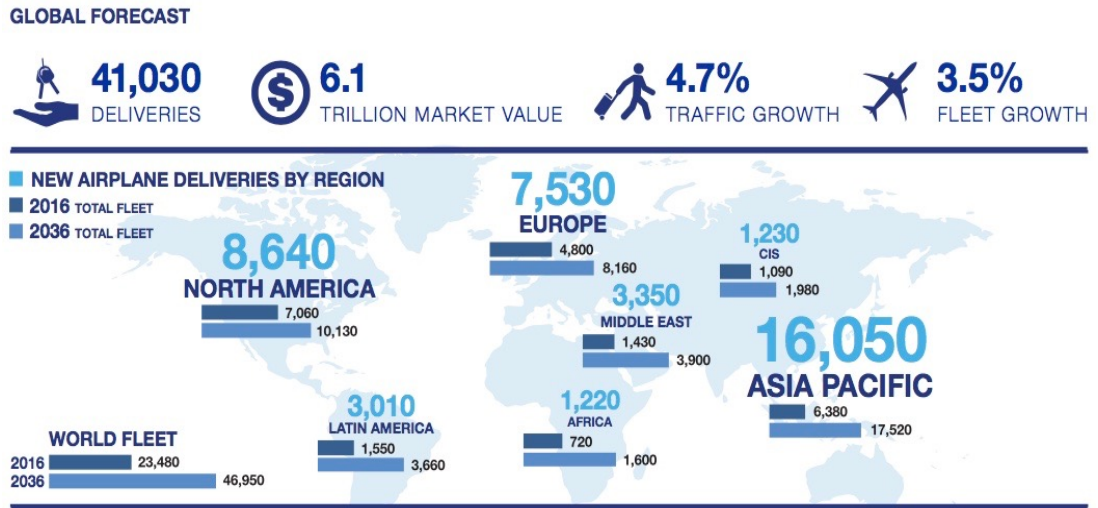
Source: Boeing (2017)

Figure 1.2: Global passenger traffic
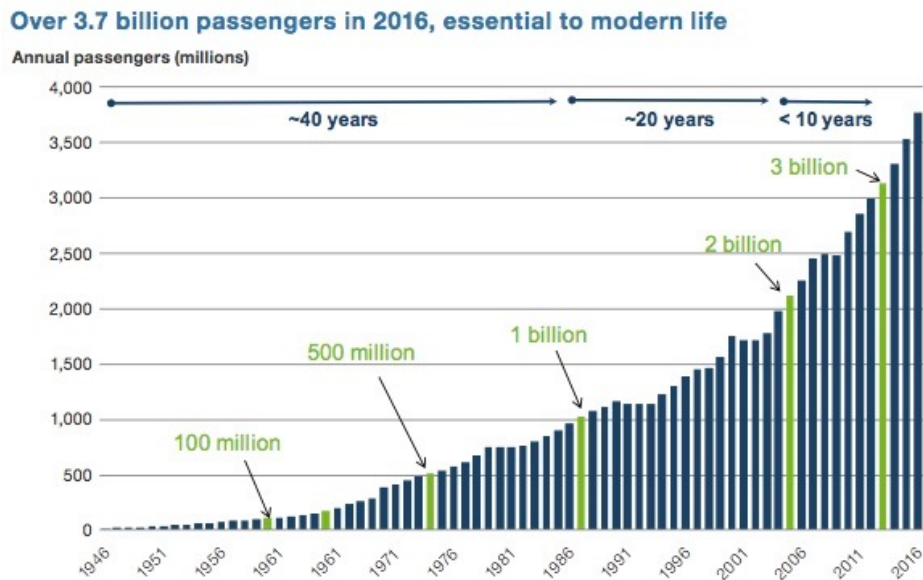
Source: Boeing (2017)

Figure 1.3: Global passengers traffic by region

1.4 Statement of the Research Problem

The previous section highlighted the practical justifications that emphasise the need for this research to investigate in the airline context. This section further discusses a number of ongoing issues in the existing service failure and recovery literature. Four research gaps have been identified through the review of the current body of work, described in Table 1.1.

Table 1.1: Gaps in the literature

Research Gap	References
i) There is a need to improve the theoretical understanding of customer behavioural responses following customer perceptions of perceived justice in service recovery.	Fatma et al., 2016; Van Vaerenbergh and Orsingher, 2016
ii) There is a need for solid empirical research regarding the effect of customer attitudes towards service failure on customer perceptions of justice in relation to post-recovery behaviour.	Calisir et al., 2016; Choi and Choi, 2014; Ding et al., 2015
iii) There are very limited studies concerning the consequences of factors external to recovery encounters on the judgement of service recovery.	Basso and Pizzutti, 2016; Hur and Jang, 2016; Migacz et al., 2017

iv) There is a lack of framework that explains and links factors external to recovery encounters to each dimension of the perceived justice of service recovery and customer behaviour.	Davidow, 2014; Nikbin and Hyun, 2017; Van Vaerenbergh et al., 2014

According to a review of the existing services marketing literature, while the number of studies on service recovery has been steadily growing over the last 10 years, the effect of customer perceived justice regarding service recovery on their post-recovery behaviours remains unclear (Fatma et al., 2016; Nikbin and Hyun, 2017; Van Vaerenbergh and Orsingher, 2016; Xie and Heung, 2012). Most researchers report only the importance of service recovery in regaining customer satisfaction (del Río-Lanza et al., 2009; Ding et al., 2015; Ha and Jang, 2009; Harris et al., 2006; Kao and Wan-Yiun Loh, 2006; Nikbin et al., 2010), but research into the direct impact on post-recovery customer behaviour has been limited. Moreover, the results of customer perceived justice of service recovery are mixed depending on the type of service industry. Given the significance of effective service recovery, this thesis seeks to extend the current knowledge by examining the effects of dimensions of customer perceived justice on post-recovery customer behaviour, including post-recovery trust, overall company satisfaction and customer loyalty, within the airline industry in order to reveal which dimension has the greatest impact on customer evaluation. This may help the extant service recovery literature gain a fuller understanding of how customers' perceptions of perceived justice of service recovery impact their loyalty recovery in the airline context.

While there are many great studies on service failure and recovery, only few focus on the consequences of factors external to the recovery encounter (Basso and Pizzutti, 2016; Hur and Jang, 2016; Krishna et al., 2011; Nikbin et al., 2015b). Most of them have focused mainly on the severity of the service failure (Hess et al. 2003; Keiningham et al. 2014) and type of service failure (Albrecht, Walsh, and Beatty 2016; Smith, Bolton, and Wagner 1999). What remains largely unknown is the impact of service failure attributions (Nikbin and Hyun 2017; Van Vaerenbergh et al., 2014) and company reputation (Ding et al., 2015; Sengupta et al., 2015) on the customer evaluation of the service recovery. To fill this research gap, this study intends to explore how customer perceptions of service failure attributions and

company reputation influences customer evaluations of a company's recovery efforts in rebuilding customer relationships.

Empirical research has found that service failures are not the same for all customers and their effects may vary according to customer causal attributions (Iglesias et al., 2015; Smith et al., 1999). Meaning that, the inferred reasons for why the failure occurred may influence how customers judge the company's recovery effort (Van Vaerenbergh et al., 2014). To better explain post-recovery customer behaviour, there is a need for solid empirical research regarding the consequences of service failure attributions on the judgement of service recovery (Basso and Pizzutti, 2016; Krishna et al., 2011; Migacz et al., 2017; Nikbin et al., 2015b). Additionally, the recent service recovery research suggests that the effectiveness of service recovery may be contingent upon customer perceptions of company reputation (Ding et al., 2015; Migacz et al., 2017), but this suggestion has received little attention from prior scholars. Due to the unique nature of airline services, company reputation is a valuable intangible asset that plays a significant strategic role on the customer evaluation process (Loureiro and Kastenholz, 2011; Mostafa et al., 2015; Su et al., 2016). However, a better understanding of the impact of company reputation in recovering customer relationships in the event of service failure appears warranted (Sengupta et al., 2015). As such, the examination of these external factors in this study can help to extend prior service failure and recovery research on how the customer perceived justice of service recovery drives customer loyalty, in different service failure situations and with a distinct level of company reputation.

To date, there is a lack of a framework that explains and links these external factors to the recovery encounter to each dimension of perceived justice of service recovery and customer behaviour (Davidow, 2014; Van Vaerenbergh et al., 2014). Little is known about which recovery efforts must be prioritised to assure positive relationships with customers in the case of a range of failure attributions and with a distinct level of company reputation. Since customer expectations of service recovery remedies can vary widely, knowing customers' normative attitudes regarding service failure and expectations of service recovery can help airline managers to fine tune their service recovery strategies to preserve positive relationships with their customers when a service failure occurs. In response, this

study aims to answer the question of "how do customer perceptions of the perceived justice of service recovery drive customer loyalty in various service failure situations and with a distinct level of company reputation in the airline industry?". To address the dearth in the previous literature, the research framework is set to examine the moderating role of service failure attributions and company reputation on the relationships between each dimension of perceived justice of service recovery and post-recovery customer trust in order to understand the effectiveness of service recovery regarding the expected customer loyalty. With this research, the extant service recovery literature can gain a fuller understanding of which justice dimensions customers use to evaluate under which attribution of service failure and which level of company reputation a company can maximise long-lasting relationships with its customers.

1.5 Research Aim and Objectives

As discussed above, due to the unique characteristics of airline service delivery, even the best airline company cannot guarantee to deliver flawless service to satisfy all customers every time. Since it is in human nature to make mistakes, service failure is, unfortunately, unavoidable. Thus, it is vital to understand how to implement successful service recovery strategies to overcome the negative effects of a service failure. However, with respect to the review of services marketing and service recovery literature, there is an identified need for solid empirical research on the effect of customer perceptions of perceived justice with regard to service recovery in relation to post-recovery customer behaviour. Accordingly, how airline companies effectively maintain sustainable relationships with their customers in the event of service failure is a prime highlight of this research.

The main aim of this research is to study how customers' perceptions of perceived justice of service recovery and those factors external to the recovery encounter, including service failure attributions and company reputation, impact their loyalty recovery in the airline context. In order to fulfil the above aim, the following research objectives were established:

I. To understand the notion of service failure and recovery in the context of the airline industry.

II. To examine how customer perceptions of the perceived justice of service recovery influences post-recovery customer behaviour, including post-recovery trust, overall company satisfaction and customer loyalty in the context of the airline industry.

III. To identify how factors external to the recovery encounter – service failure attributions (locus of causality, stability and controllability) and company reputation – influence the effect of the perceived justice of service recovery in relation to customer loyalty recovery in the context of the airline industry.

IV. To develop and propose a theoretical model of the consequences of customer perceptions of the perceived justice of service recovery and factors external to the recovery encounter – service failure attributions and company reputation – in relation to customer loyalty.

V. To empirically validate the theoretical model by assessing the hypotheses' relationships.

VI. To provide possible theoretical and practical implications of the key results and offer suggestions for future research directions.

To achieve the research aim and objectives, this study builds upon the identified gaps from the review of service failure, service recovery and consumer behaviour literature. This study introduces a conceptual framework along with 22 hypotheses based on the integration of the expectancy disconfirmation paradigm (EDP) (Oliver, 1977), justice theory (Adam, 1963), and attribution theory (Weiner, 1985). The conceptual framework, as presented in Figure 1.1, which accounts for the role of customer perceived justice of service recovery (distributive, procedural, interpersonal and informational justice), post-recovery customer behaviour (post-recovery trust, overall company satisfaction and customer loyalty), service failure attributions (locus of causality, stability and controllability) and company reputation, is developed. This study adopts a quantitative research method based on a survey approach to empirically test the research conceptual framework. To statistically validate the proposed hypotheses, a Partial Least Squares approach to the Structural Equation Modelling (PLS-SEM) analytical technique is used.

Figure 1.4: Research conceptual framework
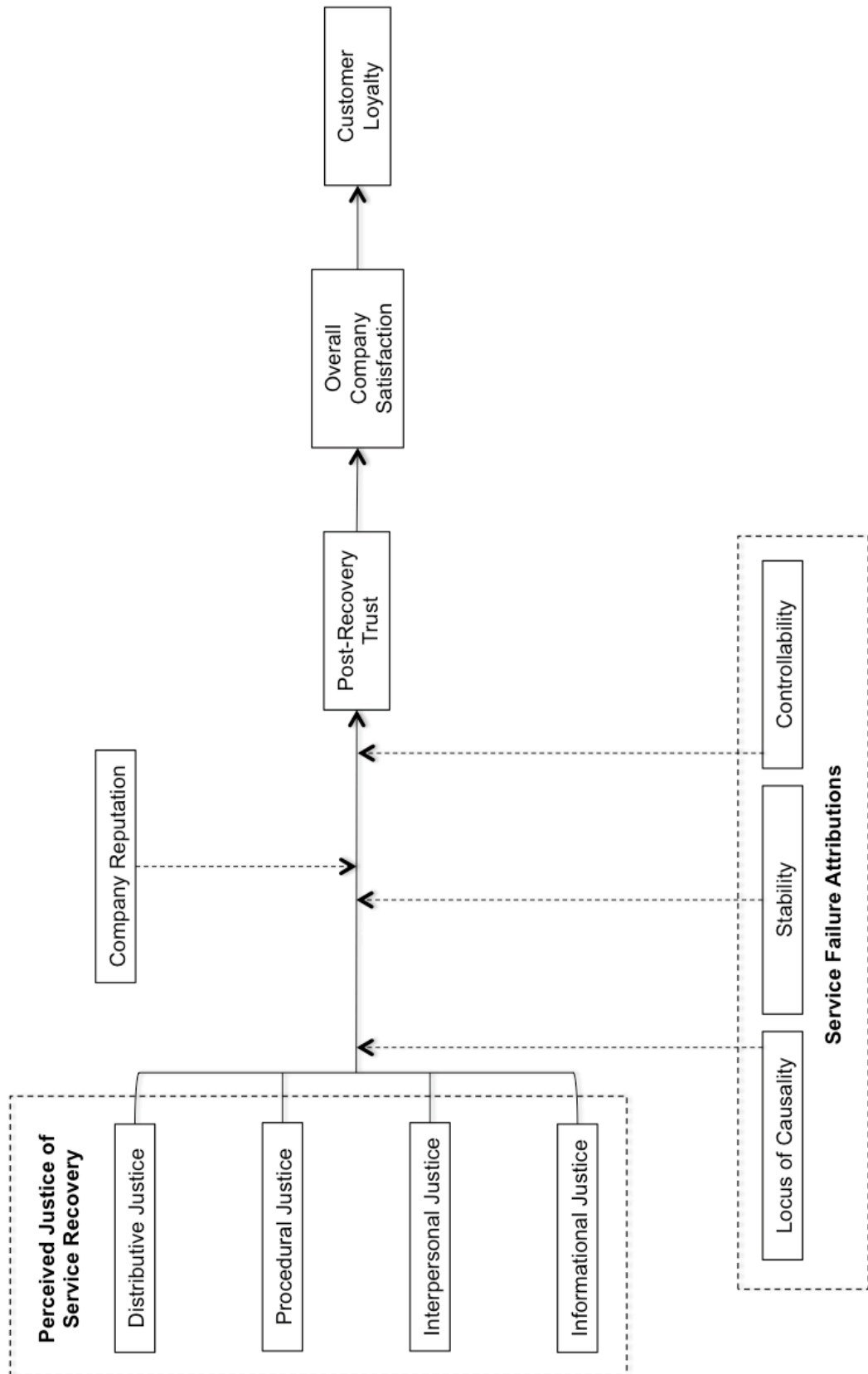
1.6 Research Methodology

To achieve the above-mentioned aim and objectives, this study adopts a quantitative method based on a survey approach. A self-administered questionnaire, developed on the basis of the literature reviews, was used as a method of data collection. The questionnaire was distributed using non-probability sampling technique among airline customers traveling from and to Thailand at Bangkok International Airport (Suvarnabhumi Airport) in Thailand. A total of 480 valid questionnaires were collected from airline customers who had experienced a full service airline's flight delay in the past 12 months (representing a response rate of 42%). For the data analysis, PLS-SEM analytical technique via plspm package in R software was used to empirically analyse the collected data in this study and the relationships between constructs, to test the research hypotheses and validate the research theoretical model.

1.7 Proposed Theoretical and Practical Contributions

The present research aims to contribute knowledge for both academics and practitioners in the field of relationship marketing on the impact of customers' perceptions of the perceived justice of service recovery in relation to their loyalty recovery. From a theoretical standpoint, this research intends to contribute to the prior literature in the domains of expectancy disconfirmation paradigm (EDP), justice theory and attribution theory. This study proposes to extend the EDP in consumer behaviour literature by investigating customer expectations of service recovery in the situation of uncertainty. Furthermore, this study intends to broaden the relative effects of customer perceptions of justice dimensions in relation to loyalty recovery through the effects of post-recovery customer trust, overall company satisfaction and customer loyalty, respectively. Lastly, this study aims to contribute to the service recovery literature by examining the roles of factors external to the recovery encounter, including service failure attributions and company reputation, on the customer perception of justice dimensions in relation to their loyalty recovery.

In terms of its practical contributions, this thesis aims to offers practitioners valuable insights into building strong customer relationships, specifically, for airline

managers interested in developing customer relationship marketing strategies that can maximise customer loyalty in the event of service failure without wasting resources. This study intends to provide a greater understanding on how to implement successful service recovery strategies in a business to achieve sustainable customer–company relationships. Finally, the thesis aims to provide comprehensive service recovery guidelines on which service recovery efforts should be prioritised to preserve customer relationships with the company in various failure situations.

1.8 Structure of the Research

The research consists of seven chapters, designed and structured as follows:

- **Chapter 1 – Introduction**

This chapter starts by introducing broad areas of the research. Then, rationales for the choice of research context along with a statement of the research problem that motivated the researcher to conduct this thesis are identified. Next, the main research aim and objectives are discussed, and a summary of the research methodology is given. Following this, the proposed theoretical and practical contributions are determined. Lastly, a brief description of each chapter in this study is presented.

- **Chapter 2 - Literature Review**

This chapter critically reviews the relevant concepts and focal theories in the existing literature. With regard to the research aim, this chapter starts by reviewing the prior scholars on expectancy disconfirmation paradigm (EDP), which is the main theoretical foundation in this study. Then, a general overview and definitions of customer satisfaction and the concept of service are described. Next, the review of the prior literature on service failure and recovery is explored to understand the notion of service failure attributions and perceived justice of service recovery. Then, previous studies on the impact of company reputation in the context of service failure and recovery are reviewed. After that, a review of prior scholars regarding customer trust and customer loyalty is discussed to probe the concept of post-recovery customer behaviour. Finally, this chapter highlights a number of gaps from the reviewed literature and the need for further investigations in this research.

- **Chapter 3 - Conceptual Framework and Hypothesis Development**

Build upon the review of the literature in Chapter 2, this chapter provides the theoretical foundation for developing the research conceptual framework and related hypotheses. This research framework aims to address the impact of customers' perceptions of perceived justice of service recovery and factors external to the recovery encounter, including service failure attributions and company reputation, in relation to loyalty recovery in the airline context. There are total of 11 constructs – 7 main variables and 4 moderators – linked with 22 proposed hypotheses investigated in this study. The discussions of the theoretical underpinning and of the rationale for each testable hypothesis in this framework are provided in sequence.

- **Chapter 4 - Methodology**

This chapter outlines and justifies the research methodology and design for verifying the research conceptual framework and testing the hypothesis advocated in Chapter 3. This chapter continues with an overview of appropriate research philosophy to identify the way in which researchers uncover new knowledge. Then, the process of selecting a research approach, design, methodology, strategy and time horizon is explained. The data collection method, including questionnaire design, measurement scale, and sampling design, is described. Lastly, the analytical technique based on a Partial Least Squares approach to Structural Equation Modelling (PLS-SEM) analysis for testing the research hypothesis is discussed.

- **Chapter 5 - Data Analysis and Results Interpretation**

Having assessed the proposed theoretical model, this chapter reports the statistical analysis and results obtained in this study. This chapter starts with a description of the preliminary data examination procedure, followed by the descriptive analysis of respondents' profiles. Then, the specification of the research path model is illustrated and the process of data purification is explained. Next, an interpretation of empirical results assessed from the measurement model and structural model are presented. Later, the mediating and moderating analyses are addressed. Finally, a brief summary of the results of the hypotheses testing is provided.

- **Chapter 6 - Discussion of Findings**

This chapter provides a discussion of the research findings in the light of the extant literature. First, the findings of the influences of each dimension of perceived justice of service recovery on post-recovery trust are described. Next, the findings of the interrelationships between post-recovery customer trust, overall company satisfaction and customer loyalty following service recovery are explained. Finally, the results of the moderating effects of factors external to the recovery encounter investigated in this study are describes.

- **Chapter 7 - Conclusions**

In the final chapter of this research, the conclusions regarding the important areas covered in this study are presented. This chapter begins with a brief summary of the research according to the research aim and objectives. Then, the key contributions of this research and both the theoretical and practical implications will be highlighted. Lastly, the limitations of this study and directions for future research will be drawn.

1.9 Chapter Summary

This chapter provides an introduction to this thesis by describing the rationale of the choice of context along with a statement of the research problem to this study. Then, the research aim and objectives to scope this study are set and a brief summary of the research methodology is defined. Finally, the expected theoretical and practical contributions are determined. A critical review of the relevant concepts and focal theories in the existing literature will be discussed next in Chapter 2.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter critically reviews the normative literature on the areas of service failure, service recovery and customer loyalty. A more profound understanding of the relevant concepts and focal theories, which will be used to develop a conceptual framework in the next chapter, is to be established. With regards to the research objectives identified in the previous chapter, this chapter starts by reviewing the literature on Expectancy Disconfirmation Paradigm (EDP), which is the main theoretical foundation in this study. Then, a general overview and definitions of customer satisfaction and the concept of service are described. Next, a review of prior literature on service failure and recovery is explored to understand the notion of service failure attributions and perceived justice of service recovery. A review of previous studies on the impact of company reputation in the context of service failure and recovery is explained. After that, a review of prior scholarly work on customer trust and customer loyalty is examined to explore the concept of post-recovery customer behaviour. Finally, this chapter highlights a number of gaps from the reviewed literature and the need for further investigations in this research before presenting a conclusion.

2.2 The Expectancy Disconfirmation Paradigm (EDP)

With regard to an exchange relationship, social exchange theory explains the interpersonal relationships that are based on our perceptions of balance or fairness in a process of reciprocal or negotiated exchange (Aryee et al., 2002; Blau, 1964; Lee et al., 2014). In other words, social exchange refers to the interaction between customers and a company during service delivery process (Bowen, 1990). Customers expect fairness between their inputs and the outcomes from the social exchange relationships (Adam, 1965). However, the relationship is not always perfectly balanced, for example, in the event of service failure. Thus, understanding how customers make their judgements on these relationships, especially when the service failure occurs, remains a challenge for many service organisations (Lee et al., 2014).

Developed from the point of view of social exchange relationship, marketing exchanges are considered benefits and costs (Adam, 1965) involving customer perceived justice or what has come to be known as the expectancy disconfirmation paradigm (EDP). The EDP is used to explain how each party has expectations of the role of the other (Oliver, 1977). The previous literature demonstrates that the EDP has been widely used in explaining the relationship of customers' initial expectations, the perceived actual performance of a product or service and results in a corresponding level of satisfaction (Oliver, 1980). The theory of EDP is the theoretical foundation most used for assessing customer satisfaction in the services industry. The theory is used to explain the relationship of customers' initial expectations, the confirmation–disconfirmation experienced and customer satisfaction. This theory assumes that customers always have expectations when evaluating any products or services. If customers do not have an expectation, the confirmation or disconfirmation experienced will not develop (Boshoff, 1997; Oliver, 1980).

Customer expectations can be described as "what they feel a service provider should offer rather than would offer" (Gures, et al., 2014, p.67). Customer expectation has a profound effect on customer evaluation process in a purchase episode, which varies from a minimum tolerable level of performance to some concept of perfect service (McCollough et al., 2000). Customers generally compare their expectations of a product or service with the actual performance. If the expectation equals the performance, the expectation confirmation will occur. On the contrary, the expectation disconfirmation happens when there are some differences between customer expectation and the service outcome. If the outcome exceeds customer expectations, a positive disconfirmation is experienced, which results in customer satisfaction. However, if the outcome is below customer expectations, a negative disconfirmation experience will occur, which results in customer dissatisfaction (Boshoff, 1997; Donoghue and De Klerk, 2006; McCollough et al., 2000; Nguyen et al., 2012; Oh, 2002; Yuksel and Yuksel, 2001).

In the context of service failure and recovery, the way customers achieve their satisfactory decisions can be explained through the theory of EDP (de Matos, 2007; Maxham and Netemeyer; 2002; Roy et al., 2014). After customers experience

service recovery, the process of comparison between the customers' expectations of the company's efforts and the company's recovery solution results in customer satisfaction or dissatisfaction. Customer satisfactions/dissatisfactions after service failure can be influenced by the customer perceived justice of service recovery (DeWitt et al., 2008; Huang et al., 2015; Ok et al., 2005). Customers will judge the recovery as fair and become satisfied when the service recovery performance is at least equal to their expectations. Customer satisfaction with service recovery can be described as a positive response to the problem resolutions performed by the provider (Oliver, 1980; Tse and Wilton, 1988). In other words, recovery satisfaction refers to customer assessments of the company's ability to handle a service failure (Tax et al., 1998). In contrast, when customers' expectations are higher than what they have experienced, customer dissatisfaction from perceived unjust service recovery will occur. Poor management of customer dissatisfactions can be very costly because dissatisfied customer may switch to a competitor and generate substantial adverse word-of-mouth communication (Li-hua, 2012; Thogersen et al., 2003; Sharma et al., 2010). Consequently, the resultant of EDP shapes customer satisfaction and guides customer behaviour intentions towards the company.

2.3 Customer Satisfaction

Customer satisfaction, conceptually rooted in the EDP, is defined as "the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience" (Oliver, 1981, p.27). In short, customer satisfaction refers to the degree to which the company's performance meets or exceeds customer expectations (Oliver, 1980). In other words, customer satisfaction can be described as a response to the pleasurable fulfilment of their desires by a product or service (Maxham and Netemeyer, 2002). Customer satisfaction is considered as one of the most important factors with regard to the effective distribution of products or services (Gure et al., 2014; Tse and Wilton, 1998). In the services marketing research, customer satisfaction is well recognised as a factor influencing loyalty behaviour, which is an important goal for any business (Ghalandari et al., 2012).

In a broader sense, customer satisfaction can be divided into transaction-specific satisfaction and cumulative satisfaction. Transaction-specific satisfaction refers to the satisfactory assessment of a specific purchase episode, while cumulative satisfaction refers to the assessment of the overall experience with the company (Maxham and Netemeyer, 2002; Tax et al., 1998). Cumulative satisfaction can be viewed as an aggregation of all previous transaction-specific satisfactions (Deng et al., 2010). With regard to service recovery, transaction-specific satisfaction or post-recovery satisfaction refers to the judgement made regarding a particular service recovery episode after service failure. In contrast, cumulative satisfaction or overall company satisfaction reflects a comprehensive satisfactory evaluation of the entire organisation, including the judgement of an individual outcome of failure recovery together with all-encompassing experiences with the company (Homburg and Furst, 2005; Maxham and Netemeyer, 2002; McColl-Kennedy et al., 2003; Oliver, 1997).

Recent research has suggested that customer satisfaction towards the company as a whole is of more concern as a prerequisite for future behaviour, as satisfied customers are more motivated to maintain and strengthen relationships with the company (Choi and La, 2013; Gellbrich et al., 2016). Hence, this study, consistent with most other service failure and recovery studies (Gustafsson et al., 2005; Karande et al., 2007; Ok et al., 2005; Sengupta et al., 2015 Smith et al., 1999; Vidal, 2012), considers overall company satisfaction based on all previous experiences with the company. With regard to the research aim, overall company satisfaction based on the comprehensive evaluation towards the company is more important in examining post-recovery behaviours than a specific post-recovery satisfaction. Customers usually weigh their overall company satisfaction more heavily than post-recovery satisfaction when forming their intention to continue in such relationships (Chang and chang, 2010; Maxham and Netemeyer, 2002; Simone et al., 2013). Although overall company satisfaction is not a new concept, a more profound understanding of its antecedents (the perceived justice of the service recovery and post-recovery trust) and its consequences (customer loyalty) in this study provides valuable information for both academics and practitioners. As such, overall company satisfaction will be the main focus of investigation in this study.

2.4 The Concept of Service

Service is a complex term that is quite difficult to define precisely. This research supports the concept of service defined by Gronroos (2000, p.46), as "a process consisting of a series of a more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided a solution to customers' problems". The unique characteristics of service are normally described as intangibility, inseparability, heterogeneity and perishability (Moeller, 2010; Zeithaml et al., 1985). Firstly, intangibility refers to the fact that services do not have physical existence. In the case of the airline context, airline services offer both tangible and intangible elements, for example, tangible elements in the form of transportation (airline seat and food), but intangible in the form of the service offered (in-flight atmosphere and services). Due to the intangibility characteristic, services cannot be verified and tested before sale, making the evaluation of a service different from that of the tangible product. Secondly, inseparability reflects the relationships between the production and consumption of the service, which means services are generated and consumed simultaneously. Therefore, airline passengers must be physically present when boarding the flight to consume the service. Thirdly, heterogeneity means that the quality of service can vary depending on a particular service employee. Due to the high human involvement in airline services, the service offering is more difficult to standardise. Passengers may experience services from different employees during a flight, resulting in different quality impressions by customers. Lastly, perishability refers to services offered that cannot be stored and sold for another time. Airline services are perishable in nature because air tickets cannot be sold once a flight has been taken off.

2.5 Service Failure

Due to the high degree of human involvement in all businesses, particularly in the hospitality and tourism industries, even the best organisation cannot guarantee to deliver error-free services to satisfy their customers every time (Gruber et al., 2011). Since it is in human nature to make mistakes, service failure is, unfortunately, inevitable in service delivery (Bitner et al., 1990; Folkes, 1984; Nikbin and Hyun,

2014; Nimako and Mensah, 2014). Berry and Parasuraman (1991, p.46) define service failure as "a flawed outcome that reflects a breakdown in reliability". In other words, a situation in which service performance falls below customer expectations should be recognised as service failure (Gronross, 2000).

In the marketing literature, service failure refers to a critical incident between customer and the company that significantly impacts customer consumption experience (Bejou and Palmer, 1998). Service failures are an error or mistake that happens during service delivery, including the inadequacy of service performance and unavailability of service (Bitner, 1990). Thus, it can be said that service failures are a major factor in the induction of customer dissatisfaction, and generate variety of negative behaviour results towards the organisation (Keiningham et al., 2014; Kim et al., 2009). Boshoff (1997) defines customer dissatisfaction as a negative discrepancy between the customer's initial expectation and the customer's actual experience. In the case of airlines, according to FlightStats (2017), flight delays and cancelation are the major causes of service failure, resulting from late arrival of aircraft, maintenance problems and weather condition (Rita, 2018).

As customers tend to weigh their loss more heavily than any benefits gained, service flaws typically linger in their minds longer than good services (Lee and Sparks, 2007). Many studies have been confirmed that service failure significantly influences undesirable results for a company, including customer dissatisfaction (Bitner, 1990; Nikbin and Hyun, 2014; Nimako and Mensah, 2014), customer complaints (Au et al., 2014; Folkes et al., 1987; Gruber et al., 2009; Tax et al., 1998), and a desire to damage the company's business (Cambra Fierro et al., 2014; Davidow, 2014; Kim et al., 2009). During the service encounter, the degree of customer dissatisfaction depends on the type of failure, why it happened and who is responsible for it. As such, all service failures are not the same for all customers and their effects can vary according to customer causal attribution (Iglesias et al., 2015; Smith et al., 1999).

Weiner (2000) describes causal attributions as cognitive explanations of why a particular situation occurs. Hence, the more the organisation understands customer causal attributions, the better the organisation develops effective recovery strategies to cope with service failure (Kim and Jang, 2016; Nikbin and Hyun, 2014; Xie and

Heung, 2012; Yen et al., 2004). To ensure that the customer will not leave the service encounter dissatisfied, and with a breakdown in the relationship with the provider, it is crucially important for companies to understand how to implement service recovery strategies in various service failure situations (Vidal, 2012). Accordingly, in order to form effective service recovery strategies, understanding how customer perceptions of service failure attributions impact their fairness judgement of service recovery is needed (Kim and Jang, 2016; Van Vaerenbergh et al., 2014).

2.5.1 Service Failure and Attribution Theory

Attribution theory, which has its root in psychology (Atkinson, 1957), can be defined as "rational information processors whose actions are influenced by their causal inferences" (Folkes, 1984, p.398). Prior research on the effect of attributions on consumer behaviour has found that customers' attributions play a pivotal role in shaping their attitudes and responses (Curren and Folkes, 1987; Hess, 2008; Van Vaerenbergh et al., 2014). The consequences of attributions can be positive or negative, but negative outcomes, such as service failure, typically elicit the greatest attribution activities (Weiner, 2000). Customers' causal analysis is recognised as a main factor affecting customer behaviours (Curren and Folkes, 1987; Swanson and Hsu, 2011). Customers usually search for explanations of why unfavourable situations occur and make their causal attributions to determine the reason for the failure in order to guide their responses towards the firm (Bitner et al., 1990; Weiner, 2000). For instance, when an airline flight is delayed, customers may attribute the cause of the incident to various factors, such as mechanical problems, bad weather condition or poor system management, and will behave differently depending on the perceived cause.

Attribution theory is utilised in the marketing literature in order to understand customer judgements and reactions under various failure attributions (Hess et al., 2003; Maxham and Netemeyer, 2002; Nikbin et al., 2015b; Van Vaerenbergh et al., 2014). The causes that customers infer can be divided mainly into three attributes including locus of causality, stability and controllability (Weiner, 1985). The extant research in service marketing has found that service failure attributions have been

shown to impact customer satisfaction/dissatisfaction (Iglesias, 2009; Tsiros et al., 2004; Vazquez-Casielles et al., 2007), service recovery expectations (Hess et al., 2003, McCollough, 2000; Nikbin et al., 2012b), customer attitudes towards the organisation (Bitner et al, 1990), and customer loyalty (Bejou and Palmer, 1998; Folkes et al., 1987; Hess, 2008; Weber and Sparks, 2010; Zeithaml et al., 1996). Specifically, prior scholars have emphasised that service failure caused from a company fault (Chang et al., 2015; Oliver, 1980; Swanson and Hsu, 2011), stable cause (Nimako and Mensah, 2014; Smith and Bolton, 2002; Varela-Neira et al., 2010b) or controllable cause (Bitner et al, 1990; Choi and Mattila, 2008; Hess, et al., 2003; Iglesias et al., 2015) generate a greater negative affect on customer satisfaction than when the opposite condition holds. Hence, this research assumes that perceived reasons for the motive of a service failure may influence how customers will respond towards the firm. To better understanding post-recovery customer behaviour, it is critical for the firm to examine customers' perceptions towards the causes of service failure. Since customer responses are not always based on the evaluation of recovery outcomes (Kim and Jang, 2014; Xie and Heung, 2012), the inferred reasons for why the failure occurred can influence how customers judge the company's recovery effort (Van Vaerenbergh et al., 2014).

I. Locus of Causality

The locus of causality depends on the customers' perceptions of whether the cause of failure originated from the company (internal) or the customer (external) (Hess et al., 2003). Research has found that, when customers experience service failure, they firstly consider why it happened, who is responsible for it, and react differently based on their assumptions (Bambauer-Sachse and Rabeson, 2015). When a failure is company-related, customers are more likely to exhibit a higher degree of dissatisfaction as they paid for a service that has failed. Customers tend to believe that they are owed compensations to recover their losses. On the other hand, customers are less dissatisfied and tend to neglect the situation when a failure originates from the customers (Oliver, 1980). Since customers generally do not want to admit guilt, most dissatisfied customers believe that the causes of the failure relate to company faults rather than customer faults (Anderson et al., 2009; Bitner, 1990; Hess et al., 2008; Smith et al., 1999). Some researchers have excluded the locus of causality in their studies. However, recent service recovery studies have found that

the locus of causality impacts customer expectation and their evaluation of service recovery (Chang et al., 2015; Rummelhagen and Benkenstein, 2017; Song et al., 2016; Swanson and Hsu, 2011; Weber and Sparks, 2010). So, it can be said that locus of causality is important for some service failure and recovery situations, which is going to be investigated in this research.

II. Stability

Stability is conceptualised as the temporal cause of failures, varying from unstable (expected to vary over time) to stable (expected to persist over time) (Folkes et al., 1984). Service failures with stable causes have higher chances to recur than those with unstable ones (Weiner, 2000). Thus, when a failure is a regular occurrence in a company, customers are more likely to evaluate the failure as stable (Hess et al., 2003). Research has found that stable causes of failure affect the expectancy of that company's success in the future (Nikbin et al., 2014b). Customers who perceive that a cause of a service failure is stable will believe that the same failure will repeatedly occurs in the future, as stable cause of failure create uncertainty in customers' minds about a firm's performance (Hess, 2008). Customers tend to express higher level of dissatisfaction and switching behaviour when they perceived that a failure has occurred repeatedly (Casado Diaz and Mas Ruiz, 2002). The effect of stable causes of failure can ruin the company's reputation and reliability, and increase the likelihood of the customer switching to a competitor (Nimako and Mensah, 2014). Moreover, due to future uncertainty, stable causes of failure lead to higher customer expectations of service recovery (Grewal et al., 2008). For instance, customers expect a refund for failure with stable causes instead of an exchange because they seek to avoid the risk that might occur again in the future (O'Neill and Mattila, 2004). On the other hand, customers tend to be understanding and forgiving when the cause of incident is unstable, as they perceived minimal likelihood of a future inconvenience (Hess et al., 2003)

III. Controllability

Controllability refers to the ability of a firm to predict and prevent unfavourable situations (Weiner, 2000), for example, a flight may be delayed because of bad weather (uncontrollable) or poorly trained employees (controllable). Customers are more dissatisfied when companies have substantial control over the failure but fail to

exert this control (Bitner, 1990). Several scholars have found that controllability attribution plays an integral role in the customer evaluation process (Tsiros et al., 2004; Nikbin et al., 2014a; Weiner, 2000). High controllability of failure (failure that the company can prevent but fail to do) is perceived as a sign of incompetent management, which implies that a firm lacks the responsibility and ability to improve (Nikbin et al., 2015b). Thus, dissatisfied customers tend to blame the company about their disappointments and share their negative experiences to jeopardise the company's image (Hess et al., 2003). While customers generally believe that the failures are preventable, when the causes of failure are external and difficult to control, customers are less likely to be dissatisfied and more likely to forgive the mistake (Bitner, 1990).

2.6 Service Recovery

In this globally competitive era, people are tending to be more sophisticated and demanding as education levels have increased compared to the past. With information that is much easier to access, consumers have more freedom in choosing how to spend their money (Kim and Jang, 2016). Fundamentally, customers tend to purchase a product or service that meets or exceed their needs. In such situations, it has become increasingly challenging for companies to satisfy customer needs and expectations (Lewis and Spyrakopoulos, 2001; DeWitt et al., 2008). Calisir et al. (2016) point out that today's customers will always seek a better alternative if their current choice does not satisfy their needs. Thus, it is mandatory for all firms to not only maintain high quality standards, but to better it.

As zero defects is an unrealistic goal in service deliveries, service failure is unfortunately inevitable (Atalik, 2007; Gruber et al., 2009; Phau and Siri, 2004; Tronvoll, 2012). The airline services are particularly susceptible to service failures since there are many human-involved processes employed in service delivery. To overcome dissatisfaction, companies must implement service recovery, which is the cornerstone of relationship marketing strategy, in their businesses. Boshoff (1997) defines service recovery as a company's actions to resolve failures, which aims to move aggrieved customers to a state of satisfaction. It is recognised that well-implemented service recovery is a vital component that influences the success of

customer relationship management (Cambra-Fierro et al., 2015b). A number of studies have shown that excellent service recovery performance influences customer satisfaction (Binh and Vi, 2013; Blodgett et al., 1997; Mostafa et al., 2015; Tax et al. 1998) and varied behaviour, for instance, positive recommendations (Choi and Choi, 2014; Kau and Loh, 2006; Wen and Chi, 2012), repurchase intention (Ghalandari et al., 2012; Santos and Fernandes, 2008; Wirtz and Mattila, 2004) and customer loyalty (Chang and Chang, 2010; Chebat and Slusarczyk, 2005; Nikbin et al., 2015b). Accordingly, how to maintain positive customer relationships in the event of service failure is one of the most significant issues for both academics and practitioners.

2.6.1 The Nature of Service Recovery

Great service quality can lower the probability of service failure but it is unfeasible to deliver flawless service every time (Al-Jader and Sentosa, 2015). Although the aim of any companies is to provide a good service to their customers, there is always the possibility of occasional failure. Due to the unique nature of services, service-based industries, especially airline industry, have a greater propensity for errors during service delivery (Lee and Sparks, 2007; Migacz et al., 2017). Therefore, learning from failures and correcting them comprise the most effective methods by which to recover customer confidence (Kamran and Attiq, 2011). The word "recovery" was said to have originated from British Airways' "putting the customer first" campaign in 1983, in which British Airways retrieved double the return for every pound they spent in their customer service investments (Chebat and Slusarczyk, 2005, Kanousi, 2005). Service recovery is defined as "the specific actions taken to ensure that the customer receives a reasonable level of service after the problems have occurred to disrupt normal service" (Armistead, 1995, p.5). Recent studies further describe service recovery as a rectifying process to regain positive customer relationships when an unfavourable situation happens (Chua et al., 2010; Krishna et al., 2014; Rashid and Ahmad, 2014).

The prime purpose of service recovery is to deal with dissatisfied situations and convert affected customers into satisfied ones, in order to minimise damages caused to the brand image (Ha and Jang, 2009). Service recovery attempts to handle

mistakes at the service encounter before a dissatisfied customer complains or leaves the firm. Service recovery is a moment of brief personal encounter between the customer(s) and a service provider, which is a critical incident to regain customer satisfaction from the failure and strengthen positive customer relationships with the brand (Kamran and Attiq, 2011; Nikbin et al., 2014b). Therefore, well-implemented service recovery can has a profound effect on mitigating the consequences of service failure (Abou and Abou, 2013). Service recovery can be divided into two dimensions, including social and economic recovery. Social recovery focuses on psychological or symbolic resources, for instance, apologies and explanations about the failure. In contrast, economic recovery focuses on providing utilitarian resources as a compensation for dissatisfied customers, including discounts, redresses or refunds (Zhou et al., 2014). So, the company's service recovery should consist of both tangible efforts and appropriate employee etiquettes when dealing with service failure situations (Bambauer-Sachse and Rabeson, 2015).

However, developing an effective service recovery strategy to satisfy all customers is the most difficult task for any service company (Gelbrich and Roschk, 2011). Research shows that, in the case of the airline industry, the number of dissatisfied customers who have voiced their complaints has increased by about 20% in 2015 (IATA, 2016), with many customers remaining dissatisfied with the way that companies have handled and recovered their dissatisfactions, resulting in customers becoming cynical (CAA, 2016; Cambra-Fierro et al., 2015b). These unfavourable situations of service failure and incompetent recovery efforts generate a double deviation effect, which further worsens the situation (Ellyawati, 2017). Bitner et al. (1990, p.80) define double deviation as "a perceived inappropriate and/or inadequate response to failures in the service recovery system". The effect of double deviation can lead to reduced trust in the company (Basso and Pizzutti, 2016), customer defection (Casado-Diaz et al., 2007; Edvardsson et al., 2011) and negative word-of-mouth communication (Joireman et al., 2013). Hence, it is crucial for all companies to develop successful service recovery in order to re-establish and maintain their positive relationships with customers when the service fails (Ali et al., 2015; Assefa, 2014).

Once a failure has been reported, customers assess the fairness of the recovery process by evaluating the service recovery performance from the provider's responsiveness and efforts, along with the outcome of the recovery. In order to restore secondary satisfaction from dissatisfied customers, companies must ensure that their customers are treated fairly and appropriately during the recovery process (Chang and Chang, 2010). When customers perceive the service recovery as fair, customers tend to believe that the company is capable of dealing with the problems, which in turn, regaining their confidence in the company (Gelbrich and Roschk, 2011; Ok et al., 2005). The situation in which customers view the company better than before the failure occurs can be described as service recovery paradox (Mostafa et al., 2015). Research has found that the service recovery paradox can turn frustrated customers into evangelists of the company (Krishna et al., 2014; de Matos et al., 2007). Consequently, knowing customer fairness evaluations towards service recovery is among the most important criteria for a company to focus on (Davidow, 2014; Jahandideh et al., 2014; Khan and Khan, 2014; Nikbin et al., 2015a, Park et al., 2014).

2.6.2 Service Recovery and Justice Theory

Adam (1963) was the first researcher to introduce the concept of justice, which originates from social exchange and equity theory. Adam's equity theory illustrates that individuals compare their inputs (efforts) and outcomes (benefits) with those of others and then respond to eliminate any inequities (Adam, 1965). Social exchange theory, which is also the main concept of EDP, is a process of social exchange that brings the stability of negotiated exchange between parties (Oliver, 1980; Sierra and McQuitty, 2005). As such, the concept of justice is developed from the aspect of equal partners in an exchange relationship, for instance, the cost to customers and time lost by customers should balance the perceived outcomes of a product or service. A fair exchange occurs when the investment and outcome are comparable, whereas an inequity of exchange happens when the outcome does not meet with the customer's expectation, causing disconfirmation of fairness (Gures, et al., 2014). In the event of service failure, the exchange relationship with the service provider is thrown out of balance and customers perceive that the service performance is below their expectations. Thus, the firm's fair service recovery effort must be provided to

bring the customer back to a steady relationship (Chebat and Slusarczyk, 2005; Smith et al., 1999). Many prior studies have employed justice theory to explain customers' evaluation of service recovery when a conflict situation occurs (Blodgett et al., 1997; Chang and Chang, 2010; Davidow, 2000; Ding et al., 2015; Fatma et al., 2016; Smith et al., 1999; Sparks and McColl-Kennedy, 2001). Justice theory offers a comprehensive framework for understanding the factors that influence how customers evaluate outcomes, procedures, interpersonal interactions (Maxham and Netemeyer, 2002; Tax et al., 1998), and information (Colquitt, 2001) received during the service encounter.

Justice theory is considered as one of the most important concepts for understanding customer perceptions of fairness judgement of service recovery in the event of conflict (Kim et al., 2012; Migacz et al., 2017). Perceived justice refers to customer feelings of equity towards the appropriate efforts that companies use to compensate for their mistakes. As such, perceived justice is increasingly recognised by many researchers as a significant initial cue of satisfaction with service recovery (Blodgett et al., 1997; Ding et al., 2015; Ha and Jang, 2009; Maxham and Netemeyer, 2002; Nikbin et al., 2015a; Siu et al., 2013; Sparks and McColl-Kennedy, 2001; Tax et al., 1998; Wen and Chi, 2013). Once service failure is recognised, customers tend to evaluate the recovery performance from the provider's responsiveness and efforts related to the post-recovery outcomes. Perceived justice reflects the level of "fairness" or "rightness" of service recovery (Hess et al., 2003). The more the fairness perceptions of service recovery are perceived by the customers, the higher the levels of customer satisfaction are regained and the greater the probability of customer intention to repurchase in the future (Atalik, 2007; de Matos et al., 2007). Hence, understanding customers' perceptions of perceived justice on service recovery is vital for any businesses in order to respond to customers' needs in suitable ways in a particular service failure attribute.

The vast majority of the previous research addresses that customers assess the fairness of recovery to evaluate a particular situation from a three-factor structure of justice: (i) distributive, (ii) procedural, (iii) interactional justice (Dewitt et al., 2008; Orsingher et al., 2010; Smith and Bolton, 2002; Tax et al., 1998). However, Colquitt (2001) has demonstrated that interactional justice should be separated into

interpersonal and informational justice, as they both have differential effects on the outcomes of perceived justice. Informational justice has generally been ignored in the service recovery research, and few studies (Ambrose et al., 2007; Liao, 2007; Mattila, 2006; Mattila and Cranage, 2005; Nikbin et al., 2015a) have empirically analysed justice in four distinct dimensions. Thus, to provide a better fit for analysing the fairness judgement of service recovery, four factors of justice – (i) distributive, (ii) procedural, (iii) interpersonal and (iv) informational justice – will be investigated in this study. These four different constructs refer to the propriety of customer decisions about the outcome of service recovery, the methods that company uses to handle their complaints, the interpersonal interactions with the company's representative, and the amount of information communicated during the recovery process, respectively (Liao, 2007; Mattila and Cranage, 2005). Therefore, in order to restore secondary satisfactions of dissatisfied customers, the company must ensure that their customers are treated fairly and appropriately throughout the recovery process (del Rio-Lanza et al., 2009).

I.   Distributive Justice

Distributive justice describes the perception of fairness on the actual outcome of service recovery (Blodgett et al., 1997). Due to the more visible results to customers, distributive justice has been found to be easier for customers to understand compared to other dimensional constructs (Smith et al., 1999). According to equity theory, customers typically expect at least equity of exchange from what they would have received before the failure occurred in order to regain satisfaction (Adam, 1965). Thus, to balance customer inconvenience and any loss from the failure, equality outcomes should be provided to fulfil customer need in the first place (Davidow, 2003). Gelbrich et al. (2016) have found that around half of a company's recovery strategies involve some form of compensated outcome. Compensation, a key outcome of distributive justice, includes all forms of tangible benefits that companies provide to recover their mistakes (Gelbrich and Roschk, 2011). Research has found that customer perceptions of the fairness judgement of compensations can vary depending on their perceived degree of loss from a failure (Tax et al., 1998).

Compensations provided by the company should at least be equal to the customer's total financial and time losses from the failure and afforded on the recovery process

(Grewal et al., 2008). Thus, when an unfavourable situation happens, many companies provide various types of compensations, for example, discount, coupon, upgrading, exchange or refund, in order to regain customer satisfaction and prevent any further damage to the brand (Ha and Jang, 2009; Mattila and Patterson, 2004). Refund is the most effective way to compensate for customer loss compared to other types of compensations (Gelbrich et al., 2016). When dissatisfied customers receive an immediate refund, they tend to attribute greater control to the company and assume that the failures are occasional and temporary (Sparks and McColl-Kennedy, 2001). On the other hand, when customers perceive unfairness of the recovery outcome, they tend to have a higher degree of disappointment from both the product failure and the inequitable outcome of the service recovery. The effect of these unsatisfactory situations makes customers willing to terminate the relationship with the company and, in the worst case, spread negative word-of-mouth communications to erode the company's image (Kau and Wan-Yiun Loh, 2006).

II.   Procedural Justice

Procedural justice focuses on the way customers are treated by the company throughout the recovery process (Sparks and McColl-Kennedy, 2001). Customers tend to evaluate procedural justice from the company's responsiveness to the failure using the service recovery system, which involves fair policy and practice, flexibility of procedures, and the recovery speed (Van Vaerenbergh et al., 2012). A good recovery procedure helps customers to manage uncertainty as it makes them believe that the company has higher control on any failures in an efficient and straightforward manner (Kim et al., 2009). Prompt service recovery can help to regain a higher satisfaction than its delay counterpart, because it makes customers perceive that the firm cares about them and is being attentive (Assefa, 2014, Mattila and Patterson, 2004). Immediate response to a failure can also help enhance a positive company image and the reputation of the firm (Davidow, 2003; Wirtz and Mattila, 2004). Furthermore, research has found that, when customers perceive high fairness in a procedure, they tend to believe that the recovery outcome provided will also be fair (Tsai et al., 2014; Smith et al., 1999). In some cases, a superior recovery process can help lessen the influences of the recovery outcomes (Krishna et al., 2014). On the other hand, customers believe that poor recovery process usually leads to unfair outcomes, which leads customers to lose their confidence in the company

(Ok et al., 2005). Customers evaluate an ineffective and slow recovery process as an incompetent reaction, thereby having a negative effect on trustworthiness in the company (Ball et al., 2004).

III. Interpersonal Justice

Interpersonal justice refers to the attentive behaviour of employees during service encounters, which comprise courtesy, empathy and endeavour (Tax et al., 1998). Some customers not only base their judgements on the outcome of service recovery, but they also place greater value on how the employee/company representative treats them and deals with their dissatisfactions, especially when the duration of the process is long (Kamran and Attiq, 2011; McCole, 2004; Sparks and McColl-Kennedy, 2001). Customers tend to regain a higher level of satisfaction when they are treated with honesty and respect during the recovery process. The higher level of interactional fairness perceived not only helps companies to compensate the inequity outcome of service recovery, but also shapes customers' attitudes towards the company's image as a whole (Blodgett et al., 1997). In contrast, dissatisfied customers may regain a lower level of satisfaction when they perceive that the company treats them unfairly and inappropriately, even if they receive a reasonable outcome from an effective recovery procedure (Kau and Wan-Yiun Loh, 2006). Research has found that around 45% of dissatisfying encounters are the result of employees' unwillingness to respond to a failure, often leading to customer switching (Roschk and Kaiser, 2013).

The behaviours and attitudes of employees heavily influence the customer's evaluation of service recovery (Bitner et al., 1990; Maxham and Netemeyer, 2002). Generally, when customers describe their experiences on a service encounter, they are highly likely to refer to the service employees' behaviours (Nikbin et al., 2015a). As such, it is vitally important for all companies to train their front-line staffs, which are the face of the organisation, to communicate and deal with customer annoyances with kindness, politeness and honesty, throughout the recovery process. The greater the courtesy and empathy of staff towards customers, the higher the interpersonal fairness perceived, and the greater the level of customer satisfaction regained (Gruber, 2011; Ha and Jang, 2009; Maxham and Netemeyer, 2002; Tax et al., 1998).

IV.   Informational Justice

Informational justice is the extent to which adequacy and truthfulness information is communicated, such as an apology, justification and explanation (Colquitt, 2001). Offering an apology must be the first perceived step in any recovery situation, as it is the bare minimum information to restore psychological equity. The apology is an action that shows that the firm admits and regrets the service failure (Hui and Au, 2001). A sincere apology conveys to dissatisfied customers that the employees understand the frustrations of being inconvenienced and are willing to help them with consideration and respect (Bhandari and Polonsky, 2014; Wenchao, 2009).

Informational fairness also reflects the effectiveness of explanations. For example, offering appropriate and relevant information to explain the causes of the failure and the company's procedures to rectify the problem enhances customer perceptions of fairness (Ding and Lii, 2016; Mattila, 2006). The content of an explanation for the failure should be clear, reasonable and detailed (Colquitt, 2001). In some cases, the quality of the explanation can offset a lower level of compensation (Blodgett et al., 1997). The explanations help to lead dissatisfied customers to re-evaluate the failure by seeing things from the company's point of view, and to consider that the incident is resolved and unlikely to reoccur (Baker and Meyer, 2014). Empirical studies note that polite communication with an adequate explanation as to the failure's cause is one of the most effective approaches to regain customer satisfaction (Shaw et al., 2003; Sparks and Fredline, 2007). However, customers may react contrarily when explanations are used to mitigate the firm's accountability (Bradley and Sparks, 2009).

V.   Overall Perceptions of Justice

Prior research has proved that both what is done and how it is done have a joint effect on the customer fairness perception of service recovery (Maxham and Netemeyer, 2002; Van Vaerenbergh et al., 2012). It is well recognised in the service recovery literature that the constructs of justice are correlated and complementary (Mattila, 2001; Hess, 2008; Sandos and Fernandes, 2008; Tax et al., 1998). In order to effectively remedy customer dissatisfaction, it is highly important for a company not only to provide equitable compensations with an effective recovery method, but also to treat their customers with dignity and respect throughout the recovery process

(Wen and Chi, 2013). As such, interpersonal treatment, information provided, the recovery process and benefits will all shape customer perceptions of fairness, resulting in post-recovery satisfaction/dissatisfaction (Gruber, 2010; Kim and Leung, 2007; Nikbin et al., 2010).

According to a review of related scholarly work, previous studies have empirically examined the perceived justice of service recovery within a wide array of sectors, such as hotel (Karatepe, 2006; Kim et al., 2009), restaurant (Mattilla and Patterson, 2004; Siu et al., 2013), banking (Assefa, 2014; Maxham and Netemeyer, 2002), retail (Blodgett et al., 1997), airline (Chang and Chang, 2010; Nikbin et al., 2015a), etc. A large number of empirical studies have found that all three main dimensions of justice – distributive, procedural, and interactional justice – are positively related to customer satisfaction with service recovery (e.g. Homburg and Furst, 2005; Karatepe, 2006; Nikbin et al., 2015a; Ok et al., 2005; Tax et al., 1998). However, an investigation of the impact of all four dimensions of justice on customer trust is still lacking (Basso and Pizzutti, 2016; Ding and Lii, 2016; Hansen, 2011).

In light of the findings in service recovery research, the relative effects of justice dimensions on customers' post-recovery attitudes, such as customer trust and overall company satisfaction, have been shown to be inconsistent. Much research on service recovery only reports that the perceived justice of service recovery is an important predictor of customer satisfaction (del Rio-Lanza et al., 2009; Ding et al., 2015; Ha and Jang, 2009; Harris et al., 2006; Kau and Wan-Yiun Loh, 2006; Nikbin et al., 2010). However, few service recovery studies investigate the effect of perceived justice on customers' post-recovery trust (Basso and Pizzutti, 2016; Gelbrich and Roschk, 2011; Maxham and Netemeyer, 2002; Vazquez-Casielles et al., 2007). The results of justice perceptions are mixed depending on the types of service failure and the service industry. In the banking industry, Maxham and Netemeyer (2002) have found that procedural and interactional justice have stronger impact on customers' overall company satisfaction than distributive justice. Similarly, research has found that interactional justice has the strongest impact on post-recovery customer satisfaction in the restaurant context (Wirtz and Mattila, 2004). However, two meta analyses of 60 studies from Orsingher et al. (2010) and 87 studies of Gelbrich and Roschk (2011) have proposed that distributive justice has the strongest effect on

customer satisfaction, followed by interactional justice and, lastly, procedural justice. Gelbrich et al. (2016) point out that distributive justice is the most straightforward component for customers to evaluate, as it is related to the nature of recovery outcomes compared to procedural and interactional justice. Some empirical studies have supported that distributive justice has the greatest influence on post-recovery customer satisfaction compared to others (Kau and Wan-Yiun Loh, 2006; Smith and Bolton, 2002; Nikbin et al., 2015b; Smith et al., 1999; Tax et al., 1998), whereas other studies argues that distributive justice has a weaker impact than procedural and interactional justice on customer satisfaction as regards service recovery (Blodgett et al., 1997; Chang and Chang, 2010; Maxham and Netemeyer, 2002; Tolba et al., 2015; Wirtz and Mattila, 2004). Due to the different capabilities in regaining customer satisfaction of each dimension of justice theory, it is necessary to examine each justice dimension separately instead of as a combined factor.

In the airline industry, a highly complex service business catering to a large number of passengers from various backgrounds, issues of perceived justice are of concern. Surprisingly, few studies have focused on the airline industry (Chang and Chang, 2010; Migacz et al., 2017; Nikbin et al., 2015b; Park and Park, 2016), and fewer still have investigated service recovery strategies using justice theory (Migacz et al., 2017). The findings of the extant research examining airline service recovery that is grounded in justice theory have been inconsistent. For example, Ambrose et al. (2007) and Nikbin et al. (2015a) note that three dimensions of justice – distributive, procedural and interactional justice – directly impact on recovery satisfaction. However, other studies have similarly found that only interactional and procedural justice have significant impact on post-recovery satisfaction (Chang and Chang, 2010; Choi and Choi, 2014; Wen and Chi, 2013).

Regarding the conflicting findings, these inconsistent outcomes may be resulted from the specific nature of contexts analysed or the analytical methods used (Varela-Neira et al., 2014). As such, the relative effects of justice dimensions on customers' post-recovery trust warrant further investigation (Davidow 2014; Krishna et al., 2011). Table 2.1 illustrates the previous studies on the effect of customer perceptions of the perceived justice of service recovery.

Table 2.1: Previous studies on the effect of customer perceptions of perceived justice of service recovery

Author/s	Context	Empirical setting	Key findings
Blodgett et al. (1997)	Retailing	Experimental study using students as participants	Only distributive and interactional justice positive affect complainants' re-patronage intentions but negative distributive and interactional justice impact complainants' negative word-of-mouth intentions. No impact has found on procedural justice.
Tax et al. (1998)	Not specified	Survey study using customers as participants	Distributive, procedural and interactional justice directly affect satisfaction with complaint handing. In particular, interactional justice has the strongest impact on satisfaction with complaint handing compared to others.
Smith et al. (1999)	Restaurant and hotel	Experimental study using customers as participants	Distributive, procedural and interactional justice affect recovery satisfaction, with distributive justice showing the strongest impact.
McCollough et al. (2000a)	Airlines	Experimental study using customers as participants	Distributive, procedural and interactional justice affect satisfaction with a particular type of experience.
Maxham and Netemeyer (2002)	Banking	Survey study using customers as participants	Distributive, procedural and interactional justice direct impact overall firm satisfaction while only distributive justice directly affects satisfaction with recovery. Satisfaction with recovery has a stronger effect on word-of-mouth intent than overall firm satisfaction. However, overall firm satisfaction has a greater impact on purchase intent than satisfaction with recovery.

Author/s	Context	Empirical setting	Key findings
Wirtz and Mattila (2004)	Restaurant	Experimental study using customers as participants	Distributive, procedural and interactional justice direct affect service recovery satisfaction, which in turn, influence repurchase intentions and word-of-mouth behaviour. Especially, interactional justice has the greatest influence on service recovery satisfaction.
Mattila and Cranage (2005)	Restaurant	Experimental study using customers as participants	Distributive, procedural and interactional justice directly affect complaint dissatisfaction, which in turn, influences overall customer satisfaction and customer loyalty after the complaint.
Ok et al. (2005)	Restaurant	Experimental study using customers as participants	Distributive, procedural and interactional justice directly affect service recovery satisfaction, which in turn, influences trust, overall satisfaction and behavioural intentions. Particularly, procedural justice has the strongest impact on service recovery satisfaction compared to the other dimensions of justice.
Karatepe (2006)	Hotel	Survey study using customers as participants	Distributive, procedural and interactional justice positive affect complainant satisfaction, which in turn, influences complainant loyalty. In particular, the effect of interactional justice on complainant satisfaction appears stronger than others.
Kau and Loh (2006)	Telecoms	Survey study using students as participants	Distributive justice has been found to be the most important component on satisfaction with service recovery compared to other dimensions. Also, satisfaction with service recovery strongly influences trust in the provider and willingness to engage in positive word-of-mouth communications.

Author/s	Context	Empirical setting	Key findings
Severt (2006)	Not specified	Survey study using customers as participants	Distributive, procedural and interactional justice of justice directly impact overall justice and customer satisfaction, with distributive justice showing the strongest influence on both factors.
Sindhav et al. (2006)	Airlines	Survey study using customers as participants	All four dimensions of justice, procedural, distributive, informational and interpersonal justice, respectively, positively affect satisfaction with the overall service experience.
Ambrose et al. (2007)	Airlines	Survey study using customers as participants	All four dimensions of justice – distributive, procedural, interpersonal and informational justice – directly affect satisfaction with complaint handing, which in turn, influences overall attitude towards the organisation.
Cengiz et al. (2007)	Banking	Experimental study using customers as participants	Distributive and procedural justice directly impact on both satisfaction with service recovery and overall firm satisfaction, while interactional justice only directly impacts on overall firm satisfaction.
Santos and Fernandes (2008)	Banking and airlines	Survey study using customers as participants	Distributive, procedural and interactional justice direct impact satisfaction with the complaint handling and customer trust in the company, which in turn, affect repurchase intentions and positive word-of-mouth. However, customer trust in the employee is only affected by interactional justice.

Author/s	Context	Empirical setting	Key findings
Schoefer (2008)	Not specified	Survey study using customers as participants	Distributive, procedural and interactional justice impact recovery satisfaction both directly and indirectly through customers' emotions. Particularly, the effect of interactional justice shows the greatest direct support on recovery satisfaction and customers' emotions.
del Rio-Lanza et al. (2009)	Telecoms	Survey study using customers as participants	Distributive, procedural and interactional justice positively impact satisfaction with the service recovery, with procedural justice showing the greatest influence, as well as being only dimension affecting the emotions.
Ha and Jang (2009)	Restaurant	Survey study using customers as participants	Recovery effort in all three dimensions – distributive, procedural and interactional justice – directly impact future behavioural intentions
Kim et al. (2009)	Hotel	Survey study using customers as participants	Distributive, procedural and interactional justice positively impact satisfaction with service recovery, which in turn, impact on trust, word-of-mouth and revisit intentions. Particularly, distributive justice has the strongest influence on satisfaction with service recovery compared to others.
Chang and Chang (2010)	Airlines	Experimental study using customers as participants	Procedural and interactional justice influence recovery satisfaction, which in turn, affect customer loyalty. However, there is no evidence to support the effect of distributive justice.

Author/s	Context	Empirical setting	Key findings
Huang (2011)	Restaurant	Field study using customers as participants	Distributive, procedural and interactional justice positively impact satisfaction with service recovery, which in turn, affect repurchase intentions and word-of-mouth behaviour. Distributive justice shows the strongest predictor on satisfaction with service recovery.
Kwortnik and Han (2011)	Hotel and Telecoms	Survey study using customers as participants	Distributive, procedural and interactional justice positively affect service quality in both contexts, which in turn, impact customer satisfaction, commitment and loyalty. However, in the case of trust, only distributive and interactional justice have been found to directly impact in the hotel context and only distributive and procedural justice has been shown to directly influence in the mobile phone context.
Lin et al. (2011)	Online	Experimental study using customers as participants	Distributive, procedural and interactional justice positively affect customer satisfaction. However, only distributive justice directly influences repurchase intention, and interactional justice directly impacts on negative word-of-mouth.
Ghalandari et al. (2012)	Airlines	Survey study using customers as participants	Interactional justice directly influences post-recovery overall satisfaction, revisit intention and word-of-mouth intention. However, distributive and procedural justice directly impact only on post-recovery revisit intention and word-of-mouth intention.

Author/s	Context	Empirical setting	Key findings
Kuo and Wu (2012)	Online	Experimental study using students as participants	Distributive, procedural and interactional justice positively impact post-purchase intentions through post-recovery satisfaction. However, only distributive justice directly affects post-purchase intentions.
Wen and Chi (2012)	Airline	Survey study using customers as participants	Distributive, procedural and interactional justice directly impact customer satisfaction with service recovery, which in turn, influences trust, repurchase intentions and positive word-of-mouth intentions. However, only procedural and interactional direct affect trust.
Binh and Vi (2013)	Banking	Experimental study using customers as participants	Distributive justice has the strongest impact on recovery satisfaction, followed by interactional and procedural justice, respectively.
Siu et al. (2013)	Restaurant	Survey study using customers as participants	Distributive, procedural and interactional justice act as full mediators between prior satisfaction and post-recovery satisfaction. However, only distributive and procedural justice direct impact satisfaction with the company.
Wu (2013)	Online	Survey study using customers as participants	Distributive, procedural and interactional justice directly affect customer satisfaction, with distributive justice showing the greatest influence.
Assefa (2014)	Banking	Experimental study using customers as participants	Distributive, procedural and interactional justice directly affect recovery satisfaction, which in turn, influences customer loyalty. Particularly, interactional justice has the biggest impact on recovery satisfaction compared to other dimensions of justice.

Author/s	Context	Empirical setting	Key findings
Choi and Choi (2014)	Not specified	Survey study using students as participants	Procedural and interactional justice influence customer affection, which in turn, impacts customer loyalty and positive word-of-mouth. However, there is no evidence supporting distributive justice.
Davidow (2014)	Not specified	Survey study using students as participants	Procedural justice directly influences on both word-of-mouth likelihood and valance but not repurchase intentions. Distributive justice only impacts word-of-mouth valance while interactional justice has no direct effect on any post-complaint customer responses.
JHA and Balaji (2015)	Telecoms	Survey study using customers as participants	Distributive, procedural and interactional justice positive impact recovery satisfaction, with procedural justice showing the greatest influence. However, the moderating role of perceived quality has found only procedural and distributive justice.
Mostafa et al. (2015)	Telecoms	Survey study using customers as participants	Distributive, procedural and interactional justice directly affect satisfaction with service recovery, which in turn, influences corporate image. Procedural justice showing the greatest influence.
Nikbin et al (2015a)	Airlines	Survey study using customers as participants	Distributive, procedural and interpersonal justice significantly impact on recovery satisfaction, which in turn, influences customer loyalty. However, the effect of informational justice is not supported.

Author/s	Context	Empirical setting	Key findings
Tolba et al. (2015)	Not specified	Survey study using customers as participants	Only distributive and procedural justice affect complaint satisfaction, which in turn, influences customer satisfaction and customer loyalty. There is no evidence to support the effect of interactional justice.
Ding and Lii (2016)	Online	Experimental study using customers as participants	All four dimensions of justice positively affect satisfaction with service recovery and firm trust. Distributive justice exerted the strongest impact on satisfaction and trust, followed by interpersonal, informational and procedural justice, respectively.
Tektas (2016)	Banking	Survey study using customers as participants	Only distributive and procedural justice positively impact post-recovery satisfaction but do not support interactional justice. The moderating role of cumulative commitment affects distributive and procedural justice on post-recovery satisfaction, while the moderating role of affective commitment only impacts procedural justice.
Petzer et al. (2017)	Banking	Survey study using customers as participants	Only distributive and interactional justice direct affect service satisfaction, which in turn, influence behaviour intention.
Ziaullah et al. (2017)	Online	Survey study using customers as participants	Distributive, procedural and interactional justice impact purchase intentions both directly and indirectly through online retailers' reputation.

2.6.3 Service Recovery and Customer Relationship

Relationship marketing has emerged as a major focal point for business strategies during the past decade (Cambra-Fierro et al., 2015b). An organisation's relationship management is considered a valuable marketing strategy to attract, retain and enhance the relationship between customers and businesses (Swanson et al., 2011). Building strong customer relationships leads to a substantial improvement of a company's profitability (Gelbrich et al., 2016). However, because of the unique features of services, such as the intangibility, inseparability, heterogeneity and perishability of production and consumption (Moeller, 2010; Zeithaml et al., 1985), it is almost impossible to avoid service failures (Chang and Chang, 2010). Therefore, it is critically important for all companies to be able to deal with dissatisfaction and recover their service failures in order to maintain good relationships with customers and minimise damage caused to the brand image (Ha and Jang, 2009; Namkung et al., 2011; Nikbin et al., 2015a). The objective of service recovery is to retain customer confidence by maintaining the relationship (Choi and La, 2013; Yi and Lee, 2005). Effective recovery efforts can lead customers to re-evaluate perceptions of service quality and can overturn negative perceptions towards the firm (Siu et al., 2013). As such, providing successful service recovery is one of the most significant strategies to regain customer satisfaction; keeping customers satisfied is the ultimate goal of all businesses (Gohary et al., 2016; Kamran and Attiq, 2011). Prior studies have found that well-implemented service recovery not only helps firms in maintaining good relationships with their current customers, but also increases customer trust, the customer retention rate, long-term customer loyalty, leads to a more positive company image and consequently improves the company profit (Blodgett and Anderson, 2000; Cambra-Fierro et al., 2015b; Gruber et al., 2009; Harrison-Walker, 2001; Wirtz and Mattila, 2004).

As, in the current business world, competition among companies has become increasingly fierce, companies are at greater risk of losing customers (Park and Park, 2016). Competition reduces switching costs, which in turn reduces the market share and profitability of the organisation (Bhandari and Polonsky, 2014). Therefore, the best way to prevent customer switching is to maintain good relationships with customers (Migacz et al., 2017). Service recovery, which is the cornerstone of relationship marketing strategy, is considered as vitally significant for business

strategy to generate customer-switching resistance (Namkung et al., 2011; Kamran and Attiq, 2011). A frequently quoted study by Reichheld and Sasser (1990) states that reducing customer switching by 5% can help increase the company's profitability by up to 85%. Given the advantages of service recovery, it is worthwhile for companies to find solutions that are effective in both rectifying service failure and in regaining customer satisfaction successfully (Gelbrich and Roschk, 2011). Dissatisfied customers can be turned into satisfied ones when their problems have been resolved swiftly and successfully (Lee et al., 2016). Customers tend to generate a greater sense of trust and are more committed to the relationships when their annoyances have been remedied (Tektas, 2016). As Ha and Jang (2009) state, dissatisfied customers who have been successfully recovered tend to have stronger relationships and be more loyal to the brand than customers who have never been disappointed. Around three-quarters of customers who have been successfully remedied will repeat purchase and be more loyal to the brand (Chang and Chang, 2010). Consequently, it can be said that, in the event of service failure, effectively recovering customer satisfaction is an integral part in strengthening customer loyalty (Chebat and Slusarczyk, 2005; Dewitt et al., 2008; Karatepe, 2006; Maxham and Netemeyer, 2002).

Successful handling of customer dissatisfactions not only helps firms increase their customer retention rate, but also increases the spread of positive word-of-mouth communications (Cambra-Fierro et al., 2015a; Smith and Bolton, 2002). Fundin and Elg (2006) have found that regained secondary customer satisfactions can increase about 25% of the engaging new customers rate. Once problems have been resolved successfully, satisfied customers tend to share their positive experiences with other consumers (Kim and Chen, 2010). While the initial cost of attracting new customers is high, as they stay with the company, the cost is spread over a greater period and higher profits are regained (Ha and Jang, 2009). The advantages of long-term relationship are enormous. For example, loyal customers are willing to spend greater quantities and more often with the brand and, in some cases, they are willing to pay a premium price for the products or services they have confidence in (Dewitt et al., 2008; Nyadzayo and Khajehzadeh, 2016). Yoo and Bai (2013) also note that an increase of only 1% in customer retention rate could equate to a profits increase of as much as 100%. Moreover, effective resolution of customer dissatisfactions help

reduce marketing expenditure as the cost of reengaging established customers to repeat purchases as little as a tenth of the cost of engaging new customers (Becker, 2000; Zain, 2011).

The prior literature has suggested that another important factor in creating an efficient service recovery system is the gathering of information from dissatisfied customers (Namkung et al., 2011). Sometimes the service failure is too minor to be noticed and the provider does not recognise its importance. A customer complaint is the most meaningful source of information in order to correct the root cause of problems and improve products and service performance in the future (Phau and Baird, 2008). Unfortunately, around 70% of customers do not participate in voicing a complaint when they perceive dissatisfactions (Tronvoll, 2012). Therefore, in such a competitive market, encouraging dissatisfied customers to complain directly to the company by providing an accessible channel for customers to complain, with an effective complaint handing mechanism, is a key competitive advantage in today's market. Collecting and managing customer complaints is an integral part in determining customer-initiated market information about customer expectations and future needs. This information can be used to create strategic and tactical decisions in the future (Donoghue and De Klerk, 2010; McAlister and Erffmeyer, 2003). Additionally, Ro (2014) notes that maintaining good relationships with customers can help increase their propensity to complain directly to the provider when an unfavourable situation occurs. And gaining customer satisfaction with the business through a well-designed complaint handing mechanism can help companies to improve their standards and to re-establish an organisation's reliability and has financial benefits in the future (Jain et al., 2014).

Due to the benefits described above, effective service recovery contributes to a variety of worthwhile goals for the organisation. Service recovery has been recognised as an integral component of the organisation's overall quality, value and satisfaction program (Cambra-Fierro et al., 2015b; Mostafa et al., 2015; Smith et al., 1999). Tronvoll (2012) points out that successful service recovery management is one of the most profitable sectors in all businesses as it can generate approximately 30–150% of a return on investment. Therefore, in order to maintain positive relationships with customers and increase the company's profit growth, well-

balanced defensive and offensive marketing strategies must be used in tandem (Crisafulli and Singh, 2016; Ha and Jang, 2009). Offensive marketing strategies, including product and service promotions, loyalty programs and other relationship marketing approaches, are used to attract potential new customers, motivate sales and maintain good relationships with current customers. However, when an unfavourable incident happens, service recovery management, which is one of the most important defensive marketing strategies, is used to resolve problems at the service encounter and to recover customer dissatisfactions in order to improve product or service performances and strengthen a positive customer relationship with the company (Hansan et al., 2011; Seawrigth et al., 2008; Sun and Kim, 2013; Wang et al., 2011)

2.7 Company Reputation

The concept of company reputation has drawn academic attention from the areas of management, economics, sociology and marketing. Herbig and Milewicz (1993, p.18) define reputation as "an estimate of the consistency over time of an attribute of an entity". In other words, company reputation is conceptualised as a social identity of the company that significantly contributes to the company's success (Nguyen and Leblanc, 2001; Walsh and Beatty, 2007). Unlike company image, which is the overall impression of the company (Mostafa et al., 2015), company reputation typically builds overtime as a result of consistent performance (Keh and Xie, 2009). As such, reputation is considered as an identity of the organisation that is difficult for competitors to imitate (Wang et al., 2003). Although company image can change frequently, in the long term, these company images amalgamate into a reputation (Foroudi et al., 2014). In the marketing literature, company reputation is demonstrated as a customer overall judgement about the company's attributes (Hess, 2008; Ozkan-Tektas and Basgoze, 2017). Thus, customers generally evaluate company reputation as a summary of the company's past actions on the quality of its products or services in comparison to other competitors (Sengupta et al., 2015).

The importance of reputation increases under conditions of incomplete information during the stage of pre-purchase decisions (Wang et al., 2003). Due to the intangibility of service, the quality of services may be more difficult to evaluate by

customers. Alternatively, customers use company reputation as a surrogate indicator of service quality (Loureiro and Kastenholz, 2011; Su et al., 2016). According to the EDP, customers form their expectations of what they should receive prior to the purchase (Oliver, 1977). Company reputation will be used as a determinant to form their expectations of the company's service performance (Sengupta et a., 2015). Customers tend to have higher expectations for companies with a positive reputation and view them as delivering superior services (Haung, 2011; Roggeveen et al., 2007). Extant studies have confirmed that, in the service context, there are positive relationships between company reputation and customer perception of service quality (Chang, 2013; Hess, 2008; Nguyen and Leblanc, 2001; Roberts and Dowling, 2002; Yoon et al., 1993). Since the company reputation plays a significant strategic role in the customer evaluation process, a reputable company will benefit in drawing greater attention from both repeat and trial customers (Al-Refaie et al., 2014). Thus, company reputation is considered as a valuable strength, which the company must manage in order to shape the overall customer evaluation of the firm (Mostafa et al., 2015). As mentioned above, due to the highly intense competition in the airline industry, for an airline to have a strong reputation is considered as a key asset in determining sustainable competitive advantages of the business (Ding et al., 2015).

In light of extant services marketing research, company reputation has been considered as a key component in successfully marketing a service (Jha et al., 2013; Sengupta et al., 2015; Walsh and Beatty, 2007). Recent studies have proved that company reputation can be regarded as the level of customer confidence in the company's ability to deliver quality services (Ding et al., 2015; Walsh and Beatty, 2007). The benefits of company reputation are associated principally with the reduction of uncertainty (Keh and Xie, 2009). Thus, the reputation of the company can be viewed as a combination of admiration, respect, trust and confidence in the company's performance (Walsh et al., 2009). The extant literature has found that company reputation significantly affects customer responses, either directly or indirectly, including customer trust (Chang, 2013; Kaur and Soch, 2013), overall customer satisfaction (Walsh et al., 2006) and customer loyalty (Huang, 2011; Nguyen and Leblance, 2001; Yoon et al., 1993). Consequently, it can be said that a

strong reputation can reduce the customer's perception of risk, can encourage greater loyalty and, subsequently, contribute to superior profits (Sengupta et al., 2015).

Because company reputation is a key element in shaping overall customer perceptions of a company, it is necessary that the reputation matches the service quality provided (Gautam, 2011; Walsh and Beatty, 2007). In the event of a critical incident, it is conceivable that company reputation can have advantageous or disadvantageous effects on customer reactions to service failure (Ghalandari et al., 2012). Positive company reputation can help protect the company during a service encounter by creating a buffer or shield, leading customers to be forgiving of the failure. Since the benefits of company reputation as postulated in the literature are often associated with the reduction of uncertainty, a strong reputation may help the company offset any negative effects from the failure (Keh and Xie, 2009; Nguyen and Leblanc, 2001; Sajtos et al., 2010). When customers place their confidence in a reputable company, they generally trust that the company will be honest and act with integrity throughout the recovery process (Huang, 2011; Hess, 2008; Liao and Cheng, 2013; Walsh and Beatty, 2007). However, also to considered is that, when dealing with a reputable company, the customers tend to raise the bar of expectations on recovery outcomes (Ding et al., 2015; Tektas, 2016). Customers may come to expect more from a company with a strong reputation and, thus, be extremely disappointed when failure occurs. This situation creates a sharper immediate drop in customer satisfaction when a failure occurs for a highly reputed company than a company that is lesser reputed. Nevertheless, a better understanding of the impact of company reputation on customer trust when a service failure occurs in the airline sector appears warranted (Sengupta et al., 2015). The effect of company reputation on the perceived justice of service recovery has received relatively little empirical assessment (Ding et al., 2015). Therefore, the effect of company reputation on the relationships between each dimension of perceived justice of the service recovery and post-recovery trust will be investigated in this study.

2.8 Customer Trust

The concept of trust has been repeatedly studied in the areas of social psychology and marketing. Based on a review of literature, trust has no universally accepted

definition. This research supports the definition of trust based on the theory of commitment–trust relationship marketing by Morgan and Hunt (1994), trust is a vital strategic component to the development of long-term customer relationships. In the marketing research, trust has been defined as the "customer's perceptions of service representative confidentiality, honesty, integrity, and high ethical standards" (Coulter and Coulter, 2002, p.37). Trust builds when the customer has confidence and is willing to rely on the organisation's reliability and integrity (Garbarino and Johnson, 1999; Morgan and Hunt, 1994). In other words, trust is created from the understanding between customers and the service provider over time (Ha and Jang, 2009; Tax et al., 1998). When trust is established, any customer anxiety regarding the perceived risk in negative customer outcomes is likely to be reduced. Trust provides an assurance to customers that a company will consistently deliver quality services in the future (Choi and La, 2013; Santos and Fernandes, 2008; Singh and Sirdeshmukh, 2000). This implies that trust is a core foundation in developing strong and enduring customer relationships (DeWitt et al., 2008; Moorman et al., 1993).

Trust has been highlighted widely in the customer relationship marketing literature. Berry and Parasuraman (1991, p.114) state that "customer–company relationships require trust". Since the intangibility and experiential nature of services leads to a high level of uncertainty and ambiguity on the company's future performance, trust has become a key ingredient in evaluating and selecting a service (Singh and Sirdeshmukh, 2000). In the service sector, more than half of customers believe that having a trustworthy relationship with the firm is more important than getting the best price for the service, as customers generally buy a service before experiencing it (Coulter and Coulter, 2003). Hence, trust is one of the most significant antecedents in strengthening the customer relationship (Gwinner et al., 1998; Kim et al., 2009). Customer trust can be built through accumulated satisfaction from prior experience with the firm with regard to consistent delivery of quality, service performance and fair treatment (Choi and La, 2013). Nevertheless, the unavoidability of service failure is a key factor that leads to reduced customer trust, as it elevates concerns and risk perceptions, which can damage the customer–company relationships (Rotte et al., 2006). Importantly, research has found that successful service recovery can help rebuild such trust, in some cases leading to greater trust than if no failures have occurred (Kau and Wan-Yiun Loh, 2006; Vidal, 2012).

2.8.1 Service Recovery and Customer Trust

In the context of service recovery, customer trust is described as the emotional security that reflects the willingness to accept the company's recovery resolution on the service failure (Sun and Lin, 2010). Due to the intangibility of services, trust is crucially important in dispelling customer perceptions of vulnerability and uncertainty during service encounter. Once a service failure occurs, customer responses are mainly dependent on the confidence level that the customer has placed on the company (Rizan et al., 2014). If customers believe that the company is competent and eager to correct the problem, they tend to accept the company's recovery effort and continue the relationship. In contrast, if there is no trust in the company, the customer will be more sensitive to the failure and may engage in customer switching to a competitor (Singh and Sirdeshmukh, 2000).

Perceived justice of service recovery has been found to be a critical precursor of customer trust (Cheng et al., 2017; DeWitt et al., 2008; Moorman et al., 1993). Empirical studies have proved that service recovery influences customer trust through customer perceptions of justice (Dewitt et al., 2008; Gelbrich and Roschk, 2011; Maxham and Netemeyer, 2002; Vazquez-Casielles et al., 2007). It is well acknowledged that superior service recovery has a great influence on the degree of customer trust (Aurier and Siadou-Martin, 2007; Dewitt et al., 2008; La and Choi, 2012; Wen and Chi, 2013), whereas poor response to a service failure can cause a double deviation effect, which severely damages trust (Basso and Pizzutti, 2016; Liu, 2006). Thus, to regain customer confidence with the firm, implementing effective service recovery is considered as a second chance to prove to affected customers that the company has the ability and willingness to rectify the problem (Ha and Jang, 2009). Based on the EDP, when a company provides effective service recovery to rectify a service failure beyond customer expectations, customer reciprocal behaviour is enhanced, which in turn, rebuilds customer trust in the company (DeWitt et al., 2008; Gustafsson and Johnson, 2002; Sajtos et al., 2010). Hence, once a critical incident occurs, consistent delivery of customer confidence over time by providing successful service recovery can strengthen customer trust (Singh and Sirdeshmukh, 2000; Sun and Lin, 2010) and overall customer satisfaction (Hennig-Thurau et al., 2012; Kwortnik and Han, 2011; Ok et al., 2005), which

preserves customer loyalty (Cambra-Fierro et al., 2014; Krishna et al., 2014; Wan et al., 2011).

It can be said that trust is the primary essential mechanism in the building of relationship durability and customer loyalty (DeWitt et al., 2008; Garbarino and Johnson, 1999; Kim et al., 2001; La and Choi, 2012). Trust helps in reducing customer perceptions of risk and uncertainty inherent in service, allowing the customer to make confident predictions about the company's future behaviour (Ok et al., 2005). Empirical studies have certified that the development of trust demonstrates a more durable customer relationship than customer satisfaction (Morgan and Hunt, 1994; Ranaweera and Prabhu, 2003; Tektas, 2016). Thus, in this study, post-recovery trust is considered as a direct outcome of perceived justice and a main contributor in overall company satisfaction and customer loyalty.

2.9 Customer Loyalty

While there are various definitions of loyalty, the most common definition of loyalty was described by Oliver (1997, p. 34) as "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior". In other words, a loyal customer has a positive attitude towards the brand together with a high level of trust and commitment to repurchase a preferred product or service in the future (Kwortnik and Han, 2011; Yoo and Bai, 2013). This means a true loyal customer requires both compositions of attitudinal (e.g. customer preferences and propensity towards the brand) and behavioural (e.g. customer repeated purchase of the same brand) aspects (Aksoy, 2013; Wang et al., 2008). For example, loyal passengers, preferring one airline over all others, will frequently use an airline whenever possible, and are willing to pay a premium price, above market value of the service (Calisir et al., 2016). As this study aims to examine loyalty as a value associated to the customer rather than the brand, the term "customer loyalty" is used instead of "brand loyalty".

Customer loyalty is one of the most widely studied areas of interest among service marketing researchers (Ball et al., 2004; Berry and Parasuraman; 1991; Kim et al., 2014; Migacz et al., 2017; Picon-Berjoyo et al., 2016). It is well acknowledged that customer loyalty is critical to a company's achievement, as customer loyalty is a reflection of the strength of the customer–company relationship (Alvarez et al., 2009; La and Choi, 2012). Many researchers agree that maintaining satisfied customers is a key factor, influencing the development of sustainable relationships (Jain et al., 2014; Maxham, 2001). Customer loyalty is crucial for company survival in the airline industry, as this sector is mature and the competition is strong (Calisir et al., 2016; Sajtos et al., 2010). Research has proved that defensive marketing strategies can be more profitable in increasing sales than offensive marketing strategies (Kassim and Abdullah, 2010; Uncles et al., 2003). For this reason, many companies become more interested in a defensive marketing strategy, particularly on service recovery management, to increase their market share and profitability by maximising customer retention.

With an increased interest in customer relationships, both academics and practitioners have agreed that customer loyalty is a strategic component in building an enduring competitive advantage in today's business environment (Ball et al., 2004; Sandada and Matibiri, 2015). The benefits of customer loyalty arise from the regular and repeat purchase of loyal customers, contributing to increased sales, reduced marketing costs, and eventually, higher overall profitability (Tax et al., 1998; Wang et al., 2011). Mueller et al., (2003) note that increasing the customer retention rate by 20% has the same effect on the company's profit as cutting the production costs by 10%. It has been verified that building solid customer relationships is directly proportional to the economic success of businesses (Singh and Goyal, 2014; Kandampully et al., 2015). As such, loyal customers are more attractive for the company because they tend to be less price sensitive, less influenced by competitors' promotions and, importantly, help bringing in new customers by spreading recommendations (Rizan et al., 2014; Yoo and Bai, 2013). In the airline sector, loyal passengers help to increase revenue by as much as 2.4% per year (Chang and Chang, 2010). Consequently, customer loyalty is a vital asset for any airline business since it is more cost-effective than attracting new customers.

The longer the passengers stay with the airline, the more profitable the airline can get (Singh and Goyal, 2014).

2.9.1 Service Recovery and Customer Loyalty

Since the expectations and demands of today's customers are rising at the dramatic rate, even the best airline still makes mistakes in trying to meet their customer expectations (Kim and Cho, 2014; Rizan et al., 2014). Once customers experience a service failure, offering successful service recovery is a key principle for the company to retain customer loyalty (Calisir et al., 2016; Kim et al., 2014). Previous studies have proved that the higher the level of the customer perceived fairness judgement of the service recovery, the greater the possibility of future customer loyalty (Chebat and Slusarczyk, 2005; La and Choi, 2012). When the problem has been resolved extremely well, customers tend to have stronger relationships and be more loyal to the brand, in some cases, better than the customers' prior satisfaction levels (Ha and Jang, 2009; McColl-Kennedy and Spark, 2003). Thus, with respect to service failure, a successful recovery strategy is fundamental to developing, maintaining and enhancing long-term relationships with customers, whereas poor service recovery responses may prompt customers to switch (Miller et al., 2000; Kau and Wan-Yiun Loh, 2006). This steady increase in loyal customers can lead to substantial gains in the company's profitability (Chou, 2015; Maxham, 2001).

In the service recovery context, many scholars have confirmed that customer trust and overall customer satisfaction are fundamental elements of customer loyalty (Dagger and O'Brien, 2010; Tax et al., 1998). Reichheld and Schefter (2000, p. 107) highlight the significance of trust in that "to gain the loyalty of a customer, you must first gain trust". Trust is a key determinant of customer loyalty as trust helps strengthen customer–service provider relationships by reducing risk in a purchase. In contrast, customers, who are not willing to trust the company, are unlikely to be loyal (Chaudhuri and Holbrook, 2001; Dewitt et al., 2008; Helgesen, 2006; Rizan et al., 2014). In short, it can be said that loyal customers usually trust in the company but the reverse is not always true (Singh and Sirdeshmukh, 2000). When the customers trust the company, they tend to have a strong intent to maintain a stable relationship (Dagger and O'Brien, 2010). Thus, customer loyalty helps to reduce

customers' proneness to switching companies for solely economic reasons because customers tend to avoid putting themselves into uncertain situations dealing with an unfamiliar company (Al-Jader and Sentosa, 2015; Hennig-Thurau et al., 2002).

However, failing to recover a dissatisfied customer is an adverse source that drives customer distrust in the company and invites customer switching behaviour (Nikbin et al., 2012a). Customer switching behaviour is defined as the terminated responses of dissatisfied customers in order to breakdown the relationship with the provider and switch to an alternative provider in the market (Akamavi et al. 2015; Ro, 2014). Switching actions usually occur when customer dissatisfactions are extreme (Liu, 2006; Nikbin et al., 2012a). Around half of dissatisfied customers who experience inappropriate service recovery responses engage in switching behaviour (Silber et al., 2009). Research has found that even loyal customers can degrade to disappointed ones when the company repeatedly fails to handle problems (Homburg and Furst, 2005). The degradation of customer loyalty can severely affect the bottom line of the firm. It is not only that one customer is lost and boycotts the firm, a large number of consumers are lost due to the effect of negative word-of-mouth communications, which can damage the company's reputation and trust in the market catastrophically (Dewitt et al., 2008; Ha and Jang, 2009). Consequently, both academics and practitioners agree that the most effective way to overcome customer disappointments and even salvage the relationship is to provide well-enacted service recovery when an unfavourable situation occurs (Nguyen et al., 2012; Rashid and Ahmad, 2014). Accordingly, this study considers customer loyalty, a critical component of an enduring competitive advantage, as the final outcome in the research framework.

2.10 Gaps in the Literature

The demand for air travel has increased steadily over the years (ATAG, 2017). There are now more choices of airline providers available to customers in the market, intensifying the competition. Customers normally hold certain expectations when they travel; consequently, service failure can lead to customer dissatisfaction and even customer defection if not handled properly (Bitner, 1990; Nikbin and Hyun, 2014). To offset negative customer perceptions of service failure, airlines usually

employ service recovery, the process by which a company attempts to rectify an unfavourable situation in order to restore traveller confidence and enhance traveller satisfaction with the airline (Chang and Chang, 2010; Migacz et al., 2017; Park and Park, 2016). Service recovery can minimise the negativity of a failure (Ha and Jang, 2009; Maxham and Netemeyer, 2002; Tax et al., 1998; Wen and Chi, 2013) and might even strengthen a positive customer relationship with the company (Chebat and Slusarczyk, 2005; DeWitt et al., 2008; Gelbrich and Roschk, 2011). However, developing an effective service recovery strategy to satisfy all customers is one of the most difficult tasks for the airline companies (Gelbrich and Roschk, 2011). Research shows that the number of customer complaints to airline companies have increased by about 20% in 2015 (IATA, 2016). Many are left dissatisfied with the way companies handle and recover their dissatisfactions (CAA, 2016; Cambra-Fierro et al., 2015b). Given the important of service recovery, it is worthwhile for this research to find solutions that are effective in both recovering customer satisfaction and in strengthening the customer relationship.

According to a review of the existing services marketing literature, previous studies have empirically examined perceived justice of service recovery within a wide array of sectors, such as hotel (Kim et al., 2009; Smith et al., 1999), restaurant (Mattilla and Patterson, 2004; Siu et al., 2013) and banking (Chebat and Slusarczyk, 2005; Maxham and Netemeyer, 2002). Surprisingly, few studies have focused on the airline industry (Migacz et al., 2017; Nikbin et al., 2015b; Park and Park, 2016), and fewer have investigated customer evaluations of service recovery using justice theory (Migacz et al., 2017). Justice theory is one of the most used concepts in service recovery research that explains customers' fairness judgements of a company's performance when a service failure occurs (Kim et al., 2012; Migacz et al., 2017). The vast majority of previous studies address that customers assess the fairness of recovery to evaluate a particular incident from a three-factor structure of justice: (i) distributive, (ii) procedural, (iii) interactional justice (Dewitt et al., 2008; McColl-Kennedy et al., 2003; Smith and Bolton, 2002; Tax et al., 1998). However, to provide a better fit for analysing a fairness judgement of service recovery, four factors of justice – (i) distributive, (ii) procedural, (iii) interpersonal and (iv) informational justice – will be investigated in this study.

Much research on service recovery reports that perceived justice of service recovery is an important predictor of customer satisfaction (del Rio-Lanza et al., 2009; Ding et al., 2015; Ha and Jang, 2009; Harris et al., 2006; Kau and Wan-Yiun Loh, 2006; Nikbin et al., 2010). However, there is limited research into the direct impact of customer perceived justice of service recovery on post-recovery customer behaviour (Fatma et al., 2016; Nikbin and Hyun, 2017; Van Vaerenbergh and Orsingher, 2016; Xie and Heung, 2012). According to Dewitt et al. (2008), they have found that, in the event of service failure, service recovery cannot assure customer loyalty unless customer trust is restored. Given the significance of customer trust in the situation of uncertainty, this thesis seeks to extend the current knowledge by examining the direct effects of dimensions of customer perceived justice on post-recovery customer trust. Consistent with the dynamic view of customer loyalty, customer trust will lead to overall customer satisfaction, which plays a central role in a loyalty model (Han et al., 2008; Hennig-Thurau et al., 2012; Johnson and Gustafsson, 2000). Correspondingly, this study builds on the existing literature by examining that, following successful service recovery, post-recovery customer trust (the outcome of perceived justice) will lead to overall company satisfaction and customer loyalty, respectively. This may help the extant service recovery literature to gain a fuller understanding of how customers' perceptions of perceived justice of service recovery drives customer loyalty in the airline context.

While there are many studies on service failure and recovery, there are still very limited studies concerning the consequences of factors external to recovery encounters on the judgement of the service recovery (Basso and Pizzutti., 2015; Hur and Jang, 2016; Migacz et al., 2017). The recent service recovery research suggests that the effectiveness of service recovery is usually contingent upon external factors that function as moderators (Nikbin et al., 2015b). In the airline context, customer attributions about the service failure (Iglesias et al., 2015; Van Vaerenbergh et al., 2014) and company reputation (Ding et al., 2015; Sengupta et al., 2015) are the most relevant to explaining customer responses following service recovery, and yet have received little attention from prior scholars. According to Van Vaerenbergh et al. (2014), it has been found that customer perceptions of service failure attributions can influence their judgements of company's recovery efforts. The investigation of this pursuit constitutes attribution theory that is, a theory about how people make their

causal explanations regarding an unfavourable situation (Heider, 1958). Therefore, this thesis brings together studies of justice theory and attribution theory in an effort to enhance understanding of customer psychological process and behaviour in the context of service failure and recovery encounter. All three attributed causes of service failure - locus of causality (who caused the failure?), stability (is the failure likely to recur?) and controllability (is the failure preventable?) (Weiner 2000) - were used as moderators on the relationships between each dimension of justice and post-recovery customer trust to explain how customer perceived justice of service recovery in different service failure attributions.

Additionally, due to the unique nature of services, company reputation is a valuable intangible asset that plays a significant strategic role on the customer evaluation process (Loureiro and Kastenholz, 2011; Su et al., 2016). However, a better understanding of the impact of company reputation in recovering customer relationships in the event of service failure appears warranted (Ding et al., 2015; Migacz et al., 2017). This study further builds on the study of Sengupta et al. (2015) that the effectiveness of service recovery may be contingent upon customer perceptions of company reputation. Thus, company reputation is used as another moderators on the investigated relationships in the conceptual framework. This can help extend prior service recovery research on the effect of company reputation on customer perceived justice of service recovery in relation to their loyalty recovery in the airline industry. With this research, the extant service recovery literature can gain a profound understanding of which justice dimensions customers use to evaluate under which attribution of service failure and which level of company reputation a company can maximise long-lasting relationships with its customers.

2.11 Chapter Summary

This chapter presents a critical review of the literature pertinent to the research areas of interest and represents a fundamental step in the process of conducting the research. This research follows a deductive approach to review the literature, aims at the identification of research gaps in the extant knowledge and informs the development of a theoretical framework for the research. This chapter has firstly discussed EDP, which is the main theoretical foundation in this study. A clear

interpretation of the notion of attribution and justice theory in the context of service recovery has been provided. Then, a dynamic view of customer loyalty, consisting of customer trust, overall company satisfaction and customer loyalty, has been examined. With respect to the critical review of the related literature, research gaps have been clearly identified. Lastly, this research has found a need for further investigation on the impact of factors external to the recovery encounter, including service failure attributions and company reputation, on customer perceptions of perceived justice of service recovery in relation to customer loyalty. The construction of the research conceptual framework and the development of the research hypotheses will be investigated and discussed in the following chapter.

CHAPTER 3

CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

3.1 Introduction

The review of the literature in the previous chapter provides the basis for developing the research conceptual framework and related hypotheses. The conceptual framework of this study therefore aims to address the research objectives and fill the research gaps identified through the review of the extant literature. The research conceptual framework and proposed research hypotheses are firstly presented and graphically illustrated in this chapter. There are seven main constructs considered in the research framework. These include four-dimensional constructs of the perceived justice of service recovery (distributive, procedural, interpersonal and informational justice) linked to post-recovery trust, overall company satisfaction and customer loyalty. The discussions of the theoretical underpinning and of the rationale for each testable hypothesis in this framework are provided in sequence. Then, the moderating effects of the factors external to the service encounter, including three attributed causes of service failure (locus of causality, stability and controllability) and company reputation depicted in this research framework are presented and theoretically examined. Lastly, a summary of the chapter is presented.

3.2 Conceptual Framework and Hypothesis Development

The central premise of this research is to investigate the impact of customer perceptions of perceived justice of service recovery and those factors external to the recovery encounter, including service failure attributions and company reputation, in relation to customer loyalty in the airline industry. The airline industry is especially prone to service failures since there are high degree of human involvement in all processes of service delivery. Service recovery has become a key strategic component used by the airlines to restore positive relationship with customers after an unfavourable incident. To strengthen long-lasting customer relationships, it is vital for the airline companies to understand how to implement successful service recovery strategies in the event of service failure. The researcher believes that

customer perceptions of the fairness judgement of service recovery in restoring customer trust will differ depending on customer perceptions of service failure attribution and the company reputation level. Since flight delay has been counted as the type of service failure of most concern in the airline sector (Bowen and Headley, 2017), this study has selected flight delay as a hypothetical case of service failure. Likewise, customers' perceptions of flight delay can exhibit discrepancies in terms of the attributed cause of failure and customer expectations of the airline's recovery efforts. In order to account for the different perceptions of service fairness between full service airlines and low-cost airlines, this study only focuses on full service airlines and excludes low-cost airlines because customer expectations of low-cost airlines' services are lower (Chou, 2015).

With regard to the research conceptual framework, the concept of justice is used to describe a theoretical framework for the customer evaluation of service fairness (Tax et al., 1998). To provide a better fit for analysing the perceived justice of service recovery on rebuilding customer trust, four-dimensional constructs – namely distributive, procedural, interpersonal, and informational justice – will be examined. Since, the notion of trust is more relevant to investigate long-lasting relationships in the situation of uncertainty (Dewitt et al., 2008; Gwinner et al., 1998; Kau and Wan-Yiun Loh, 2006; Kim et al., 2009), post-recovery trust is employed as a direct outcome of perceived justice in this study. This view is consistent with Morgan and Hunt's work (1994), showing that the presence of trust reflects a stronger relationship commitment than customer satisfaction. Specifically, recent research has confirmed that, in the event of service failure, service recovery cannot assure customer satisfaction and customer loyalty unless customer trust is restored (Fatma et al., 2016, La and Choi, 2012). To maximise customer loyalty in the event of service failure, it is recognised in the literature that customer trust and overall satisfaction are essential components of the relationship (Hart and Johnson, 1999; La and Choi, 2012; Kwortnik and Han, 2011; Ok et al., 2005). Therefore, in this research model, post-recovery trust (the outcome of perceived justice) will lead to overall company satisfaction and customer loyalty, respectively. Additionally, to further examine the impact of factors external to the recovery encounter on each of the justice dimensions, three attributed causes of failure – locus of causality, stability

and controllability – and company reputation will be investigated in this research model as moderators.

This research firstly investigates the effect of each dimension of perceived justice with regard to service recovery on post-recovery customer trust (H1a–H1d). Then, consistent with the dynamic view of customer loyalty, the influences of post-recovery trust on overall company satisfaction (H2) in relation to customer loyalty (H3) will be examined. Lastly, the moderating roles of the locus of causality (H4a–H4d), stability (H5a–H5d), controllability (H6a–H6d) and company reputation (H7a–H7d) on the relationships between each construct of perceived justice and post-recovery customer trust will be investigated. A visual presentation of this research conceptual framework with the hypotheses, showing how the constructs relate to each other to determine the relationships of interests, is shown in Figure 3.1. The element of the research hypotheses is presented in Table 3.1.

Figure 3.1: The research conceptual framework
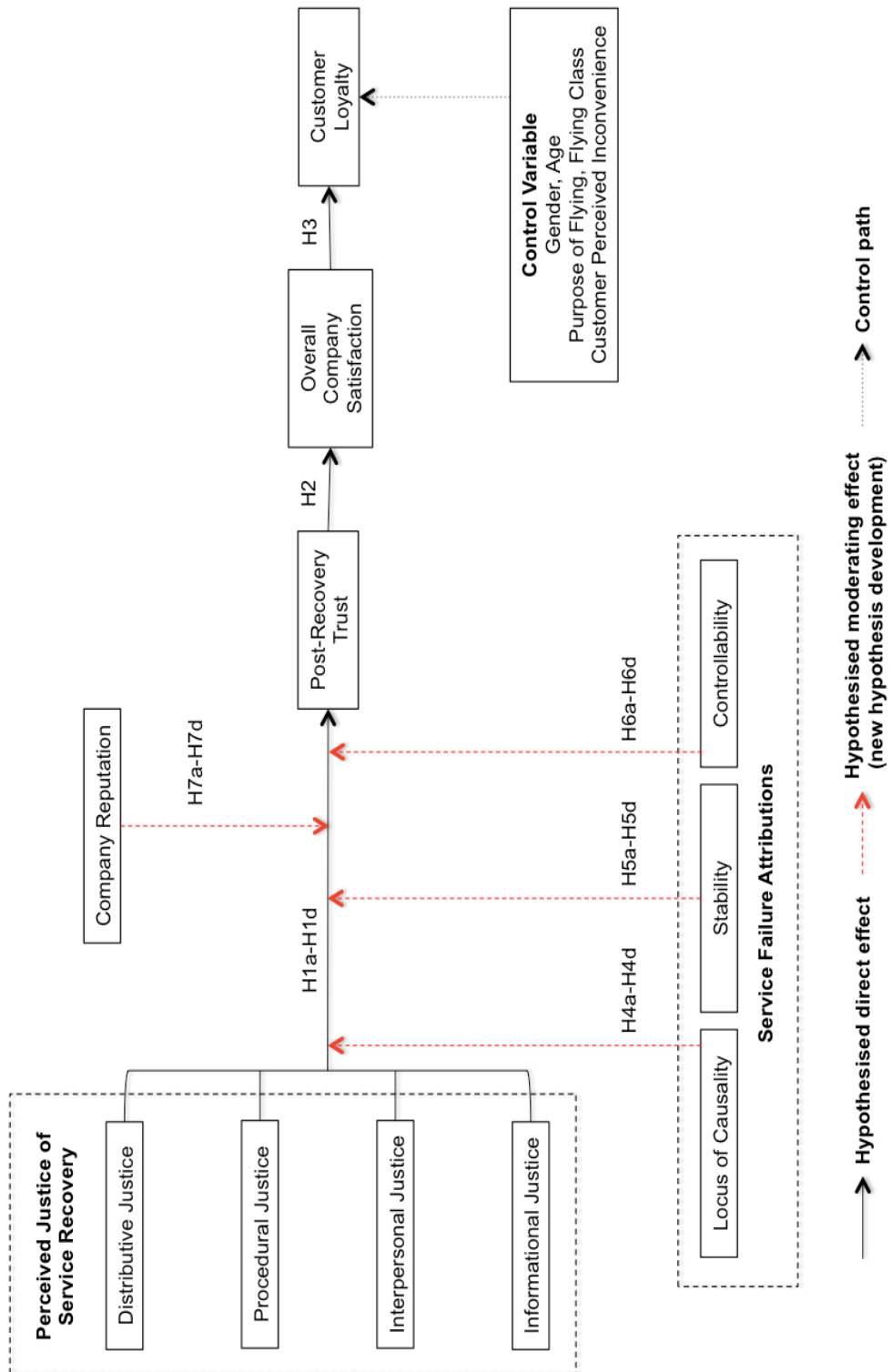
Table 3.1: The elements of the research hypotheses

	Research Hypotheses
H1a	Perceived distributive justice elicited by fair treatment will have a positive influence on post-recovery customer trust.
H1b	Perceived procedural justice elicited by an efficient recovery process will have a positive influence on post-recovery customer trust.
H1c	Perceived interpersonal justice elicited by the attentive behaviour of employees will have a positive influence on post-recovery customer trust.
H1d	Perceived informational justice elicited by adequate information provided will have a positive influence on post-recovery customer trust.
H2	Following service recovery, post-recovery trust will have a positive influence on overall company satisfaction
H3	Following service recovery, overall company satisfaction will have a positive influence on customer loyalty.
H4a	The locus of causality will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).
H4b	The locus of causality will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).
H4c	The locus of causality will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).
H4d	The locus of causality will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).
H5a	The stability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).
H5b	The stability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).

	Research Hypotheses
H5c	The stability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).
H5d	The stability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).
H6a	The controllability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.
H6b	The controllability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.
H6c	The controllability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.
H6d	The controllability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.
H7a	Company reputation will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation
H7b	Company reputation will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation

Research Hypotheses	
H7c	Company reputation will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation
H7d	Company reputation will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation

3.2.1 The Impact of Perceived Justice of Service Recovery on Post-Recovery Customer Trust (H1)

Service recovery refers to the actions that the company takes in response to service failure in order to compensate for that failure (Kamran and Attiq, 2011; Sparks and McColl-Kennedy, 2001). The objective of service recovery is to retain customer confidence by maintaining the relationship (La and Choi, 2012). Perceived justice is recognised as a key judgement in the customer assessments of the company's recovery efforts (Tax et al., 1998). In this study, the concept of justice theory is used to understand the psychological processes underlying customer evaluations of service recovery during service encounters. Such justice initiatives are used to manage post-recovery customer trust.

Trust is defined as "the expectations held by the consumer that the service provider is dependable and can be relied on to deliver on its promises" (Sirdeshmukh et al., 2002, p.17). Due to the unique nature of services, trust is a prerequisite in creating long-term customer–company relationships (Santos and Fernandes, 2008). The benefits of trust are numerous; trust provides customers with a sense of comfort in knowing what to expect in a service encounter (Dewitt et al., 2008). Therefore, trust is the most significant ingredient in promoting marketing outcomes, such as customer loyalty (Garbarino and Johnson, 1999; Kim et al., 2009; Rizan et al., 2014). Unfortunately, when a service failure occurs, customers may experience a loss of trust in the service performance, impacting any future purchase. Although service failure is a key factor with regard to breach of trust (Rotte et al., 2006),

successful service recovery can help rebuild trust, in some cases, better than if no failures have occurred (Kau and Wan-Yiun Loh, 2006). As such, the restoration of customer trust via effective service recovery is considered as a key priority for the company (Dewitt et al., 2008; Fatma et al., 2016).

In the context of service recovery, customer trust can be described as the emotional security that reflects a willingness to accept the company's recovery resolution on a service failure (Sun and Lin, 2010). Empirical studies have shown that service recovery influences customer trust through customer perceptions of justice (Dewitt et al., 2008; Gelbrick and Roschk, 2011; Maxham and Netemeyer, 2002; Vazquez-Casielles et al., 2007). Post-recovery customer responses can be explained through equity of exchange. Service failure and service recovery initiate an exchange in which the service failure create negative customer experiences and the company employs service recovery to offset the negative perceptions. In order to achieve a positive post-recovery outcome, the company must ensure that the recovery effort provides a benefit greater than the customer's loss (Cheng et al., 2017; Grewal et al., 2008). According to the EDP, customer trust develops when customers feel that the service recovery offered to rectify the problem has at least met their expectations. In contrast, the company is perceived as untrustworthy when inadequate service recovery has been given (DeWitt et al., 2008). Customers expect at least fair treatment in an exchange, and assess fairness in terms of the perceived justice of service recovery (Tax et al., 1998). Successful service recovery can increase customer confidence in the company as it makes customers perceive that the company can fulfil its promises. Customer trust strengthens when customers feel that they benefit from the relationship (Kau and Wan-Yiun Loh, 2006; Vazquez-Casielles et al., 2007; Wen and Chi, 2013). Thus, what is done and how it is done during the service recovery process can help to build stronger bonds in the customer–company relationship (Choi and La, 2013; Han et al., 2008; Ok et al., 2005; Kim et al., 2009).

In light of the abundance of findings on the relative effects of the justice dimensions on post-recovery customer trust, there is little research in the context of service failure and service recovery (Basso and Pizzutti, 2016; DeWitt et al., 2008; Gelbrich and Roschk, 2011; Kim et al., 2009; Maxham and Netemeyer, 2002; Vazquez-Casielles et al., 2007). Previous research that investigates the impact of four

dimensions of justice on post-recovery trust is still lacking (Basso and Pizzutti, 2016; Ding et al. 2015; Fatma et al., 2016). As such, a four-factor structure of the perceived justice of service recovery, including distributive, procedural, interpersonal and informational justice, will be evaluated in this research. These four different constructs refer to the propriety of customer decisions about the outcome of service recovery, the recovery resolution to solve the problem, the attentive behaviour of employees and the adequate information provided, respectively (Colquitt, 2001; Hess, 2008; Tax et al., 1998). Therefore, it may be beneficial to understand what the customer specifically believes to be fair when evaluating the company's recovery efforts in order to improve the degree of post-recovery customer trust. Based on this rational, this research assumes that there is a direct positive relationship between each dimension of perceived justice of service recovery and post-recovery trust. The hypothesised effects are illustrated in Figure 3.2. A discussion of the theoretical rationale for the hypothesised effects follows.

Figure 3.2: Hypothesised effects of customer perceptions of justice dimensions and post-recovery customer trust
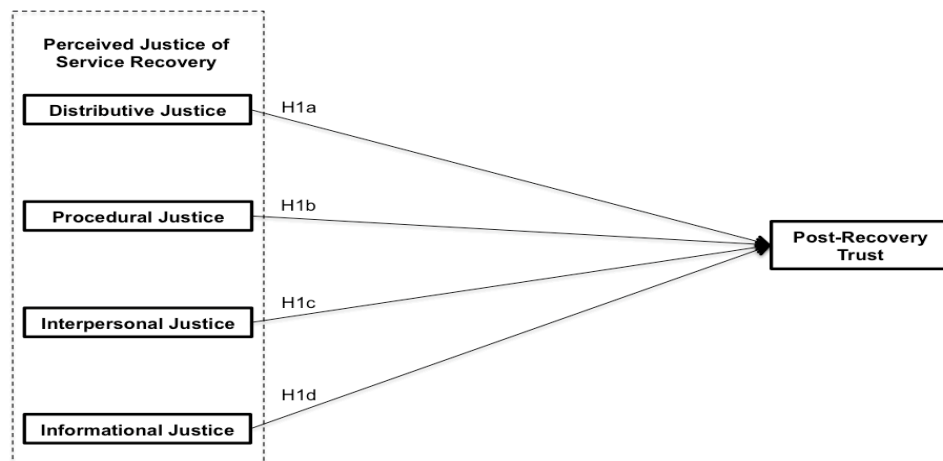
a) Distributive Justice (H1a)

Distributive justice describes the perception of fairness of the actual outcome of service recovery (Blodgett et al., 1997). The concept of distributive justice is derived from equity and social exchange theory (Tax et al., 1998). Once customers experience service failure, they perceive inequity in an exchange. To restore equilibrium to the exchange relationship, the company must ensure that the

outcomes of the service recovery compensate the customer's loss from the failure (Davidow, 2003). Empirical research supports that compensation is a key outcome of distributive justice (Ha and Jang, 2009; Maxham and Netemeyer, 2002; Gelbrich and Roschk, 2011). Compensation to reimburse the failure is an opportunity to prove to dissatisfied customers that the firm has the ability and willingness to rectify the problems in order to restore customer confidence. Different customers perceive fairness regarding the judgement of compensations differently depending on the basis of their perceptions of loss. Thus, offering acceptable compensation for the failure can increase the perception of distributive justice, whereas unfair compensation may lead to a double deviation effect, which exacerbates the incident (Gruber et al., 2011; Liu, 2006). Similarly, it can be assumed that fair treatment for the flight delay may reassure customers that the airline is behaving in a trustworthy manner. Fair compensation to reimburse for the flight delay can restore a greater level of post-recovery customer trust. Hence, it is hypothesised that:

H1a: Perceived distributive justice elicited by fair treatment will have a positive influence on post-recovery customer trust.

b) Procedural Justice (H1b)

Procedural justice refers to the way customers are treated throughout the recovery process (Sparks and McColl-Kennedy, 2001). In this case, procedural justice is dependent on responsiveness, timeliness and the convenience of the service recovery process (Smith et al., 1999). Efficient recovery procedure helps customers to manage uncertainty as it makes them believe that the company has greater control regarding rectifying the failures in an effective and straightforward manner. Rapid reaction to the problem is also critical in successfully recovering procedural justice because it makes customers perceive that the firm cares about them and is being attentive (Mattila and Patterson, 2004; Mostafa et al., 2014; Tsai et al., 2014). In contrast, customers believe that a poor recovery process usually leads to unfair outcomes, which may even cause customers to lose confidence in the company. Customers perceive an improper and slow recovery process as an incompetent reaction, thereby having a negative effect regarding the trustworthiness of the company (Ball et al., 2004; Krishna et al., 2014). As such, when in the case of an airline's flight delays, easy-to-invoke recovery processes with rapid responses may help in restoring greater

fairness to the relationship than a hard-to-invoke process. Hence, an efficient recovery process can help mitigate any loss of customer trust caused by the delay. Formally, it is hypothesised that:

H1b: Perceived procedural justice elicited by an efficient recovery process will have a positive influence on post-recovery customer trust.

c) Interpersonal Justice (H1c)

Interpersonal justice refers to the attentive behaviour of employees during service encounters (Tax et al., 1998). Customers generally base their evaluations largely on employee behaviour and attitude (Kamran and Attiq, 2011). Customers perceive fairness judgements of interactions when they are treated fairly by employees, with politeness, empathy and concern, throughout the recovery process. The greater the courtesy and empathy of the employees towards the customer, the higher the interpersonal fairness perceived (Roschk and Kaiser, 2013). In contrast, customers may even feel anger when they are treated unfairly and inappropriately by employees (Kau and Wan-Yiun Loh, 2006). Customers tend to build stronger bonds when the company is credible and demonstrates that they care about the relationship (Dewitt et al., 2008). Thus, making best efforts to resolve the problem may help to achieve higher perceptions of interpersonal justice, which in turn, recovers customer confidence in the company. In the same vein, when an airline's staff interact with empathy and concern during the service encounter, customers are more likely to restore to a higher degree any trust lost from the flight delay. Consequently, it is hypothesised that:

H1c: Perceived interpersonal justice elicited by the attentive behaviour of employees will have a positive influence on post-recovery customer trust.

d) Informational justice (H1d)

Informational justice refers to customer perceptions of the adequacy and truthfulness of information communicated during service encounters (Colquitt, 2001). Employees are considered as the main actors in communicating the reasons that the service failed (Liao, 2007). Offering appropriate and relevant information to explain the causes of the problem and the company's procedures to rectify the problem enhances

customer perceptions of fairness (Bhandari and Polonsky, 2014). Informational fairness can be evaluated as a reflection of the effectiveness of explanations (Sparks and Fredline, 2007). Providing explanations help in leading dissatisfied customers to re-evaluate the failure by seeing things from the company's point of view and that the company is making best efforts to make sure that the incident is resolved and unlikely to reoccur (Baker and Meyer, 2014; Mattila, 2006). In contrast, customers may react badly when such explanations are used to mitigate the firm's accountability (Bradley and Sparks, 2012). Thus, during the service encounters, providing a clear, reasonable and detailed explanation can help in offsetting negative perceptions from the failure, which in turn, directly creates customer perceptions of informational justice. In a similar way, an adequate explanation to describe why the flight is delayed may enhance a higher degree of post-recovery trust. Accordingly, it is hypothesised that:

H1d: Perceived informational justice elicited by adequate information provided will have a positive influence on post-recovery customer trust.

3.2.2 The Impact of Post-Recovery Customer Trust on Overall Company Satisfaction (H2)

The theoretical explanation for the hypothesis of customer trust and overall company satisfaction in the context of service recovery will be discussed in this section. This study hypothesises that, following service recovery, post-recovery trust will positively impact on overall company satisfaction, as illustrated in Figure 3.3.

Figure 3.3: Hypothesised link between post-recovery customer trust and overall company satisfaction
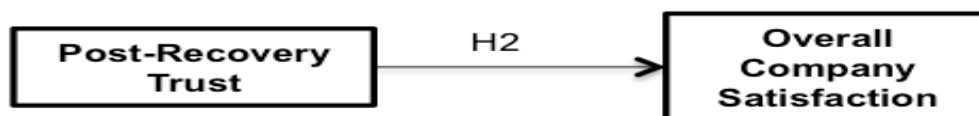
Reichheld and Schefter (2000, p. 107) highlight the significance of trust in that "to gain the loyalty of a customer, you must first gain trust". It is recognised in the literature that customer trust and overall customer satisfaction are essential components of relationship (Dagger and O'Brien, 2010; Tax et al., 1998). Customer trust is even more important in the service context, due to the intangibility and heterogeneity characteristics of service, which makes trust a key ingredient in evaluating and selecting a service (La and Choi, 2012; Singh and Sirdeshmukh, 2000). Recent scholars have confirmed that customer trust is a direct antecedent of overall customer satisfaction (Kwortnik and Han, 2011; Wang et al., 2008; Rizan et al., 2014; Sajtos et al., 2010). Trust has frequently been studied as an antecedent of a growing relationship (Singh and Sirdeshmukh, 2000). Trust helps in reducing customer perceptions of risk in an exchange, allowing customer to make confident predictions about the company's future behaviour (Morgan and Hunt, 1994; Ok et al., 2005). These benefits of trust help develop attachment and create the desire to continue the relationship, consequently, customer satisfaction towards the company as a whole is enhanced (Chaudhuri and Holbrook, 2001; Davidow, 2014).

The logic behind the effect of post-recovery customer trust and overall company satisfaction is quite simple. When the failure has been effectively recovered, customers will believe that the company is able to successfully fulfil its promises to rectify the problem. Customers feel they are receiving value from the company, thus, a greater sense of customer trust is created. Trust helps strengthen the customer–service provider relationship by reducing risk and uncertainty in the relational exchange, assuring that customers will continue to gain benefits in their future relationship with the company. Those customers with high confidence for future benefits have a justification to maintain an overall positive attitude in the long-term relationship (Dagger and O'Brien, 2010; Deng et al., 2010; Ha and Jang, 2009; Santos and Fernandes, 2008b; Sirdeshmukh et al., 2002). Consistent with a dynamic view of customer loyalty, customer trust will lead to overall customer satisfaction, which plays a central role in a loyalty model (Chaudhuri and Holbrook, 2001; Dewitt et al., 2008). Post-recovery trust nurtures overall company satisfaction because it indicates the firm's concern for equitable outcomes and the welfare of its customers. It can be said that, in the event of service failure, providing effective service

recovery is a critical attempt to restore customer trust, which in turn, directly influences overall company satisfaction. Hence, it is hypothesised that:

H2: Following service recovery, post-recovery trust will have a positive influence on overall company satisfaction

3.2.3 The Impact of Overall Company Satisfaction on Customer Loyalty (H3)

The theoretical explanation for the hypothesis of a customer's overall company satisfaction and customer loyalty in the context of service recovery will be discussed in this section. This research hypothesises that, following service recovery, overall company satisfaction will positively impact customer loyalty, as illustrated in Figure 3.4.

Figure 3.4: Hypothesised link between customer overall company satisfaction and customer loyalty
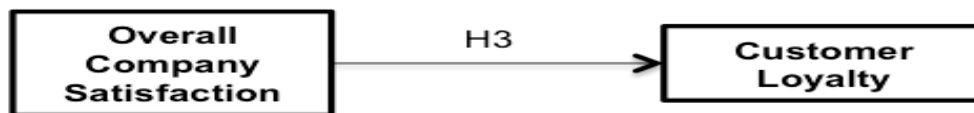
A customer's overall company satisfaction refers to the customer's overall assessment of their degree of satisfaction with the entire organisation (Oliver, 1980). With regard to service recovery, overall company satisfaction is a comprehensive judgement of an individual outcome of failure recovery together with all-encompassing experiences with the company (Homburg and Furst, 2005; Maxham and Netemeyer, 2002). This study, consistent with most other service failure and recovery studies (Karande et al., 2007; Maxham and Netemeyer, 2002; Ok et al., 2005; Sengupta et al., 2015; Smith et al., 1999; Vidal, 2012), concerns overall customer satisfaction based on all previous experiences with the company. Generally, customer loyalty is frequently linked to repetitive buying behaviour (Donio' et al., 2006). However, due to the occasional nature of purchases in the airline context, customer loyalty will be converted to intention to repurchase and

comprise of the brand's purchase frequency in the given period (Chang and Chang, 2010). Although intention to repurchase is different to actual buying behaviour, based on prior service recovery studies, customer loyalty is directly determined by intention to repurchase in the future (Evanschitzky et al., 2012; Uncles et al., 2003). Thus, in this research, customer loyalty reflects an ongoing propensity to continue the relationship and intention to repeat purchase the brand.

The relationship between overall customer satisfaction and customer loyalty is well established in numerous marketing research. It has been found that overall customer satisfaction and customer loyalty are direct related (Caruana, 2002; Maxham and Netemeyer, 2002; Vidal, 2012; Walsh et al., 2006). Overall satisfaction is a strong indicator for customer future behaviour as satisfied customers are more likely to engage and strengthen positive relationships with the company (Gustafsson et al., 2005; Hennig-Thurau et al., 2002). The greater the overall satisfaction with the company, the stronger the customer's commitment to the ongoing relationship, the higher the probability of the customers keeping a long lasting relationship and putting more business with the company (Garbarino and Johnson, 1999; Dewitt et al., 2008; Sengupta et al., 2015). Even though service failure adversely affects customer behaviour intention, the company's recovery effort to deal with a problem is a key factor in helping customers to decide whether to continue buying (Rotte et al., 2006). When customers believe that the company consistently delivers benefits, they tend to have greater confidence in the company's future performance, resulting in intention to repeatedly use the service (Wang et al., 2011). Buttle and Burton (2002) have found that around 80% of customers whose problems are resolved by effective service recovery will repurchase with the brand. In the same vein, when a flight delay has been effectively resolved, passengers feel that they are receiving value from the airline, which provides justification for them maintaining an overall positive attitude in the long-term relationship. Hence, it can be assumed that the better the customer satisfaction towards the company as a whole, the greater the overall positive attitudes regarding the company and the higher the likelihood of intention to repurchase the same brand. Formally, it is hypothesised that:

H3: Following service recovery, overall company satisfaction will have a positive influence on customer loyalty

3.2.4 The Impact of Control Variables on Customer loyalty

Based on the extensive review of the service recovery and consumer behaviour literature, customer evaluations of service failure and recovery can vary depending on a range of personal characteristics and experiences (Hess et al., 2008; Varela-Neira et al., 2010a). Such effects may lead to ineffective and misleading interpretations of customer attributions and expectations. To eliminate the scepticism of the results, the following potentially influential factors will be measured as control variables in this study. As seen in prior scholars, this research uses several control variables – gender (Mattila, 2010; McColl-Kennedy et al., 2003), age (Lal et al., 2014; Varela-Neira et al., 2010b), purpose of flying (Ali et al., 2015; Lerrthaitrakul and Panjakajornsak, 2014), flying class (Anderson et al., 2008; Yayla-Kullu et al., 2015), and customer perceived inconvenience (Mostafa et al., 2015; Varela-Neira et al., 2010a). The presumed linkage between these control variables and customer loyalty is presented in Figure 3.5.

Figure 3.5: The link between control variables and customer loyalty
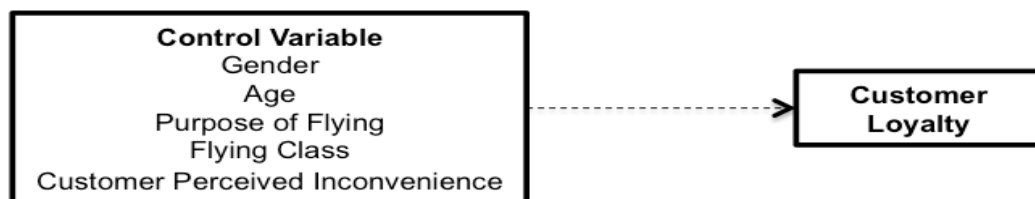
First, to eliminate the potential effect of customer demographics on their judgements of service failure and recovery, gender and age are used as control variables. Differences in the perceived justice of service recovery by males and females may indicate a difference in how each group reacts towards service failure and recovery (Mattila, 2010; McColl-Kennedy et al., 2003). Previous studies have found that post-recovery behaviour is affected by age; younger customers tend to have higher expectations and demands of the company's recovery effort (Hess et al., 2007; Lal et al., 2014; Smith et al., 1999). Further, prior scholars suggest that differences in the purpose of the flight may influence customer evaluations of the company's recovery effort (Ali et al., 2015; Lerrthaitrakul and Panjakajornsak, 2014). The fourth control variable is flying class. Customers who fly more frequently using premium class

generally have higher needs and desires of the services, thus they may respond more negatively when a failure occurs (Anderson et al., 2008; Yayla-Kullu et al., 2015). The final control variable is perceived inconvenience. Research has shown that the perceived inconvenience from failure influences the degree of customer dissatisfaction. The higher the perceived inconvenience, the harsher the customer's perceived fairness judgement of the service recovery (Mostafa et al., 2015; Ro et al., 2015; Varela-Neira et al., 2010a).

3.2.5 The Moderating Effect of Service Failure Attributions (H4–H6)

Service failure is a common occurrence in any organisation due to the nature of service provision. The airline industry is especially prone to service failures since there are high degree of human involvement in all processes of service delivery. Service failure creates customer perceptions of vulnerability and uncertainties, which may cause customers to degrade their relationships with the company (Hess et al., 2003; Keiningham et al., 2014; Rotte et al., 2006). Service recovery itself may not be sufficient to mitigate the problems associated with service failure as dissatisfied customers are not always fulfilled by its results (Nikbin et al., 2015b). Previous research has highlighted that the effectiveness of service recovery may be limited by cognitive factors such as service failure attributions (Iglesias et al., 2015; Van Vaerenbergh et al., 2014). Since customer responses are not always based on the evaluation of recovery outcomes (Kim and Jang, 2014; Xie and Heung, 2012), the inferred reasons for why the failure occurred can influence how customers judge the company's recovery effort. Once customers experience service failure they usually search for reasons as to why the unfavourable situation occurred in order to guide their responses towards the company (Albrecht et al., 2016; Bitner et al., 1990; Weiner, 2000). For instance, when an airline has a flight delay, its passengers may attribute the incident's cause to variety of reasons such as bad weather, poor management practices or mechanical problems. With regard to the research aim, attribution theory is employed to investigate how customers make their causal explanations on the failure. In attribution theory, the causes that customers infer can largely be divided into three main attributes, including the locus of causality (Who is responsible?), stability (Is the failure likely to recur?) and controllability (Is the cause preventable?) (Weiner, 2000).

To better understanding post-recovery customer responses, it is critical to examine customers' perceptions towards the causes of service failure, since customer responses are not simply based on recovery outcomes (Iglesias et al., 2015). Thus, the inferred reasons for what happened can influence how the customer responds. It can be assumed that attributions can make the customers more or less demanding of the company's recovery efforts to restore trust lost from the failure. As evidenced by previous research, the attribution of causality, stability and controllability of failure represent important factors that explicate how customers respond towards the firm following service recovery (Nikbin and Hyun, 2017; Van Vaerenbergh et al., 2014; Xie and Heung, 2012). Consistent with the above reasoning, this research has sought to go beyond by proposing that the inferred reasons for service failure's occurrence may influence the requirements of the service recovery in restoring customer trust towards the company. As such, the moderating role of service failure attributions on the relationships between each dimension of perceived justice of service recovery and post-recovery trust will be examined in order to understand the effectiveness of service recovery regarding the expected post-recovery reactions. The more the company understands customer causal attributions, the better the company develops an effective recovery strategy to cope with service failure, the greater degree of post-recovery trust restored, and the higher the propensity of customers staying longer with the company. The hypothesised moderating effects of service failure attributions are illustrated in Figure 3.6. A theoretical explanation for the moderating effects of each attribute is provided in the discussion below.

Figure 3.6: Hypothesised moderating effects of service failure attributions
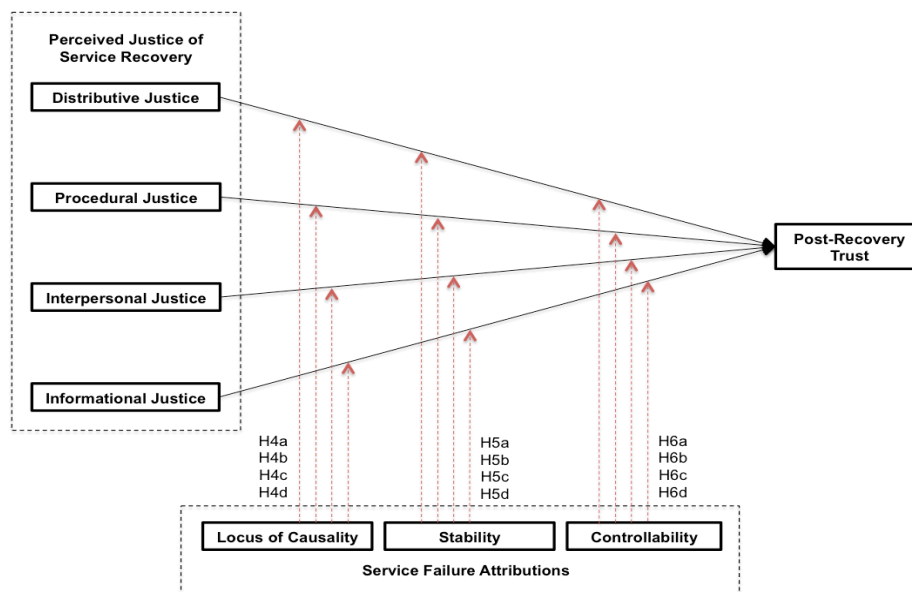
a) Locus of Causality (H4)

The locus of causality is the customers' perceptions of whether the cause of failure originated from the company (internal) or the customer (external) (Hess et al., 2003). When customers experience service failure, they firstly consider why it happened, who is responsible for it, and react differently based on their assumptions (Bambauer-Sachse and Rabeson, 2015). This study supports recent scholars that the locus of causality impacts customer expectations and their evaluations of service recovery (Chang et al., 2015; Rummelhagen and Benkenstein, 2017; Song et al., 201; Swanson and Hsu, 2011), although many previous studies have excluded responsibility attribution in their research.

When the cause of service failure is attributed to the company, customers tend to believe that they are owed compensations because they paid for a service that has failed. Perceived uncertainty is expected to be high from inequity in an exchange relationship, resulting in losing trust in the company's future performance (Liao, 2007). Nevertheless, when the company accepts responsibility and resolves the problem successfully, customers become bonded with the company (Swanson and Hsu, 2011). In contrast, when customers realise that they themselves are partly the cause of the failure, the notion of self-blame lowers the negative perceptions of the

incident (Choi and Mattila, 2008). Customers tend to do nothing and neglect the situation when the failure originates from themselves (Bambauer-Sachse and Rabeson, 2015; Lin, 2010; Oliver, 1980). As such, customers tend to have less demand at the recovery stage when they are responsible for the failure compared to when they believe that the failure originated from the company. In a similar vein, when the cause of a flight delay is airline-related, a higher level of service recovery is required to rebuild customer lost trust, whereas customers tend to have less demand on recovery remedy when the flight delay is at least partly the responsibility of the customer. Formally, it is hypothesised as:

H4a: The locus of causality will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).

H4b: The locus of causality will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originated from the company (customer).

H4c: The locus of causality will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originated from the company (customer).

H4d: The locus of causality will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originated from the company (customer).

b) Stability (H5)

Stability attribution refers to the temporal cause of failures, varying from unstable (expected to vary over time) to stable (expected to persist over time) (Weiner, 2000). Service failures with stable causes have higher chance to recur frequently than those with unstable ones. Customers, who perceive that the cause of failure is stable, will think that the same failure will likely happen again in the future, as stable cause of failures create uncertainty in customers' minds about the company's performance (Hess, 2008). Thus, when service failure is a frequent occurrence in a company, customers are more likely to evaluate the failure as stable (Hess et al., 2003). The effect of a stable cause of failure can ruin the company's reputation and perceived reliability, and also increases the likelihood of a customer switching to a competitor, as stable causes of failure represent a lack of the company's ability to solve the problem (Nimako and Mensah, 2014). Due to uncertainty about the company's future performance, stable causes of problem are considered a major factor in customers losing trust in the company. In contrast, customers are more forgiving when the cause of failure is temporary, as they perceive a minimal likelihood of a future inconvenience (Grewal et al., 2008; Nikbin et al., 2014b). Similarly, it can be proposed that for frequent flight delays occurring from the same cause of problems, a higher degree of recovery effort is required to regain passengers' loss of trust and mitigate the uncertainty of future outcomes. Correspondingly, it is hypothesised as:

H5a: The stability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).

H5b: The stability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).

H5c: The stability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).

H5d: The stability will moderate the relationship between perceived informational justice elicited by adequate perceived information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).

c) Controllability (H6)

Controllability attribution reflects the customer's beliefs that the company could have prevented the service failure (Folkes et al., 1987). Customer perceptions of the company's ability to control the problem are heavily driven by understanding whether the company could have done otherwise and hence prevent an unfavourable incident (Hess et al., 2003). When customers perceive that the company could have prevented the failure but failed to do so, they tend to be more disappointed, resulting in a higher loss of customer trust. Failing to prevent a controllable cause of failure is perceived as a sign of poor company management (Nikbin et al., 2015b). As such, superior service recovery efforts are needed to re-establish the trustworthiness of the company from the perceived uncertainty regarding the company's performance. In contrast, when service failure is perceived to be out of the company's control, customers are more likely to excuse the failure and forgive the mistake (Sinha and Lu, 2016). In much the same way, when an airline's flight is delayed because of an uncontrollable cause, such as weather conditions, it is likely that customers may be more understanding and forgiving than if the delay occurs from controllable causes, such as management failure. Customers tend to demand higher levels of recovery efforts to restore their lost trust when the company demonstrates a lack of capacity to prevent the flight delay. Consequently, it is hypothesised as:

H6a: The controllability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline

H6b: The controllability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline

H6c: The controllability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline

H6d: The controllability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline

3.2.6 The Moderating Effect of Company Reputation (H7)

Company reputation is hypothesised to have moderating effects on the relationships between each dimension of the perceived justice of service recovery and post-recovery trust, as illustrated in Figure 3.7. A theoretical explanation for the moderating effects of company reputation is provided in this section.

Figure 3.7: Hypothesised moderating effects of company reputation
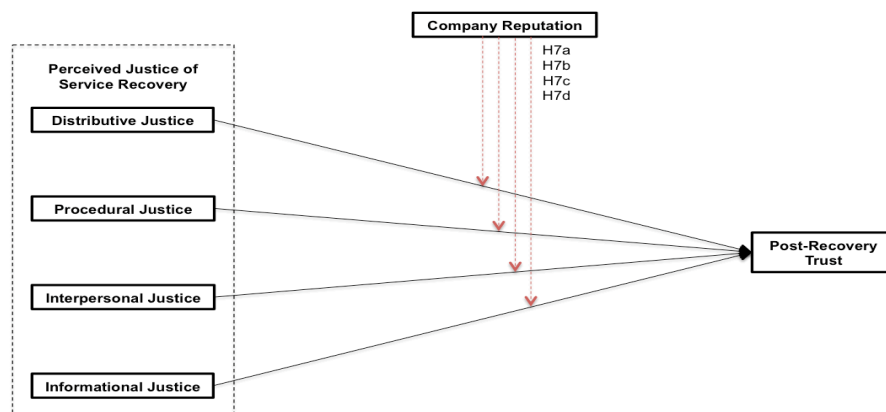
Company reputation is demonstrated as a customer's overall assessment of the company's ability (Nguyen and Leblanc, 2001). Due to the unique nature of service provision, company reputation is a valuable intangible asset that plays a significant strategic role on the customer evaluation process (Loureiro and Kastenholz, 2011; Su et al., 2016). Customers typically use company reputation as a surrogate indicator of service quality (Hess, 2008). Thus, a company with a good reputation is able to draw greater customer attention in a competitive market (Al-Refaie et al., 2014). Research has found that company reputation can be described as the degree of customer trust in the company's ability to deliver quality services (Ding et al., 2015; Walsh and Beatty, 2007). Since the benefits of company reputation postulated in the literature are often associated with the reduction of uncertainty (Nguyen and Leblanc, 2001), a strong reputation can reduce the degree of risk perceived by customers (Keh and Xie, 2009).

It has been widely agreed that a good company reputation takes a long time to build, but is easily destroyed by just one unfavourable incident (Keh and Xie, 2009). Although the unavoidability of failure is a main factor in a loss of company reputation, the company's satisfactory response to failure is a critical component to enhance customer trust and, subsequently, customer loyalty (Hess, 2008). The prior literature has found that a positive company reputation discounts customer perceptions of risk in the company's performances (Walsh and Beatty, 2007). In the case of an unfavourable situation, the strength of a positive company reputation may act as a shield to protect the company, leading customers to be forgiving for the failure (Hazee et al., 2017; Hess et al., 2008; Klein and Dawar, 2004; Sajtos et al., 2010). Customers tend to believe that the reputable company is capable of dealing with their problems in an honest manner (Huang, 2011; Roberts and Dowling, 2002). This goodwill can make customers less impulsive when a failure occurs, as they believe that the company will compensate them in the future (Knox and van Oest, 2014; Nikbin et al., 2010). Similarly, through this halo effect, the perceived justice of service recovery might have a stronger effect on restoring post-recovery trust for those customers who develop a positive mental schema of the company. This research has sought to go beyond by proposing that the strength of the relationship between each dimension of perceived justice and post-recovery customer trust may vary due to company reputation levels. Hence, it is hypothesised as:

H7a: Company reputation will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.

H7b: Company reputation will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.

H7c: Company reputation will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.

H7d: Company reputation will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.

3.3 Chapter Summary

The development of the conceptual framework for this study represents a milestone in the process of conducting deductive research. The conceptual framework in this research emerges from the literature review and research gaps, and aims to address the research objectives and answer the research question. There are total of 11 constructs, consisting of 7 main variables and 4 moderators, considered in the research framework. These include four-dimensional constructs of the perceived justice of service recovery (distributive, procedural, interpersonal and informational justice), post-recovery trust, overall company satisfaction, customer loyalty, three attributed causes of service failure (locus of causality, stability and controllability) and company reputation. Based on the above discussions, these constructs are linked with 22 proposed hypotheses, which were theoretically deduced and supported by prior theoretical and empirical studies. The philosophical foundation of the research

design and the research methodology used to test the proposed hypotheses will be elaborated in the next chapter.

CHAPTER 4

METHODOLOGY

4.1 Introduction

This chapter outlines and justifies the research methodology and design used in this study for verifying the research conceptual framework and testing the hypotheses advocated in Chapter 3. This chapter begins by clearly identify the main research aim and objectives in order to decide the appropriate research methodology and design. Next, the research is carried out, with an overview of appropriate research philosophies to identify the best way for the researcher proceed for the development of knowledge in this arena. Then, the process of selecting a research approach, design, methodology, strategy and time horizon is explained. The data collection method, including questionnaire design, measurement scale and sampling design, is described. The analytical technique based on the Partial Least Squares approach to Structural Equation Modelling (PLS-SEM) for testing the research hypotheses is then discussed. Finally, a brief summary of the chapter is drawn.

4.2 Research Aims and Objectives

The overall aim in this research is to study the impact of customers' perceptions of the perceived justice of service recovery and factors external to the recovery encounter, including service failure attributions and company reputation, in relation to customer loyalty in the airline industry. To achieve the research aim, this study proceeded from the research question and objectives in order to develop a conceptual framework for an empirical examination. The research problem of this thesis emerged from the review of an extensive pool of relevant literature in the service recovery and consumer behaviour fields. To answer the question of "how do customer perceptions of the perceived justice of service recovery drive customer loyalty in different service failure situations and with a distinct level of company reputation in the airline industry?", the following research objectives were established;

I. To understand the notion of service failure and recovery in the context of the airline industry.

II. To examine how customer perceptions of the perceived justice of service recovery influences post-recovery customer behaviour, including post-recovery trust, overall company satisfaction and customer loyalty in the context of the airline industry.

III. To identify how factors external to the recovery encounter – service failure attributions (locus of causality, stability and controllability) and company reputation – influence the effect of the perceived justice of service recovery in relation to customer loyalty recovery in the context of the airline industry.

IV. To develop and propose a theoretical model of the consequences of customer perceptions of the perceived justice of service recovery and factors external to the recovery encounter – service failure attributions and company reputation – in relation to customer loyalty.

V. To empirically validate the theoretical model by assessing the hypotheses' relationships.

VI. To provide possible theoretical and practical implications of the key results and offer suggestions for future research directions.

4.3 Research Philosophy

Research philosophy is described as the way in which the researcher thinks about the development of knowledge (Milliken, 2001). The research philosophy acts as a map to help readers to see how the knowledge is developed (Collins, 2010). The research philosophy is vitally important because it helps form the theoretical basis and to navigate the direction of the methodology employed (Bryman and Bell, 2015). The research philosophy is considered as a fundamental process of the research because it is distinctively what researchers do when starting and developing their research (Saunders et al., 2016). Thus, it is important for researchers to select which philosophical foundation is adopted, as different research philosophies favour different research strategies and methods.

There are two main assumptions based on the research philosophy, namely ontological and epistemological. Ontology describes assumptions about "the nature of the reality" (Saunders et al., 2012, p.130), whereas epistemology explains assumptions about "what constitutes acceptable knowledge in the field of the study" (Saunders et al., 2012, p.132). In other words, ontology incorporates an understanding of the nature through the researcher's perspective, while epistemology refers to the way a researcher understands and explains the nature (Bryman and Bell, 2015). Since different philosophies applied can achieve different purposes, there are no ground rules when considering the research philosophies.

In social science research, the research philosophy can be further categorised into two major research paradigms, namely, positivism and interpretivism (Bryman and Bell, 2015; Collis and Hussey, 2014; Saunders et al., 2016). Positivism is based on the premise that social reality is independent of human perception. The positivism paradigm assumes that social phenomena can be explained through the lens of existing knowledge and measured directly via quantifiable observation. On the other hand, interpretivism posits that social reality is different and subjective. The interpretivism paradigm speculates that social phenomena can be understood through the words and meanings of social actors. Accordingly, research following the positivism paradigm usually employs a quantitative research method, applying numerical data collection and statistical analysis in order to understand human attitudes and behaviours, whereas the interpretivism paradigm often adopts a qualitative method, such as interviews and focus groups, in order to extract meaning from the accounts of social actors. A comparison of the different aspects between positivism and interpretivism paradigms is illustrated in Table 4.1.

Table 4.1: Comparison of the different aspects between the positivism and interpretivism paradigms

Positivism	Interpretivism
Use of large samples	Use of small samples
Have an artificial location	Have a natural location
Be concerned with hypothesis testing	Be concerned with generating theories
Produce precise, objective, quantitative data	Produce rich, subjective, qualitative data
Produce results with high reliability but low validity	Produce findings with low reliability but high validity
Allow results to be generalised from the sample to the population	Allow findings to be generalised from one setting to another similar setting

Source: (Collis and Hussey, 2014, p.50)

The decision to adopt a positivist epistemological stance is supported by the research aim and the nature of this research. This study is derived from the research aim to test and validate the relationships between customer perceptions of the perceived justice of service recovery on post-recovery trust, overall company satisfaction and customer loyalty in the airline industry, and exploring the moderating effects of factors external to the recovery encounter –service failure attributions and company reputation – on this relationship. Interpretivism was therefore not considered as an appropriate paradigm since the aim of this study is to empirically explain how customers behave in such an event. As the focus of this thesis is to understand the correlations between independent and dependent variables, the positivism paradigm was most suitable. The proposed research hypotheses were developed from existing theory in service recovery and consumer behaviour, aiming to statistically test and conclude for a further development of the related theory. Positivism has long upheld legitimacy in marketing research, as an abundance of marketing studies mainly focus on hypotheses testing, measurement and statistical analysis. In the service recovery field, the positivism paradigm has been widely adopted by various studies (e.g. Bijmolt et al., 2014, Choi and La, 2013; Gruber, 2011; Migacz et al., 2017). These previous researches have provided strong evidence for the preferred use of a positivism research paradigm in this study.

4.4 Research Approach

Approaches to research can be divided into two types: deductive and inductive. The deductive approach is associated with hypothesis testing in that it starts by investigating an existing theory in order to develop logical hypotheses for testing. The main aim of a deductive approach is to explain the causal relationships between concepts and variables in order to conclude either modification or support to the existing theory. On the contrary, an inductive approach is related to theory building as it seeks to obtain new knowledge based on a set of observations of specific evidence in order to contribute to the development of a new theory (David and Sutton, 2004; Saunders et al., 2016). The differences between inductive and deductive approaches to research are presented in Figure 4.1.

Figure 4.1: The differences between an inductive and a deductive approach
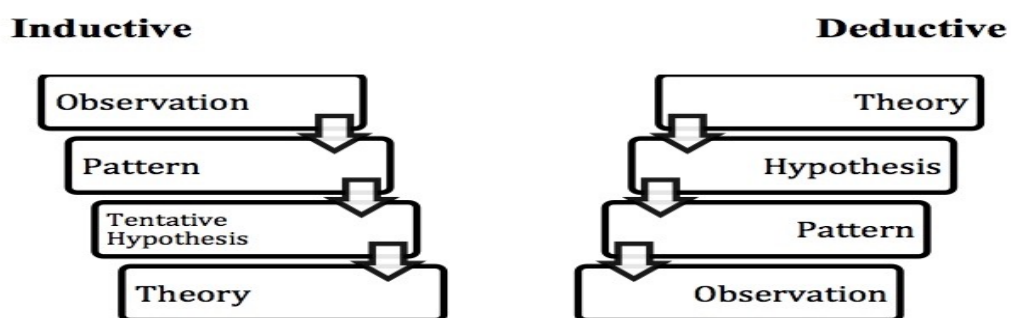
Source: Own elaboration based on Remenyi et al. (1998)

A deductive approach was employed in this research because this study was developed from theoretical foundations to achieve the research aims and objectives. Since this study adopted a positivist research philosophy, it is mostly associated with a deductive approach and is theory-driven (Bryman and Bell, 2015; Collis and Hussey, 2014). Gill and Johnson (2010, p.46) explain the deductive approach as that which "entails the development of a conceptual and theoretical structure prior to its testing through empirical observation of the facts 'out there' in the world through data collection". In short, a deductive approach is the process of using rational reasoning to reach logical conclusions (Saunders et al., 2016). A deductive approach is comprised of six steps: (1) theory, (2) hypotheses, (3) data collection, (4) findings, (5) hypotheses confirmed or rejected, and (6) revision of the theory, respectively

(Bryman and Bell, 2015). This research follows a deductive approach through these stages. First of all, a theoretical background in the fields of service failure, service recovery and consumer behaviour was critically reviewed in order to define the main point of the research. A conceptual framework based on a supported theory was developed and several hypotheses were derived for testing. Then, data were collected and statistically analysed to confirm or reject the propositions. Finally, the conclusions were drawn for confirming the theory and broader generalisations.

4.5 Research Design

Research design refers to the comprehensive plan of methods and procedures used by the researcher to answer the research question (Iacobucci and Churchill, 2010). In other words, research design is the process of turning the research question into research project (Bryman and Bell, 2015). Research design helps the researcher get the most valid findings by setting the boundaries of the study and determining the type of investigation (Saunders et al., 2016). Research design is considered as one of the most important parts of a research methodology chapter as developing and executing an effective research design will ensure that the research results are reliable (Collis and Hussey, 2014). The process of research design comprises the methodological choice, research strategy and time horizon. Methodological choice is related to whether the researcher follows qualitative or quantitative techniques. A research strategy is applied to ensure coherence within the research project. Lastly, the appropriate time horizon either cross-sectional or longitudinal, which relates to the methodological choice and research strategy, is employed (Saunders et al., 2016).

4.5.1 Research Methodology

Selecting a methodology is challenging, as it affects the direction of the research. The methodological choices need to be coherent with the aim of the study, the research question and the author's justification (Robson and McCarten, 2016). In the field of social science, there are two methodology techniques, which are qualitative and quantitative methods (Alasuutari et al., 2008). Qualitative research aims to study the participants' meanings and the relationships between them to develop a conceptual framework. The main focus of qualitative strategy is to obtain an in-depth understanding about the phenomenon being studied in order to develop a new theory

(Denzin and Lincoln, 2011). Since a qualitative strategy usually emphasises words in the data collection, it requires classification and conceptualisation procedures to emphasise the meaning of the data. On the other hand, quantitative method focuses on enumerating data to be analysed using statisticall procedures (Bryman and Bell, 2015). It is used for testing the theories by examining the significance of the relationships between variables (Creswel, 2009). Quantitative method usually involves the use of numbers and statistical techniques in order to make the analysed data comparable (Gray, 2014). The fundamental differences between qualitative and quantitative research methods are highlighted in Table 4.2.

Table 4.2: The fundamental differences between qualitative and quantitative research methods

		Qualitative Methodology	Quantitative Methodology
Principal orientation to the role of theory in relation to research		Inductive: generation of theory	Deductive: testing of theory
Epistemological orientation		Interpretivism	Positivism
Preparation	Definition	General and loosely structured	Precise, accurate and specific
	Hypotheses	Formulated through/after study	Formulated before the study
	Employs	Sensitising concepts	Operationalisation
Design	Design	Well planned but not prescriptive	
	Sampling	Well planned but during data collection; is not prescriptive	
	Measurement	Mostly nominal	Employs all types
Data Collection		Uses qualitative methods; usually single-handed	Uses quantitative methods; employs assistants
Data Processing		Mainly qualitative: often collection and analysis occur simultaneously: analytical generalisation	Mostly quantitative and statistical analysis; inductive generalisation
Reporting		Mostly not integrated findings	Highly integrated findings

Source: Own elaboration based on (Bryman and Bell, 2015)

According to the research aim, this research is focused on social fact and phenomena (post-recovery customer behaviour in the event of service failure) that are related to positivist epistemological research philosophy (Hussey and Hussey, 1997). Quantitative method will be employed in this research for several reasons. A quantitative method is coupled with a deductive approach, which has positivist epistemology and it deals with numerical data to test a theory (Bryman and Bell, 2015; Collins, 2010). It is suitable for developing validity of data collection from human society because it can be used for statistical analysis and results will explain social phenomena (Bryman and Bell, 2015). Second, this research aims to investigate and predict phenomena within the realm of social science (customer behaviour). Thus, quantitative approach is suitable to examine the causal relationship between variables and attempts to predict the impact on the dependent variables (Gray, 2014). Lastly, due to the pressure of time and resources in this research, quantitative method, which is useful to collect data from the large sample in order to maintain the quality of research (Thomas, 2003), is appropriate to use. Quantitative approach is generally used as one of the major methods in business and social science research methodology (Fowler, 2014). Most related studies have provided strong indications for the preferred use of a quantitative methodology in the service failure and recovery fields (Chang and Chang, 2010; Chebat and Slusarczyk, 2005; McCollough, 2000; Migacz et al., 2017; Mostafa et al., 2015; Wang et al., 2011; Wen and Chi, 2013). The process of the quantitative research method is illustrated in Figure 4.3.

Figure 4.2: The process of quantitative research

4.5.2 Research Strategy

The research strategy is the methodological link between the research philosophy and the subsequent choice of methods to collect and analyse data (Saunders et al., 2016). The choice of research strategy is principally guided by research aims and objectives derived from the research question, and is coherent with the chosen research philosophy and approach. Additionally, the extent of the existing knowledge, the amount of time available and the accessibility of data collection are pragmatic concerns in choosing the strategy of the research (Bryman and Bell, 2015). There are several types of research strategy, including survey, experiment, observation, case study, grounded theory and action research (Robson and McCarten, 2016). As discussed earlier, a quantitative method was adopted in this study, since this research intends to examine customer perceptions and customer behaviours in the event of service failure. In order to test the proposed conceptual framework and to inspect the causality of the hypothesised relationships, a research strategy based on a survey approach is the most appropriate to employ in this study.

A survey defined as "a systematic method for gathering information from (a sample of) entities for the purpose of constructing quantitative descriptors of the attributes of the larger population of which the entities are member" (Groves et al., 2011,p.2). In other words, a survey is an instrument used to collect primary data from the individual (Hair et al., 2010). A survey method for collecting data is normally based on the use of structured questionnaire administered to a sample of target population (Bryman and Bell, 2015). In a survey, the questions are usually presented in standardise form, thus all participants' answers to the same question are comparable (Fowler, 2014). There are two board types of methods for collecting survey data, including interviewer-administered and self-administered. Interviewer-administered method is suitable for collecting data from small number of participants as a qualitative data, while self-administered method is convenient for collecting data from a large number of participants in quantitative form. Due to the limited cost and time, a self-administered survey method was used to obtain data from a large number of participants in a convenient manner in this study.

I.   Survey Research Design

The survey was designed based on an extensive review of the service failure, service recovery and consumer behaviour literature. This enables the researcher to gain an understanding of how prior studies have measured each aspect under investigation in this study. The manipulations of aspects were consistent with previous research – perceived justice of service recovery (Colquitt, 2001; Dewitt et al., 2008; Tax et al., 1998), post-recovery trust (Morgan and Hunt, 1994), overall company satisfaction (Han et al., 2008; Homburg and Furst, 2005; Maxham and Netemeyer, 2002), customer loyalty (Han et al., 2008; Kwortnik and Han, 2011), service failure attributions (Hess et al., 2003; Russell, 1982) and company reputation (Hess, 2008; Nguyen and Leblanc, 200; Yoon et al., 1993). In the survey design, the independent variables of perceived justice of service recovery – distributive, procedural, interpersonal and informational justice – were expected to lead to dependent variables of post-recovery customer trust, overall company satisfaction and customer loyalty, simultaneously. Further, the moderator variables of service failure attribution – locus of causality, stability and controllability – and company reputation were predicted to have an effect on dimensions of justice and post-recovery customer trust.

To ensure the validity of the research, it is necessary to establish a control variable (Atinc et al., 2012; Saunders et al., 2016). The control factor is required in order to lessen the effect of confounding variables on the outcomes of this study (Becker, 2005; Sekaran and Bougie, 2013). Hence, according to prior scholars, this study made use of the respondents' characteristics – gender (Mattila, 2010; McColl-Kennedy et al., 2003), age (Lal et al., 2014; Varela-Neira et al., 2010b), purpose of flying (Ali et al., 2015; Lerrthaitrakul and Panjakajornsak, 2014), flying class (Anderson et al., 2008; Yayla-Kullu et al., 2015), and customer perceived inconvenience (Mostafa et al., 2015; Varela-Neira et al., 2010a) – as control variables on customer loyalty. Although these control variables are not the primary focus of this study, manipulating them can help remove statistical noise and obtain unbiased estimates of treatment effects.

II. Service Context under Investigation

In this research, the empirical study was conducted in the context of the airline industry. The airline sector, driven by liberalisation and globalisation, is considered as the fastest growing sector within the transportation industry (Namakusa, 2013). However, airline companies have operated under fierce competition, as there are now more choices of airline providers, especially low-cost airline carriers, available for customers in the market (Nikbin et al., 2015c). In such intense competition, where product and service differentiations are become harder and harder, various marketing strategies have been adopted to acquire new passengers and also maintain loyal passengers with the airline (Viachos and Lin, 2014). This competition forces the airlines to increase their focus on customer relationship management among both existing and new passengers (Calisir et al., 2016).

Research reveals that issues relating to complaint-handling and service recovery management are of major concern to the airline industry (ACI, 2017). Since today's customers have higher expectations and demands than ever before, developing a successful service recovery strategy to satisfy all customers when service failure occurs is the most difficult task for any airline company. IATA (2016) shows that the number of passenger complaints has increased by about 20% in 2015. Many are left dissatisfied with the way the airlines handle and recover their dissatisfaction (CAA, 2016; Cambra-Fierro et al., 2015b). The majority of customer complaints are relating

to airlines concerns flight delays and cancelations, mainly arising from weather conditions and technical problems (ACI, 2017; Nikbin et al., 2015a; Upadhyaya, 2013). Thus, this study has selected flight delay as a hypothetical case of service failure in the survey. The importance of service recovery reinforces the need for this study to find approaches that are effective in both dealing with service failure situations and developing service recovery systems to successfully maintain sustainable relationships with customers.

4.5.3 Time Horizon

A time horizon can be separated into either a cross-sectional or a longitudinal design. A cross-sectional design entails the collection of data at a single point in time, whereas a longitudinal design comprises the collection of data across different points in time (Bryman and Bell, 2015). Thus, a benefit of longitudinal research over cross-sectional research is the ability to detect change, resulting from the repeated measurement of the same set of variables over time. The relative advantages and disadvantages of cross-sectional versus longitudinal designs are summarised in Table 4.3. Due to the time constraints this research was required to be completed within, a cross-sectional design was adopted. As the main aim of the research is to investigate customer reactions to service recovery in the event of service failure, customers' attitudes and perceptions were collected at one point in time, using self-administered questionnaires.

Table 4.3: The advantages and disadvantages of longitudinal and cross-sectional research design

Factors	Cross-sectional	Longitudinal
Detecting change	−	+
Large amount of data collection	−	+
Accuracy	−	+
Representative sampling	+	−
Response bias	+	−
Note: + indicates a relatively advantage over the other designs, whereas − indicates a relatively disadvantage		

Source: (Malhotra et al., 2012)

4.6 Ethical Considerations

Ethical considerations are significant issues in any research. In social science research, ethical concerns arise from the process of planning the research, assessing individuals, collecting the data and analysing the results (Saunders et al., 2016). Ethical issues must be primarily concerned when the research involves human matters. The protection of human rights (privacy and confidentiality) of the participants in the research is crucially important. There are four main areas of ethical principles that the researcher must follow. The researcher must ensure that (1) no harm comes to participants, (2) a fully informed consent is presented to participants, (3) there is no invasion of privacy of the participants, and (4) no deception is involved in the research (Bryman and Bell, 2015; Collis and Hussey, 2014).

This research was approved and followed the Brunel ethical requirements (the ethical approved statement is attached in Appendix 1. The informed consent, a vital part of the ethical considerations, was introduced firstly in the research questionnaire. In the informed consent form, the purpose of the research was clearly informed to the participants: "This research is used for academic purpose only and has been approved by the Brunel Research Ethics Committee, which ensures that there are no risks and discomforts associated with it. This is an anonymous questionnaire, whereby all responses will remain confidential and be analysed at an aggregate, not individual level. Participation in this questionnaire is voluntary and the respondents can withdraw from it at any time". The respondents were asked to confirm that they had read and understood the questionnaire and agreed to take part in this study.

4.7 Design of the Questionnaire

Questionnaire design is a critical part in developing high-quality research as it helps address the needs of the research and aids the collection of precise data to answer the research question (Baruch and Holton, 2008). The investigation in the questionnaire needs to be associated with the variables that have been used to develop the hypotheses for the study (Marsden and Wright, 2010). Thus, the researcher needs to translate the information needed into a set of specific questions, with answers to

them providing the data for hypothesis testing. In order to achieve effective data collection, the process of designing the questionnaire is outlined in Figure 4.3. The above two aspects have been described in the previous section. The information needed for the questionnaire was also extensively discussed in the conceptualisation of the constructs, as well as the hypotheses, in Chapter 3. As such, this section continuously focuses on the decision made in relation to the content, structure, wording and order of the questions, questionnaire layout and pilot-testing, as highlighted below.

Figure 4.3: Questionnaire design process

Specify the information needed	
Specify the type of interviewing method	
(1)	**Determine the content of individual questions**
(2)	**Overcome inability and unwillingness to answer**
(3)	**Choose question structure**
(4)	**Choose question wording**
(5)	**Arrange the questions in a proper order**
(6)	**Identify the form and layout**
(7)	**Reproduce the questionnaire**
(8)	**Eliminate problems by pilot-testing**
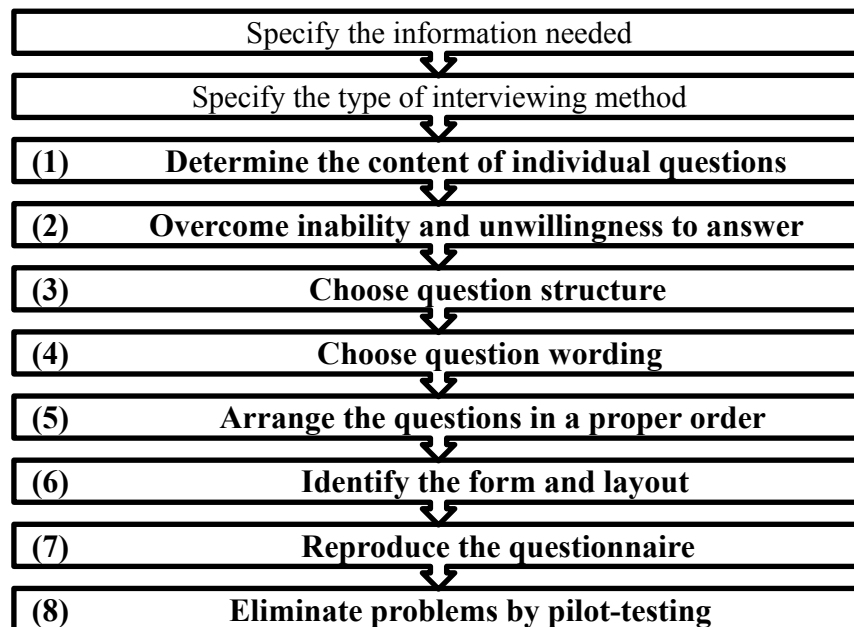
Source: Own elaboration based on Malhotra et al. (2012)

Steps (1) & (2): Determine the content of individual questions and overcome inability and unwillingness to answer

Based on steps (1) and (2) of the questionnaire design process, the purpose of the questions to be included in the questionnaire was established. The informed consent form was introduced to overcome any inability or unwillingness to participate in the survey. The form includes general information on the researcher, the purpose of the research (academic study), the research aim, context (airline), general guidelines and approximate time to complete the questionnaire, as well as reassurance about the ethical aspects regarding anonymity and confidentiality. A filter question was placed

at the beginning of the questionnaire in order to determine whether respondents are eligible to take part in this survey. Respondents deemed ineligible are then terminated from the questionnaire. Since, this study selected flight delay as a hypothetical case of service failure, respondents were first asked a question relating to their full service airline's flight delay experience in the past 12 months. According to FAA (2018), this study considers an airline's flight to be delayed when it does not arrive within 45 minutes of the schedule. If the respondents had experienced a flight delay in the past 12 months, they were asked to continue, if not they were asked to disregard the questionnaire. The respondents were then asked a group of questions associated with the key research constructs included in the research conceptual framework. The questionnaire ended by capturing respondents' social demographic characteristics.

Step (3): Choose the question structure

A question can be unstructured or structured. Unstructured questions are open-ended and require respondents to answer in their own words. In contrast, structured questions are closed questions that provide a set of response alternatives from which the respondents are instructed to choose. Structured questions are quicker for respondents to answer, as closed questions require minimal writing, lessening the risk of respondent bias. Since forced-choice questions do not need the researcher to interpret the respondents' statements, it is easier for the researcher to code and statistically analyse (Malhotra et al., 2012; Sekaran and Bougie, 2013). With regard to the research objectives and the above considerations, structured questions, particularly multi-item scales questions, were adopted in the research questionnaire.

Step (4): Choose question wording

Question wording is the process of translating the desired question content and structure into ordinary words (Malhotra et al., 2012). The wording process is the most complex task in developing a questionnaire. Poor questionnaire wording can make the respondents confuse and answer incorrectly. Inadequate phrasing can generate question non-response and response error, which causes an increased complexity in the data analysis. As such, the wording in each question must be clear and unambiguous in order to make all respondents understand the same meaning. Also, the multi-item scales of each question were provided in order to minimise the

effect of leading questions. In order to remove any problems related to wording, the research questionnaire was pre-tested several times by students and academics from Brunel Business School, who specialised in service marketing.

Steps (5) & (6): Arrange the questions in the proper order and identify the form and layout of the questionnaire

The research questionnaire was constructed from general questions to specific questions. In this study, the respondents were firstly asked questions regarding their use of a full service airline and then asked more incisive questions regarding their flight delay experience in the past 12 months, their perceptions of the airline, their perceptions of service recovery and their attitude towards the airline. For this study, the questionnaire was introduced with the information sheet in order to inform the respondents of the research purpose, their voluntary participation in this study and the anonymity and confidentiality of their answers. The respondents were required to confirm that they had read and understood the form and agreed to take part in this study.

The research questionnaire, in line with previous studies of service failure and recovery in various industries (Baker and Kim, 2016; Bitner et al., 1990; Casado-Diaz et al., 2007; Hu et al., 2013; Swanson and Hsu, 2011), was based on the critical incident technique (CIT). CIT was used rather than a simulated scenario-based procedure because the object of this study focuses on the effectiveness of service recovery with regards to real-life experiences of airline passengers. The first question was used to check the eligibility of the respondents for this study by asking a question related to their full service airline's flight delay experiences. Respondents who had experienced flight delays in the past 12 months were expected to be able to project themselves easily into the questionnaire, if not they were asked to disregard the questionnaire. Next, the respondents were asked to indicate the level of perceived inconvenience based on their worst flight delay experienced, in the form of 5-point Likert scaling, ranging from minor inconvenience to major inconvenience. Lastly, respondents were asked to reveal the full service airline with which their flight delay experience had been the worst.

The main part of questionnaire is presented in six clear sections. The first section includes four general questions about each respondent's use of a full service airline, including the respondent's flying frequency in the past 12 months, the purpose of their trip, their flying class and how they purchase their tickets. These questions were measured using single item scales.

In the second section, the respondents were asked to indicate their attitudes towards the reputation of the airline with which their flight delay experience had been the worst in the past 12 months, in the form of 5-point Likert scaling, ranging from strongly disagree to strongly agree.

In the third section, the respondents were asked to recall their worst flight delay experiences in the past 12 months in order to identify the reason for the flight delay occurrence. Based on the review of the literature, the questions were associated with three main attributes of the flight delay's cause, including locus of causality, stability and controllability. The respondents were required to specify their level of agreement with the flight delay attribution statements, in the form of 5-point Likert scaling, ranging from strongly disagree to strongly agree.

In the fourth section, the respondents were asked to demonstrate the importance of the airline's responsiveness to rectify the problem towards the flight delay. Based on the literature review, the questions related to four perceived justices of service recovery, which are distributive, procedural, interpersonal and informational justice. The respondents were asked how important each airline's response is to the flight delay in the form of 5-point Likert scaling, ranging from extremely unimportant to extremely important.

Next, in the fifth section, the respondents were asked to imagine the situation after the airline had provided efficient and successful service recovery to compensate the respondent for time lost and hassle caused by the flight delay. At this stage, the respondents were asked to answer a group of questions related to post-recovery trust, overall company satisfaction and customer loyalty, in the form of 5-point Likert scaling, ranging from strongly disagree to strongly agree.

The questionnaire ended with descriptive questions capturing the demographic information of the participants, including gender, age group, nationality, level of education, job status and annual income. The demographic questions were measured using single item scales. The respondents' social-demographic characteristics were placed at the end of the questionnaire, in section 6, in order to ensure that all the scaling measurement questions were answered before the respondents tired.

Steps (7) & (8): Reproduce the questionnaire and eliminate problems by pilot-testing

Pilot-testing is a fundamental stage of the questionnaire design process. Without adequate pilot-testing, the questionnaire is not sufficient to be administered (Malhotra et al., 2012). Piloting has a role in ensuring that the quantitative research instruments as a whole function well before the main data collection. A pilot study allows the researcher to discover weaknesses in the questionnaire and to redesign the measurements to be more accurate. All aspects of the questionnaire must be pilot-tested, including question content, wording, question difficulty, instructions, sequence, and form and layout. At this stage, potential problems in the questionnaire can be detected and addressed prior to the main data collection (Bryman and Bell, 2015). The sample size of pilot-testing is generally small, varying from 15 to 30 participants. The respondents in the pilot study and in the actual survey should have similar background characteristics, familiarity with the topic, and attitude and behaviour of interests (Malhotra et al., 2012).

After the preliminary questionnaire was developed, it was initially evaluated by students and academics from Brunel Business School, who specialised in the area of services marketing, to comment on the representativeness and suitability of the research questionnaire. Following content validity testing, a pilot study was conducted by face-to-face interview with 15 airline customers in order to observe their reactions and attitudes towards the questionnaire. During the pilot-testing, the respondents were asked to think out loud when describing the meaning of each question, explaining their answers and stating any problems encountered while answering the questionnaire. This technique assists the researcher to have clearer perspectives of how the questions were comprehended and answered, as well as to identify sources of confusion. The questionnaire was extensively revised and

corrected with regard to the problems that the respondents identified during pilot-testing. Minor changes of the initial pilot-testing include re-structuring the questions into a more logical order for respondents. Further modifications related to wording are undertaken. As some of the terminology was deemed academic, which causes difficulty for the respondents to understand, the terminology was revised to use simple language to make the questions clearer and easier to answer in order to reduce response error. After the necessary changes were undertaken, a second pilot-testing was conducted using Google Forms on another 15 airline customers, who had experienced flight delays, in order to check the questionnaire's layout, construct and content as a whole in the actual survey environment. There were no significant problems highlighted during the second pilot study, thus the questionnaire was approved for data collection. The research questionnaire is attached in Appendix. 2.

4.8 Measurement of the Questionnaire

Measurement refers to the process of assigning a number to a characteristic of an object according to a pre-specified set of rules (Malhotra et al., 2012). Measurement is significant for a study that is associated with statistical analysis, such as quantitative research. Scaling is considered an extension of measurement. By using scales, the researcher attempts to create a continuum upon which the measurement of a construct is located. The Likert-scale is a widely used multi-items rating scale that requires the respondents to indicate their level of agreement with each statement. Most participants readily understand how to use the scale, making it suitable for administering in questionnaire (Bryman and Bell, 2015). As such, for testing the hypotheses in this study, participants were provided with 5-point Likert scales that had a number and brief description associated with each variable. The participants were requested to select a number that best described the statement being rated.

4.8.1 Operationalisation of the Questionnaire Constructs

Marketing research is typically associated with abstract concepts, such as attitudes, perceptions and feelings. Due to the lack of measurements of the abstract concepts, operationalisation is employed to render the abstract concepts measurable in tangible ways (Sekaran and Bougie, 2013). With regards to the research conceptual framework, each construct is denoted as a latent variable. These latent variables were

then translated into measurement components in the process known as operationalisation. The measurement components of the latent variables were then included in the questionnaire.

In this research, the constructs of interest were examined in the conceptual framework. There are seven latent variables in this study including four dimensions extracted from perceived justice of service recovery (distributive, procedural, interpersonal, informational justice), post-recovery customer trust, overall company satisfaction and customer loyalty, and four moderator variables involving three attributes derived from service failure attributions (locus of causality, stability and controllability) and company reputation. In order to operationalise all the constructs, the definitions of each construct were established and then operationalised to the measuring instruments of each construct. The measurement constructs were converted to questions that were specified in the research questionnaire.

This study adapts measurement questions from various prior research questionnaires in service failure, service recovery and consumer behaviour areas in order to measure customer perceptions of company reputation, service failure attributions, perceived justice of service recovery, post-recovery trust, overall company satisfaction and customer loyalty. Adapting questions from previous research questionnaires is more efficient than developing new questions because this can allow reliability to be assessed (Gray, 2014; Marsden and Wright, 2010). The research questionnaire was initially reviewed by the researcher and two experienced business academics from Brunel Business School. This evaluation is used to examine the extent to which the scale items reflect the constructs under investigation and the relevance of the measurement components to the context under investigation. Additionally, the validity and reliability of the adapted scales were re-assessed at the pilot-testing.

4.8.2 Approach to Measurement of the Questionnaire Construct

In order to gain a more accurate measurement of each construct, a multi-item measure was adopted in the research questionnaire. Using several indicators to measure a single concept helps illustrate the different aspects of the construct, which

in turn, improves the accuracy of the measurement (Hair et al., 2017). There are two broad types of measurement specification when developing measurement constructs in the research questionnaire, namely reflective and formative measurement models, as illustrated in Figure 4.4. The choice of measurement model should be theoretically driven, specifying the nature and direction of the relationships between the construct and its indicators (Hair et al., 2014; Sekaran and Bougie, 2013).

Figure 4.4: Reflective and formative indicators

(a) Reflective measurement   (b) Formative measurement
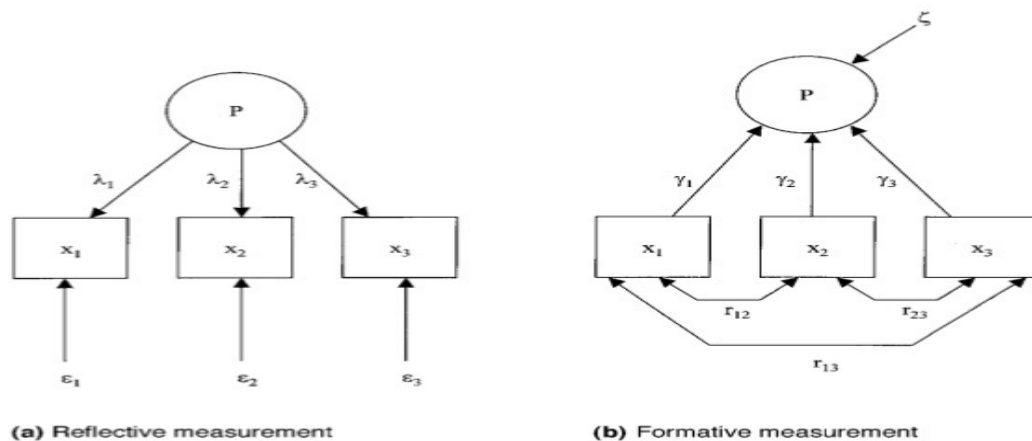
Source: Diamantopoulos (1999, p.446)

To classically test a theory in social science research, the measurement model is used to examine the relationships between the questionnaire constructs and their measured indicators. In a reflective scale, all indicators are expected to correlate with each other and assumed to share a common basis in the construct of interest. It can be said that the reflective indicators can be exchangeable, meaning that the drop out of any reflective indicator does not affect the meaning of the construct, as long as the construct has sufficient reliability. Therefore, since reflective scales represent the effects of an underlying construct, the direction of the relationships is from the construct to its indicators. On the other hand, a formative measurement model is employed when a construct is viewed as an explanatory combination of its indicators. As each formative indicator captures each specific aspect of the construct's domain, the formative indicator is not interchangeable. Therefore, changes in any one of the formative indicators can cause a change in the construct. In formative scale, each the indicator determines the meaning of the construct, and

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the direction of the relationships goes from the indicators to the construct (Daimantopoulos and Siguaw, 2006; Edwards and Bagozzi, 2000; Hair et al., 2017). In this study, all the questionnaire constructs have a reflective specification, in line with prior research measuring these constructs. The list of the questionnaire items of this study are summarised in Table 4.4.

Table 4.4: The list of questionnaires items

Construct	Concept	Contextualised items	Scales	Sources
Locus of causality	Customers' perceptions of whether the cause of failure originated from the company (internal) or the customer (external)	- The cause of the flight delay was something related to you - The cause of the flight delay was assumed as the airline's responsibility - The flight delay was caused by the airline - I was responsible for the flight delay	5-point Likert scales, strongly disagree to strongly agree	Mallalieu (2005); Poon et al. (2004); Russell (1982)
Sability	the temporal cause of failures, varying from unstable (expected to vary over time) to stable (expected to persist over time)	- In my opinion, the cause of the flight delay was something temporary - The cause of the flight delay was something permanent - I consider that the flight delay does not occur frequently in this airline - It is likely that the flight delay is common for the airline	5-point Likert scales, strongly disagree to strongly agree	Hess et al. (2003); Mallalieu (2005); Russell (1982)
Controllability	The ability of the firm to predict and prevent an unfavourable incident	- I consider that the flight delay was caused by something beyond the control of the airline - The cause of the flight delay was something unavoidable - In my opinion, the cause of the flight delay was preventable by the airline	5-point Likert scales, strongly disagree to strongly agree	Hess et al. (2003); Mallalieu (2005); Russell (1982)

Construct	Concept	Contextualised items	Scales	Sources
		- In my opinion, the cause of the flight delay was controllable by the airline		
Company reputation	Overall customer assessment of the company's past actions and future prospects with respect to its handling of customer relationships	- This airline is a well-established company - This airline is a successful company - This airline provides a consistently high quality of service - This airline cares about the interest and well-being of its customers	5-point Likert scales, strongly disagree to strongly agree	Hess (2008); Nguyen and Leblanc (2001); Yoon et al. (1993)
Distributive justice	The perceived fairness of the actual outcome of service recovery	- The airline gave me what I needed to resolve the problem - I did get what I deserved - The airline treated me fairly - The airline offered adequate compensation given the problem I experienced - The final outcome I received is fair given the inconvenience caused	5-point Likert scales, extremely unimportant to extremely important	Dewitt et al. (2008); Maxham and Netemeyer (2002); Tax et al. (1998)
Procedural justice	The way customers are treated throughout the recovery process	- The airline acted as quickly as possible to solve the problem - The airline's facilitation has easy to follow procedures - The airline has fair policies and practices to handle the problem - The airline has shown adequate flexibility in dealing with the problem - The airline has resolved the problem in the right way	5-point Likert scales, extremely unimportant to extremely important	Dewitt et al. (2008); Maxham and Netemeyer (2002); Tax et al. (1998)

Construct	Concept	Contextualised items	Scales	Sources
Interpersonal justice	The attentive behaviour of employees during service encounters	- The staff are courteous and respectful to me - The staff are appropriately concerned about my problem - The staff put the proper effort into solving my problem - The staff are always willing to help me - The staff are competent in answering my questions	5-point Likert scales, extremely unimportant to extremely important	Dewitt et al. (2008); Maxham and Netemeyer (2002); Tax et al. (1998)
Informational justice	The adequacy and truthfulness of information is communicated during service encounters	- The staff immediately gave me a sincere apology for any inconvenience - The staff offered me an adequate explanation for the problem - The staff spontaneously informed me of the reason for the problem - The staff provided me with clear and understandable information regarding the cause of the problem - The staff's communication was straightforward	5-point Likert scales, extremely unimportant to extremely important	Colquitt (2001); Liao (2007)
Post-recovery trust	Customer confidence and willingness to rely on the company's reliability and integrity	- I think the airline can solve my problem with reliability - I think the airline does their best for me to handle my problem - I think the airline can be relied on to keep its promises - I think the airline is a company in which I have great confidence - I think the airline deserves my trust, considering the trouble caused and the service recovery provided by the airline	5-point Likert scales, strongly disagree to strongly agree	Morgan and Hunt (1994)

Construct	Concept	Contextualised items	Scales	Sources
Overall company satisfaction	The overall customer assessment of satisfaction with the entire organisation	- I am satisfied with the overall service this airline provided to me - This airline provides satisfactory service experience that exceeded my expectation - Overall, I am satisfied with my decision to fly with this airline - I am not satisfied with this airline service - I now have a positive attitude towards this airline	5-point Likert scales, strongly disagree to strongly agree	Han et al. (2008); Homburg and Furst (2005); Maxham and Netemeyer (2002)
Customer loyalty	Customer's ongoing propensity to buy the brand, usually as one of several, despite situational and marketing influences	- I will choose this airline next time as opposed to other competitors - I consider myself as a regular customer of this airline - I would not switch to another airline - I will continue using this airline in the future - I will continue using this airline, even if other low-priced alternatives are available	5-point Likert scales, strongly disagree to strongly agree	Han et al. (2008); Kwortnik and Han (2011)

Note: All items are 5-point Likert-type, anchored at (1) strongly disagree to (5) strongly agree. An exception is on the section of the effect of perceived justice, anchored at (1) extremely unimportant to (5) extremely important.

4.9 Data Collection Method

Data can be obtained from secondary and primary sources. Secondary data refers to information gathered from sources that already exist. Primary data refers to information collected by the researcher with the aim of answering the research problem (Malhotra et al., 2012; Sekaran and Bougie, 2013). In this research, both secondary and primary data were used. Secondary data, such as journal articles textbooks and industrial reports, were used as part of the literature review to explore

the research gaps and develop an understanding of the main investigation. Then, primary data were collected by the researcher to answer the research problem and test the conceptual framework. This research adopted a questionnaire survey technique as a data collection method.

Questionnaire survey technique has been widely used in social science research, especially marketing studies, and is often used to implement a quantitative approach (Malhotra et al., 2012). The questionnaire consists of a formalised set of questions, designed to generate data for a specific investigation (Saunders et al., 2016). The questionnaire is suggested as an effective data collection method for obtaining information from a large number of participants (Bryman and Bell, 2015). In this research, the self-administered questionnaire was used as method of administration for collecting the data. The questionnaire was collected directly from the respondents at Bangkok International Airport (Suvarnabhumi Airport) in Thailand during December 2016 to February 2017. The approximately time taken to complete each questionnaire was around 10 minutes per person. The details of the sample will be further explained in the sampling design section.

Notwithstanding, there are both advantages and limitations of using the self-administered questionnaire. As this research focuses on respondents who fly from and to Thailand, the direct questionnaire offers greater accuracy on screening respondents to participate in this survey. Although the self-administered questionnaire consumes more time and has a greater cost element, it has a considerably higher response rate than other methods. However, there may be serious issues with missing data when collecting self-administered questionnaires. A number of considerations were made in order to offset this limitation. The questionnaire was extensively pre-tested and pilot-tested, in line with best practice guidelines in conducting the business research (Bryman and Bell, 2015; Saunders et al., 2016). In the pre-tests, potential ambiguous questions were detected and revised. To remove any problems related to missing data, the questionnaire required being completed online, through the online survey-building software "Google Forms" (http://docs.google.com/forms/), instead of a paper-based questionnaire. The respondents were required to answer the questions in the correct order and were not allowed to skip questions when completing the questionnaire. This has the added

benefit of helping the researcher to ensure that the respondents' answers were not influenced by other questions included in the questionnaire. Additionally, all responses were downloaded into a comma-separated values (.csv) file within Google Forms, thus any risks related to transcription errors were also eliminated.

4.10 Sampling Design

As discussed above, the questionnaire survey is a useful method for collecting large volumes of data in the time constraints (Fowler, 2014). However, the survey questionnaire can harm the research if the population is not correctly targeted. The population is the entire group of people of interest that the researcher aims to investigate (Bryman and Bell, 2015). Since collecting data from the entire population is practically impossible due to the time and cost, the concept of sampling is introduced to ensure that the right sample group is properly selected for the investigation (Marsden and Wright, 2010). Sampling is the process of precisely selecting a sufficient number of participants from a population to reduce the amount of data that need to be collected. The sampling frame must be carefully defined because imprecise definition of the sampling frame can lead to ineffective and misleading data to answer the research question (Saunders et al., 2016). According to the aim of this study, the sampling frame in this study is on airline passengers who were traveling from and to Thailand that had experienced a full service airline's flight delay within the past 12 months during December 2016 and February 2017.

I.   Sampling Technique

In order to lessen sampling errors, there are two main techniques in designing a sample, including probability and non-probability sampling. Probability sampling is a simple random sampling, meaning that every member in the population has a chance of being selected. Thus, when generalisability is required, the use of probability sampling is recommended. In contrast, non-probability sampling occurs where the probability of selecting members from the population is unknown. In other words, probability sampling relies on random chance in selecting a sample, while non-probability sampling relies on the judgement of the researcher in choosing a sample. Nonetheless, non-probability sampling can yield good estimates of the population characteristics within a limited cost and time, but this technique cannot

provide statistical results to represent the population (Malhotra et al., 2012; Saunders et al., 2016). Since it is difficult to specify all airline passengers who have experienced flight delays, non-probability sampling was employed in this study. Although the non-probability sampling method can produce bias from an unrepresentative sample, the researcher must be aware not to generalise the sample to the population. Particularly, due to time limitations, a convenience sampling technique was applied to recruit airline passengers to participate in the questionnaire.

As the sampling frame in this study was airline passengers, who are traveling from and to Thailand, the survey took place at Bangkok International Airport (Suvarnabhumi Airport) in Thailand. Sampling from this sector was considered appropriate because Suvarnabhumi Airport is one of the biggest international airports in Southeast Asia and the world's third largest airport by physical space. With the advantageous location, Suvarnabhumi Airport is a regional hub for passengers travelling to Asia (ACI, 2017). Also, Suvarnabhumi Airport is Thailand's busiest, Asia's 9th busiest and the world's 20th busiest airport in terms of passenger traffic (AOT, 2017). In 2016, Suvarnabhumi Airport accommodated over 120 million passengers on more than 330,000 commercial flights operated by 111 scheduled airlines (ACI, 2017). More specifically, the respondents were approached by the researcher in the waiting area inside the airport while waiting for their flight. The waiting area was chosen as the location of choice because the participants had more free time and hence were more willing to complete the questionnaire. The sampling was selected during the early morning, afternoon, evening and late night on different days of the week during December 2016 to February 2017. All respondents were further screened at the time of completing the questionnaire to ensure that they had experienced a full service airline's flight delay in the past 12 months.

II. Sampling Size

Sample size is the number of participants to be included in the study (Fowler, 2014). The determination of the sample size is a difficult task as it is ambiguous and there are no rules (Saunders et al., 2016). Commonly, quantitative methodologies are more often related to a large sample size in order to obtain a high level of accuracy and ensure the representativeness of data (Marsden and Wright, 2010). A large sample size is needed when conducting causal research and the number of constructs of

interest is large. On the contrary, qualitative methodologies rely on smaller sample sizes since the object of the qualitative research is to gain in-depth knowledge on the participants (Bryman and Bell, 2015; Gray, 2014). However, in practical consideration, time and cost constraints are the critical aspects in determining the sample size (Malhotra et al., 2012).

For the non-probability sampling, attention should be given to minimise the potential statistical bias from an unrepresentative sample (Bryman and Bell, 2015). Particularly, bias can affect analytical results when multivariate analysis techniques are used. In multivariate research, the sample size should be ten times or more as large as the number of constructs in the study (Hair et al., 2010). However, large samples do not guarantee a higher level of precision, validity or success in the study. A representative sample is more significant than the sample size and it is quality not quantity that is important in the research. As a result, the sample size should be appropriately selected (Gray, 2014).

In this research, the particular samples are more dependent on the research question and research objectives. Since, the number of airline passengers who had flight delay experiences is unknown, to determine the appropriate sample size, the rule of thumb in multivariate analysis was applied. The rule of thumb offers a rough guideline for the minimum sample size requirements, as the sample size should be equal to or larger than ten times the largest number of structural paths directed at the particular construct in the structure model (Hair et al., 2017). Based on the research conceptual framework, the largest number of structural paths directed at a construct of post-recovery trust was four. It follows that a sample size of 40 cases per independent variable was acceptable. Thus, a sample size of at least 160 cases was acceptable (40x4) in this study. Furthermore, to reduce bias from an unrepresentative sample, the participants were screened at the time of completing the questionnaire to ensure that the participants were suitable for this study. Overall, a total of 1137 airline passengers were asked to participate in this questionnaire but only 750 participants responded, representing a response rate of 66%. Nevertheless, 270 responses were excluded due to their inexperience of a full service airline's flight delay, yielding a usability response rate of 42%.

4.11 Sources of Error

Where the focus of this study is quantitative measurement, this section focuses on discussing frequent sources of error and the considerations made to reduce errors in this study. Several sources of error can affect the research design. In order to establish quality research, sources of errors in designing this study need to be minimised. Errors can occur at any step in the research process, and the errors at each step comprise the total research error. Based on potential sources of error in research design by Malhotra et al. (2012), as illustrated in Figure 4.5, total error can be distinguished as either random sampling error and non-sampling error.

Figure 4.5: Potential sources of error in research designs
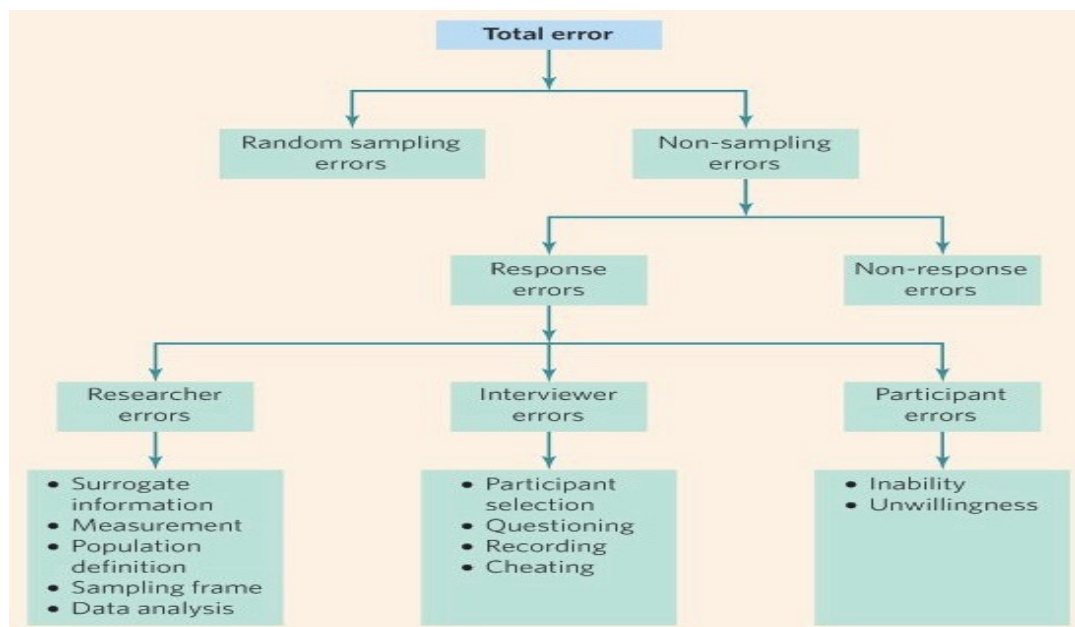
Source: Malhotra et al. (2012, p.102)

Random sampling error is caused when the selected sample does not represent the characteristics of the target population. However, random sampling error cannot be assessed in a non-probability sampling technique. On the other hand, non-sampling error includes the error related to the problem definition, questionnaire design, measurement and data analysis. Non-sampling error can be further divided into response error and non-response error (Malhotra et al., 2012; Saunders et al., 2016). Non-response error occurs when respondents are not adequately participating in the study. For example, the respondents either do not respond to the questionnaire or leave it incomplete. In order to minimise non-response error in this study, the

required response option within Google Forms was activated, thus answering all the questions in the questionnaire was made compulsory.

On the contrary, response error can either arise from the researcher or respondents. For instance, the respondents may give inaccurate answers, or their answers are inappropriately recorded or analysed. The decisions made by the researcher in relation to questionnaire design, measurement, sampling as well as data analysis can be a source of response error. As such, to reduce response error, each process in conducting this research was attentively examined. First, prior literatures in the field of service failure and recovery were broadly reviewed in order to simplify clear constructs of interest. Then, measurements of each construct were considerably operationalised. To reduce inability and unwillingness error results from the respondents, the research questionnaire was extensively pre-tested and pilot-tested to eliminate potential ambiguous questions. The use of Google Forms to create the online research questionnaire instead of being paper-based helps eliminate recording errors as all the responses were downloaded and coded in .csv format, which is compatible with SPSS and PLS software. Although non-probability sampling can produce response errors, a particular representative sample was carefully selected and screened based on the purpose of the research. Finally, due to the complexity of the research conceptual framework to predict the results, a Partial Least Squares approach to Structural Equation Modelling (PLS-SEM) analysis was employed in this study to reduce data analysis errors, which will be expanded in the next section.

4.12 Analytical Techniques for Data Analysis

Statistical analysis is considered as an essential tool for quantitative researchers. To comprehend the conceptual framework associated with current study, a multivariate data analysis technique was applied. Multivariate analysis is a set of statistical techniques, such as multiple regression analysis, factor analysis and structural equation modelling, that use to simultaneously analyse multiple variables on objects under investigation (Hair et al., 2010). In this study, a structural equation modelling (SEM) analytical technique was employed. SEM is a technique that uses both factor analysis and regression analysis, and allows multi-relationships between one or more independent and dependent variables. Since SEM provides a greater flexibility for

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the interplay of theory, this technique has been increasingly used in social science research in the past decade (Hair et al., 2017) Particularly, SEM enables the researcher to (1) model the relationships among multiple independent and dependent variables, (2) construct unobserved variables, (3) model the measurement errors of observed variables and (4) statistically test a priori theoretical and measurement assumptions against empirical data (i.e. confirmatory analysis) (Hair et al., 2010).

There are two main techniques to estimate the relationships in SEM; covariance-based SEM (CB-SEM) and partial least square SEM (PLS-SEM). A principal difference between CB-SEM and PLS-SEM relates to the way in which each technique deals with the independent and dependent variables in the model (Hair et al., 2017). CB-SEM attempts to account for the covariance among observed variables in such a way that the estimated covariance matrix is minimised. Thus, CB-SEM is primarily used to confirm/reject theories by determining how well a proposed theoretical model can estimate the covariance matrix for a sample data set. The comparative advantage of CB-SEM is to provide an overall test of model fit for testing theories (Hair et al., 2010). However, the CB-SEM model estimation requires a set of assumptions to be fulfilled such as multivariate normality of data and minimum sample size. These constraints, which sometime cannot be met by researchers, can lead to biased test statistics (Hair et al., 2012).

PLS-SEM or variance-based SEM, referred to as PLS, represents an analytical alternative to CB-SEM. PLS assumes that all measured variances are useful variances to be explained and aim to maximise the explained variances of all dependent variables (Chin, 2010). PLS is intended for causal-predictive analysis in a complex model, where there is low theoretical information (Hair et al., 2014). Unlike the usage of CB-SEM, PLS mainly focuses on the explanation of the relationships and prediction of the dependent variables of the model (Henseler et al., 2009). PLS can incorporate both reflective and formative constructs, whereas CB-SEM only deals with reflective specification (Hair et al., 2017). Since data collected for marketing research often do not meet the requirement of multivariate normality, PLS helps reduce risks associated with obtaining a poor model fit or failure in running the model. Furthermore, to achieve a high level of statistical power, the sample size requirements when building a model with PLS are usually much smaller than those

required from CB-SEM. Notwithstanding, there are both advantages and limitations of using PLS. Although CB-SEM is a more direct and precise analytical technique to empirically measure theoretical concepts, PLS provides approximations due to its less restrictive assumptions of normality distribution. Since PLS is designed to maximise prediction rather than fit, the lack of a global goodness-of-fit measure limits the use of PLS in testing theories and comparing with alternative model structure (Hair et al., 2017).

Considering the advantage of PLS and the research objective, a PLS analytical technique was used to analyse the collected data in this study in order to test the hypotheses and be able to answer research question. The reason for using PLS is that since empirical data collected is not distributed normally, PLS often provides more robust estimations of the structural model when dealing with non-normal data (Hair et al., 2017). Secondly, as the object of this research is on prediction, a PLS approach, which aims not only explaining and predicting the dependent variables but also building theories (Chin, 2010), is better suited for examining the causal relationships in this research framework. PLS is also effective in testing a complex model, particularly a model containing many interaction effects (Henseler et al., 2009). Although CB-SEM is the best known SEM-based technique, PLS has recently received considerable attention in all social science disciplines, particularly in marketing, because of the ability to handle problematic modelling issues, such as unusual data characteristics and highly intricate research models (Hair et al., 2012; Henseler et al., 2009; Sanchez, 2013).

There are several PLS software packages available in the market, such as SmartPLS, XLSTAT-PLSPM and plspm with R. In this research, plspm package in R software is used to perform PLS analysis. R was chosen to employ in this study instead of other PLS-based commercial software because R is free open source software that has an extremely powerful ability for manipulating and analysing data. R is a source code-based program allowing the researcher to see all details relating to the functions that have been used. R is platform independent, which means that researchers can use it under Windows, MacOS or Unix platforms. Additionally, R is enriched by the users, who contribute and share their works in the form of packages,

giving R unrivalled help resources – both online and physical (R-project, 2017; Sanchez, 2013).

4.12.1 The Specification of PLS Path Modelling

PLS path models are diagrams that are used to illustrate the relationships between variables and the hypotheses under investigation. The example of a PLS path model is presented in Figure 4.6. Based on the model, indicators (x_{11} to x_{43}), referred as items or manifest variables, are the directly measured proxy variables that contain raw data. Constructs (ξ_1 to ξ_4) are variables that can be defined in conceptual terms but cannot be measured directly. Multiple indicators are needed for each construct to be measured, for example, indicator x_{11} to x_{13} are used to measure the construct ξ_1.

Figure 4.6: Example of PLS path model
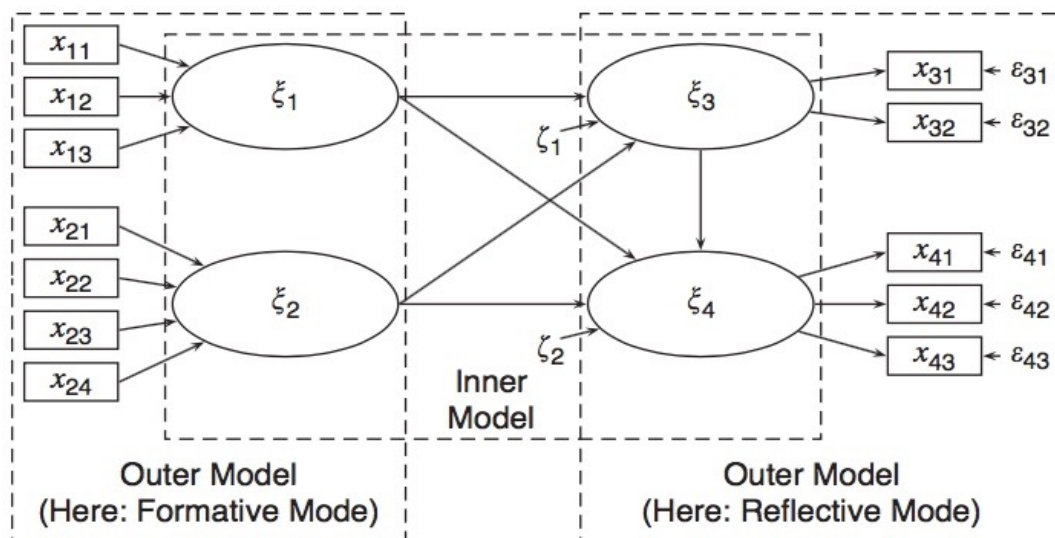
Source: Henseler et al. (2009, p.285)

PLS path models comprise two types of model, structural models (inner model) and measurement models (outer models). Structural models represent the relationships between variables (e.g. $\xi_1 \rightarrow \xi_3$) in order to present how the variables are related to each other. The structural model is generally constructed based on hypotheses advanced from relevant theoretical reasoning (Chen, 2010). There are two types of variable in structural models, which are independent variables (exogenous latent variable; ξ_1 and ξ_2) and dependent variables (endogenous latent variables; ξ_3 and ξ_4). Independent variables are predictor variables that explain other variables in the

model, whereas dependent variables reflect outcome variables that are explained in the model.

Measurement models specify how the latent variables are measured, describing the relationships between the variables and their indicators (e.g. x_{11} to $x_{13} \rightarrow \xi_1$). There are two methods to measure unobserved variables when developing constructs, which are formative and reflective measurement. A formative measurement model (ξ_1 and ξ_2) implies causal relationships between indicators and construct, thus the direction of arrows points from the indicators. Each indicator of a formative construct captures a specific aspect of the construct's domain, results that omit an indicator potentially alter the nature of the formative construct. In contrast, with a reflective measurement model (ξ_3 and ξ_4), the direction of arrows is from the construct to the indicators, assuming that the construct causes the measurement of the indicators. Thus, reflective indicators within a particular construct are interchangeable, highly correlated with each other and capable of being omitted without changing the meaning of the construct. Additionally, the error terms (ε) represent the unexplained variance when path models are estimated. Error terms are only connected with dependent variables and reflectively measured indicators. For instance, ζ_1 is the error in terms of variable ξ_3, ε_{31} and ε_{32} are the error terms of indicator x_{31} and x_{32}.

Once the PLS path models are specified, the measurement and structural model parameters are estimated through a series of ordinary least squares (OLS) regressions. PLS estimates variable scores as exact linear combinations of their associated indicators and treats them as perfect substitutes for the indicators. The scores thus capture the variance that is useful for explaining the independent variables. PLS is therefore aimed to estimate the model parameters to maximise the explained variance of independent variables in the model. Since PLS is based on an iterative sequence of OLS regressions, PLS has minimum demands regarding the distribution of the measurement scale of the indicators. The sample size requirement to undertake statistical analysis when using PLS should be equal to the larger of the rule of thumb; (1) ten times the largest number of formative indicators used to measure a single construct, or (2) ten times the largest number of structural paths

directed at a particular construct in the structure model (Chen, 2010; Hair et al., 2017; Henseler et al., 2009).

4.12.2 Analytical Procedures of PLS

Following the guideline on how to conduct PLS (Hair et al., 2017), the analysis was performed in four stages: (1) the evaluation of the measurement model, (2) the evaluation of the structural model, (3) the analysis of the mediating effects, and (4) the analysis of the moderating effects.

I.   The Evaluation of Measurement Model

Since the constructs are not directly observed, a measurement model of each construct needs to be specified. The purpose of assessing the measurement model is to ensure that each construct is accurately measured and represented under a particular investigation (Hair et al., 2014). Based on the discussion above, only reflective measured constructs were developed in this study. The reflective measurement model is assessed by examining reliability and validity analysis. The important statistics of the measurement model are indicator reliability (outer loading), Cronbach's alpha (α), composite reliability (CR), average variance extracted (AVE) and cross-loading (Hair et al., 2017).

When assessing a reflective measured construct, the first step is to purify the observed variable for each latent construct by calculating indicator reliability. Measure purification is the process in which observed indicators that do not load satisfactorily on their conceptualised constructs or do not contribute to the reliability of a measurement scale are removed before further analysis. Then, reliability analysis is performed to establish the consistency of an indicator within the construct's domain. Cronbach's alpha is a conservative reliability coefficient measure and CR estimates internal consistency reliability. Validity testing is examined by analysing the construct's convergent validity and discriminant validity. Convergent validity is evaluated to measure the similarity of each indicator in the same construct. AVE is examined to assess the convergent validity of each indicator, ensuring that each indicator correlates positively with other indicators within a construct. Discriminant validity measures the distinctiveness of each construct in the

model to ensure that each construct is unique and captures phenomena not represented by other constructs. The cross-loadings of the indicators are calculated to assess the discriminant validity of the indicators (Chen, 2010; Hair et al., 2017).

II. The Evaluation of Structural Model

Once the reliability and validity of the measurement models are established, several steps must be performed to evaluate the hypotheses' relationships within the structural model. Unlike the analytical technique of CB-SEM, PLS analyses the collected data to estimate parameters, thus the explained variances of dependent variables are maximised. As such, there is a lack of a standard goodness-of-fit statistic in PLS. Instead, the assessment of the model's quality is based on its ability to predict the independent variables. Thus, the evaluation criteria for the structural model are the level of the significance of path coefficients, coefficient of determination (R^2), predictive relevance (Q^2) and effect size (f^2) (Hair et al., 2017).

After running the PLS algorithm, estimated path-coefficients are provided to represent the hypothesised relationships among the constructs. Since PLS does not presume that the data are normally distributed, bootstrapping is applied to obtain standard errors for hypothesis testing (Hair et al., 2017). Bootstrapping involves repeated random sampling with replacement from the original sample to create the bootstrap sample (Chen, 2010). Thus, to statistically evaluate the significance of the path-coefficients of each relationship linking to the constructs, a standard error must be obtained by means of bootstrapping. The bootstrap standard error enables computing the empirical t and p values for all structural path-coefficients to access the significance levels (Hair et al., 2017).

Next, the R^2 value is calculated to measure the model's predictive power, in other words, the quality of the model. The R^2 value represents the amount of variance in the dependent variables that are explained by the model. To further access the model's predictive relevance, a Q^2 value is computed by using a blindfolding procedure. However, the blindfolding procedure is a predictive sample reuse technique that can only be applied to dependent constructs that have reflective measurements. Besides the predictive accuracy and relevance estimates, f^2 is used to evaluate the effect of each independent variable on the dependent constructs in the

research model. The effect size can be assessed by calculating the change in the R^2 value of the dependent constructs when a predictor is omitted from the model (Chen, 2010; Hair et al., 2017).

III. The Analysis of Mediating Effect

Mediating effects occur when a third variable intervenes in the relationship between independent and dependent constructs (Nitzl et al., 2016; Zhao et al., 2010). Consider Figure 4.7 for an illustration, Figure 4.11(a) shows the simple direct cause–effect, denoted as path c, which links between independent variable (X) and dependent construct (Y). However, as presented in Figure 4.11(b), the causal effect of X can be apportioned into its indirect effect on Y through mediator (M), including the effect of X on M (path a) and the effect of M on Y (path b), and its direct effect on Y (part c').

Figure 4.7: Path diagram for illustrating mediation models

Notes: (a) Simple cause-effect relationship; (b) general mediation model
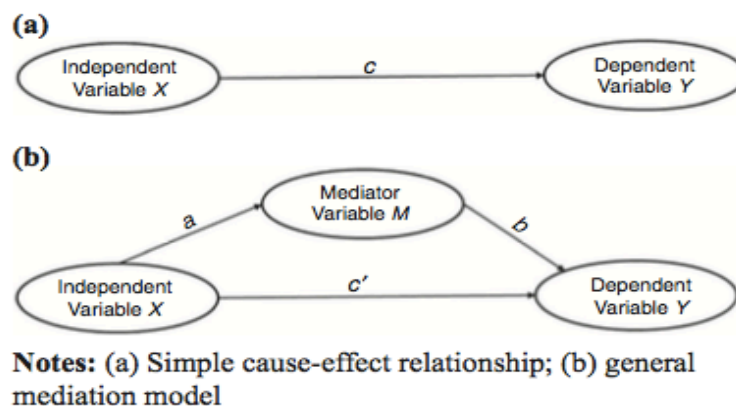
Source: Nitzl et al. (2016)

In order to evaluate the mediating effects in this study, a bootstrapping test is employed to obtain the significance of paths in the mediation model. According to Baron and Kenny (1986), there are two major types of mediation, including partial mediation and full mediation. Against this background, recent scholars (Nitzl et al., 2016; Zhao et al., 2010) offer guidelines for assessing the mediating effect as follows:

- No effect of mediation occurs when paths a, b and c are not significant.

- Direct-only non-mediation occurs when paths a and b are not significant, but c is significant.

- Full mediation or indirect-only mediation occurs when paths a and b are significant, but c is not.

- Complementary partial mediation occurs when paths a, b and c are significant and the sign of multiplication of a*b*c is positive.

- Competitive partial mediation occurs when paths a, b and c are significant and the sign of multiplication of a*b*c is negative.

Based on the guidelines, if there is partial mediation, the proportion of mediation can be calculated by $\frac{a*b}{(a*b)+c}$; the closer the value to 1, the greater is the proportion of mediation.

IV.   The Analysis of Moderating Effects

Moderation occurs when the effect of an independent variable on a dependent variable depends on the value of a moderator variable, which influences the relationship. The moderator variable changes the strength or even the direction of a relationship between two constructs in the model (Chen, 2010). In this research, the moderators of factors external to the recovery encounter – service failure attribution (locus of causality, stability and controllability) and company reputation – were adopted as continuous moderator variables and measured reflectively. There are a number of approaches to testing moderation in PLS, for example, the product indicator approach and the two-stage approach (Hair et al., 2014; Sanchez, 2013). According to the PLS guidelines, the two-stage approach is preferred when aiming to determine whether or not the moderator exerts a significant effect on the relationship (Hair et al., 2017). In this study, with respect to the research objectives, moderation was used to explain how the strength of the relationships between each dimension of justice and post-recovery trust changes due to the moderator variables. Thus, based on the nature of moderators and the purpose of moderations, a two-stage approach was employed to reveal the significance of the moderating effect in this research framework.

Since the two-stage approach yields high levels of statistical power compared to other approaches, this method is considered a powerful approach to test the significance of an interaction effect (Hair et al., 2017; Henseler and Chin, 2010). As the name indicates, a two-stage approach comprises of two steps. First, the main effects model without the interaction term is initially estimated to obtain the scores of each latent variable. Then, the latent variable scores obtained from the first step and the moderator variable are multiplied to create a single-item measure used to measure the interaction term. All other latent variables are represented by means of single items of their latent variable scores from the first stage. To denote the inclusion of the moderators, the interaction term's effect on the dependent variable need to be statistically significant (Hair et al., 2017; Henseler and Fassott, 2010).

Figure 4.8: Two-stage approach to testing moderation
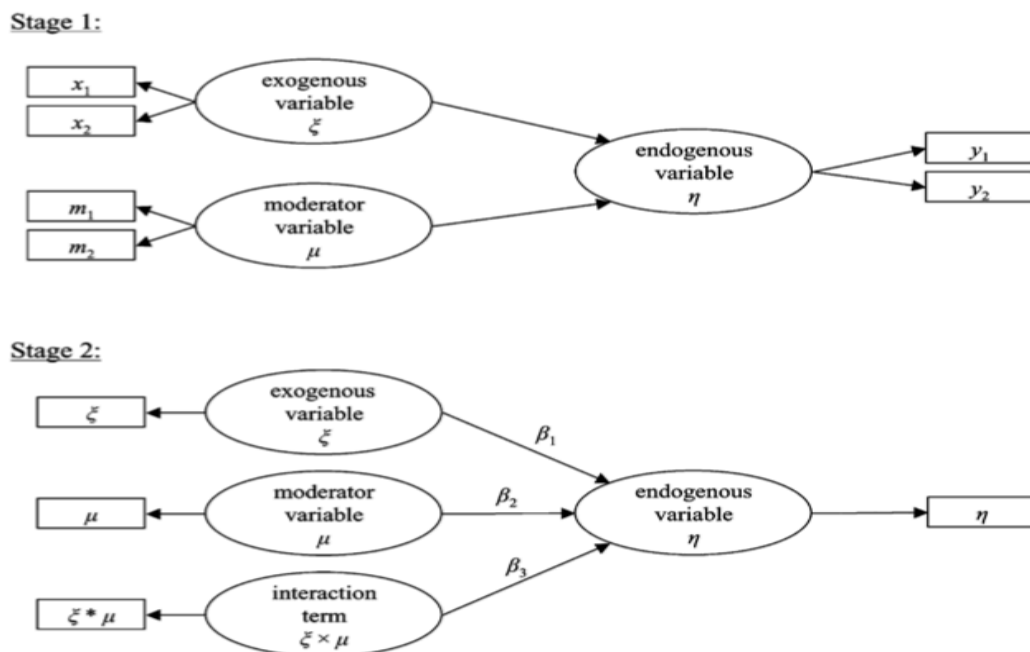
Source: Henseler and Chin (2010)

4.13 Chapter Summary

The purpose of this chapter is to clarify the methodology adopted for empirically validating the research conceptual framework and to answer the research question of this study. This research was carried out with a positivist epistemological stance as the way to develop knowledge. Since this study was derived from the theoretical

foundations to achieve the research aims and objectives, a deductive approach was employed. In order to test the research conceptual framework and to inspect the causality of the hypothesised relationships, a quantitative survey method was adopted. A cross-sectional self-administered questionnaire using non-probability sampling technique was applied. For the data analysis, PLS-SEM analytical technique via plspm package in R software was used to empirically analyse the collected data in this study in order to test the research hypotheses and be able to answer the research question. A further discussion of the statistical data analysis and results will be explained in the next chapter. The following table provides an overview of the characteristics of this research.

Table 4.5: Overview of the methodology and research design characteristics

Research philosophy	Positivism
Research approach	Hypothetico-deductive
Research design	Explanatory
Research methodology	Quantitative
Research strategy	Survey
Time horizon	Cross-sectional
Pilot-testing	Interview
	15 participants from Brunel Business School
	October 2016
Data collection method	Self-administered questionnaire using Google Form
	Bangkok International Airport, Thailand
	December 2016 to February 2017.
Sampling technique	Non-probability sampling technique
	(Convenient Sample)
Amount of data gathered	480 valid questionnaires
	(representing a response rate of 42%).
Analytical technique	PLS-SEM (plspm package in R software)

CHAPTER 5

DATA ANALYSIS AND RESULT INTERPRETATION

5.1 Introduction

Having discussed the research methodology and the data collection strategy for this study in the previous chapter, this chapter reports the statistical analysis and results obtained from 480 valid self-administered questionnaires at Bangkok International Airport (Suvarnabhumi Airport) in Thailand. Multivariate statistical analysis, with a PLS-SEM analytical technique via plspm package in R software was used to analyse the gathered data. This chapter starts with a description of the preliminary data examination procedure, followed by the descriptive analysis of the respondents' profiles. Then, the specification of the research path model is illustrated and the process of data purification is explained. Next, an interpretation of the empirical results assessed from measurement model and structural model are presented before addressing the mediating and moderating analysis. Finally, a synopsis of the hypotheses testing results is provided and a summary of the chapter is presented.

5.2 Data Examination

Based on the earlier discussion, each process in gathering the empirical data was carefully examined to minimise sources of error. First, the prior literatures in the areas of service failure and recovery were broadly reviewed in order to make clear the constructs of interest. The measurement scales of each questionnaire construct were utilised and adapted from prior research to assure the consistency of measurement reliability. In order to gain content validity, the research questionnaire was extensively pre-tested and pilot-tested to eliminate potentially ambiguous questions. Additionally, to reduce bias from non-probability sampling, a particular representative sample was carefully selected and further screened at the time of completing the questionnaire to ensure that particular participants are relevant for this study. Overall, 750 responses were collected but 270 were excluded due to lack of experience of a full service airline's flight delay.

In completing the questionnaire, the respondents were required to answer the questions in the correct order and were not allowed to skip any questions. Thus, any problems relating to missing data were eliminated. As a result, 480 valid responses were downloaded in a .csv format, which is compatible with plspm package in R software. Prior to model estimations and testing, the data obtained were coded and negative worded questions were reverse coded. Then, data screening was repeatedly performed to ensure that there were no transcription errors and all the responses were recorded correctly. Since there were no missing data and outliers in this study, no extra treatment was needed in examining the data. Unlike the use of CB-SEM, PLS does not assume the data to be normally distributed. As such, normality distribution testing for verification of the collected data was not implemented in this study.

5.3 Profile of the Respondents

The demographic characteristics for all responses were investigated in terms of gender, age group, nationality, education level, job status and annual income. A summary of the social-demographic characteristics of the respondents is presented in Table 5.1. The sample contains a similar proportion of male (41%) and female (59%) respondents. The respondents' ages are broken down into three bands: 18–35 (54%), 36–55 (29.2%) and 55 and above (16.8%). As this research focuses on respondents who fly from and to Thailand, the sample contains a similar percentage of Thai (49.4%) and non-Thai (50.6%) respondents. The education level of the respondents reported the following: 2.7% held a school certificate, 25.2% had reached undergraduate level, 69.2% had completed postgraduate degrees and the rest were not specified. The majority of the respondents (64.2%) were employed, and 29.2% were students. The remaining respondents were categorised as unemployed (1.5%), retired (1.9%) and other (3.3%). Lastly, the annual income of the respondents varied greatly: around half of the respondents (52.5%) earnt up to £19,000 annually, 25.2% earnt between £20,000 and £29,000, 13.1% earnt between £30,000 and £39,00, 4% earnt between £40,000 and £49,000 and only 5.2% earnt more than £50,000 per year.

Table 5.1: The social-demographic characteristics of the sample

Demographic variables	Total Respondents	Total Respondents (%)
Gender		
Male	197	41%
Female	283	59%
Age		
18–35	259	54%
36–55	140	29.2%
56 or above	81	16.8%
Nationality		
Thai	237	49.4%
Non-Thai	243	50.6%
Education		
Up to high school	13	2.7%
Undergraduate degree	121	25.2%
Postgraduate degree	332	69.2%
Other	14	2.9%
Professional		
Student	140	29.2%
Employed	308	64.2%
Unemployed	7	1.5%
Retired	9	1.9%
Other	16	3.3%
Income		
Up to £19,000	252	52.5%
£20,000–£29,000	63	25.2%
£30,000–£39,000	19	13.1%
£40,000–£49,000	25	4%
£50,000 or more	25	5.2%

Based on 480 valid questionnaires, all respondents had previous experienced a full service airline's flight delay in the past 12 months and were somewhat inconvenienced from their previous flight delay experiences, ranging from minor inconvenience to major inconvenience. In this study, there were 30 different full service airlines that respondents had experienced flight delays with, as presented in Figure 5.1. The results indicated that in the past 12 months approximately half of the respondents (42.4%) took 3–5 flights, 27.3% took 1-2 flights, 21.5% took 6-11 flights and only 8.8% took more than 12 flights. The main purpose of the respondents' trips was for leisure (46.9%), business or professional (24%), visit friends or relatives (23.7%) and to conferences (5.4%), respectively. The majority of respondents (84%) often travelled economy class. Additionally, approximately half of the respondents bought their tickets directly from the airline/airline website (57.7%). With the remainder usually purchasing their tickets from a tour operator/travel agent (21%), other travel website (18.8%) and other methods (2.5%), respectively. The airline usage figures are summarised in Table 5.2.

Figure 5.1: Full service airlines with which respondents had experienced a flight delay
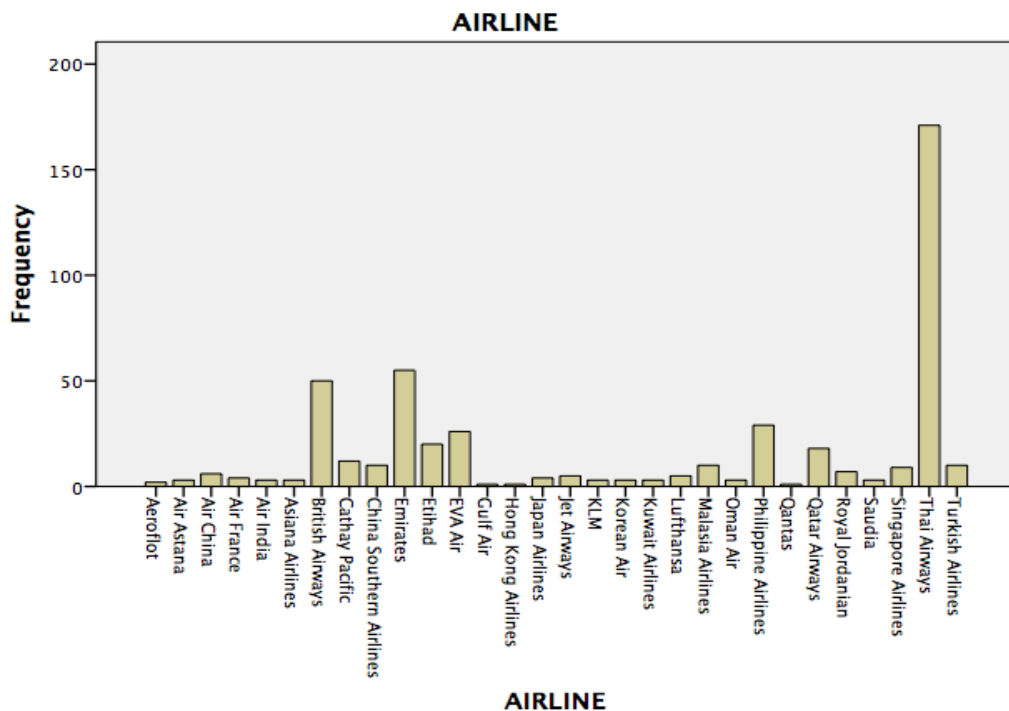
Table 5.2: Additional characteristic of the sample

Additional characteristics	Total Respondents	Total Respondents (%)
Customer perceived inconvenience		
Minor inconvenience	26	5.4%
Slight inconvenience	77	16%
Moderate inconvenience	163	34%
Large inconvenience	143	29.8%
Major inconvenience	71	14.8%
Number of flights in the past 12 months		
1–2	131	27.3%
3–5	203	42.4%
6–11	106	21.5%
12 or above	42	8.8%
Purpose of flying		
Business/professional	115	24%
Leisure/recreation/holiday	225	46.9%
Convention/conference	26	5.4%
Visiting friends/relatives	114	23.7%
Flying class		
Economy class	403	84%
Premium economy class	26	5.4%
Business class	42	8.8%
First class	9	1.8%
Purchase method		
Directly from the airline/airline website	227	57.7%
Other travel website	90	18.8%
Tour operator/travel agent	101	21%
Other	12	2.5%

5.4 Specifying the Research Path Model

The research path model has been developed in this study to investigate how passengers' perception of the justice of service recovery drives customer loyalty in the case of various levels of company reputation and attributed causes of failure. The structural model was initially developed to represent the research hypotheses and their relationships to the theory being tested. Recalling the conceptual framework of the current study, four dimensions of perceived justice – distributive (DJ), procedural (PJ), interpersonal (IPJ) and informational (IFJ) justice – were examined as independent variables in this study. All four dimensions of perceived justice were linked to dependent constructs of post-recovery trust (PRT), overall company satisfaction (OCS) and customer loyalty (CL), respectively. In order to accurately measure the constructs, each latent variable was operationalised into five reflective measurement indicators, which were adapted from previous research in this area. Additionally, to investigate the interaction effects of factors external to the recovery encounter, three main attributes of service failure, the locus of causality (LCa), stability (LSt), controllability (LCo), and company reputation (CR) were considered as moderator variables. Each moderator contains four instruments to assess the significance of the moderating effects.

A visual representation of this research path model, showing how the indicators are combined into a construct, and how the latent constructs relate to each other and link together to determine the relationships of interests, is shown in Figure 5.2. In the path model, the rectangular cells emphasise each variable, the oval cells illustrate the individual indicators and the arrows represent the direction of the relationship between latent constructs. Overall, there are 51 reflective indicators, derived from 11 latent variables in the path model. Once the research path model was established, the measurement and structural model were empirically tested using plspm package in R software, which will be explained in the next section.

Figure 5.2: The research path model
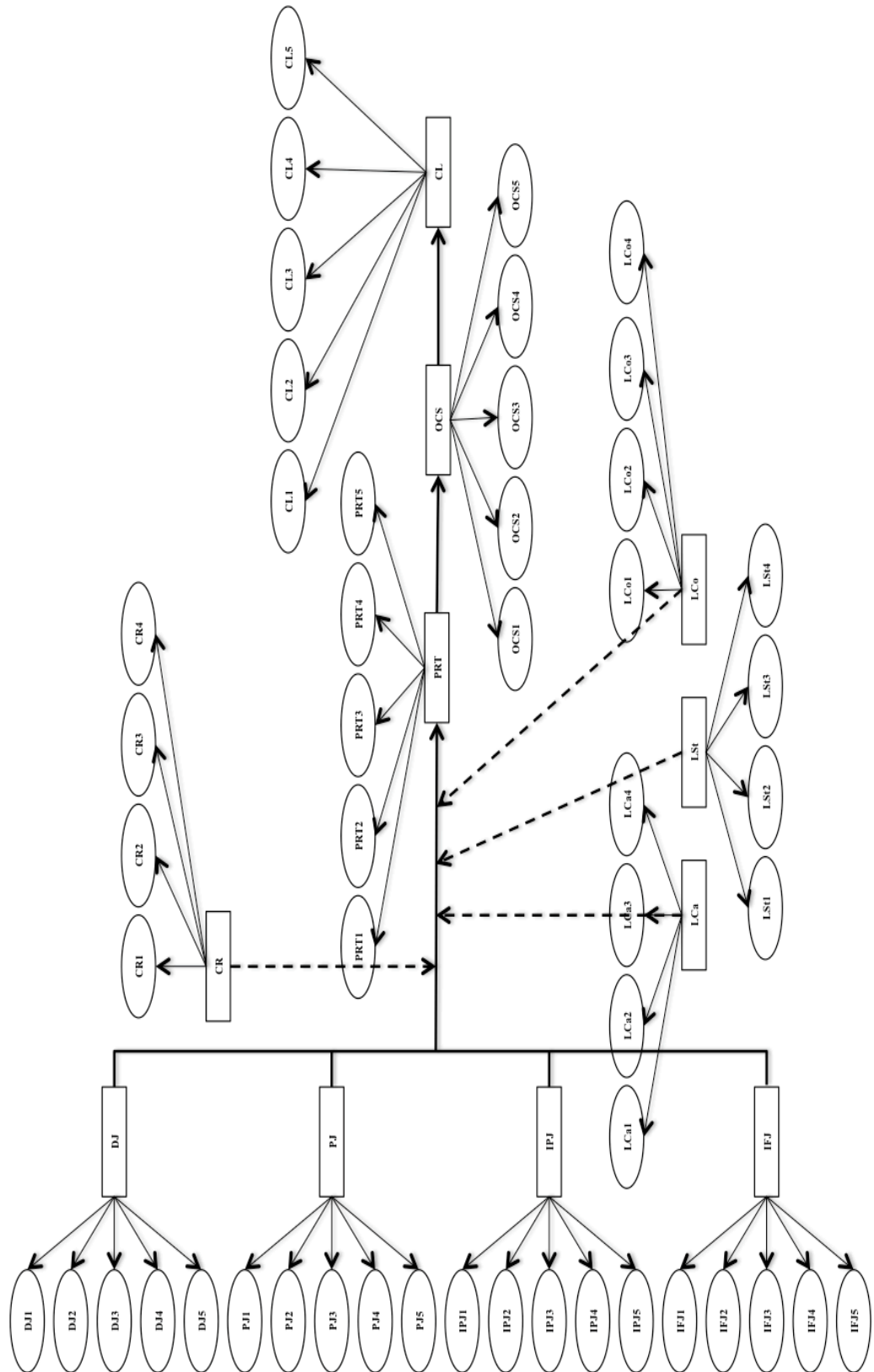
5.5 Data Purification Procedures

When assessing reflective measured constructs, the first step is to purify the observed indicators for each latent construct by calculating the standardised outer loading, referred to as indicator reliability (Sanchez, 2013). Standardised loadings are the bivariate correlations between a reflective indicator and its construct. Measure purification aims to remove any indicators that do not load satisfactorily on their conceptualised constructs or that do not contribute to the reliability of a measurement scale. Following the guideline on analysing and interpreting PLS (Hair et al., 2017; Henseler et al., 2009), the indicator reliability should be higher than the acceptable cut-off point of 0.7, indicating that the indicators share more variance with their respective constructs than with the error variance. Weak indicator reliability (below 0.7) that does not contribute satisfactorily to its construct's composite reliability should be removed (Hair et al., 2017).

The process of purifying of an observed indicator to eliminate poorly loaded indicators from the scale must be assessed before the evaluation of the measurement model. To overlook an insufficiently loaded indicator may result in inadequate interpretations of other measured criteria. In this study, an examination of the estimated indicator reliability of each construct under investigation shows that 14 indicators (DJ1, PJ3, PJ5, IPJ1, IPJ5, IFJ1, PRT1, OCS4, CL3, CL5, LCa1, LCa3, LSt1 and LCo4) have standardised outer loading below 0.7 on their intended constructs. Since dropping these poorly loaded indicators of each construct helps increase its composite reliability (from 0.850 to 0.856 on DJ, from 0.821 to 0.849 on PJ, from 0.874 to 0.886 on IPJ, from 0.868 to 0.894 on IFJ, from 0.864 to 0.870 on PRT, from 0.822 to 0.860 on OCS, from 0.874 to 0.885 on CL, from 0.378 to 0.870 on LCa, from 0.762 to 0.898 on LSt and from 0.755 to 0.887 on LCo), they were eliminated from the research path model accordingly. As a result, the purified path model, as illustrated in Figure 5.3, contains 37 indicators derived from 11 latent constructs under investigation. The element of the remaining indicators for further assessment is presented in Table 5.3.

Figure 5.3: Research path model
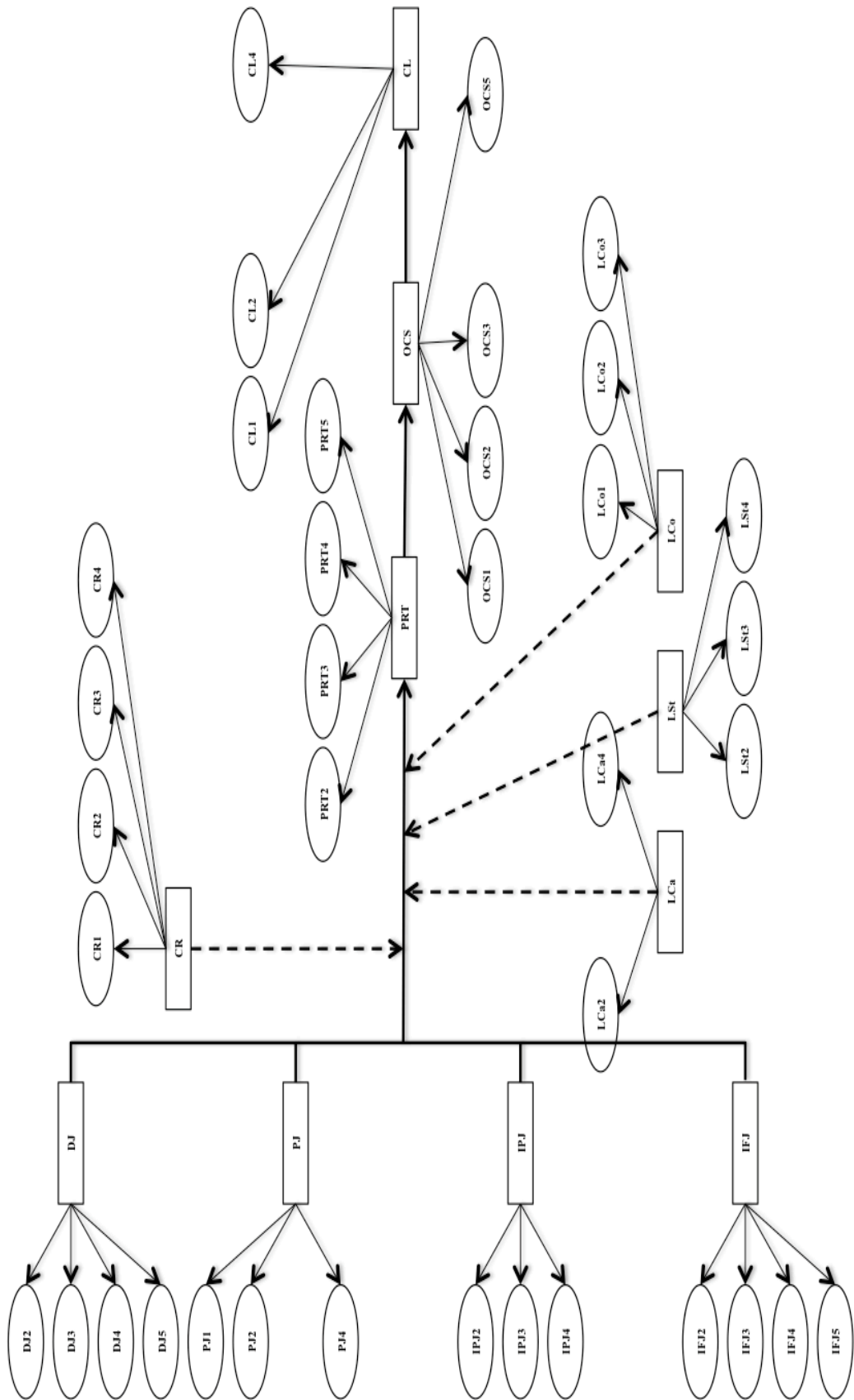
Table 5.3: The remaining indicators in the final research path model

Constructs	Coding	Items as in the Questionnaire
Distributive Justice (DJ)	DJ2	I did get what I deserve
	DJ3	The airline treated me fairly
	DJ4	The airline offered adequate compensation given the problem I experienced
	DJ5	The final outcome I received is fair given the inconvenience caused
Procedural Justice (PJ)	PJ1	The airline acted as quickly as possible to solve the problem
	PJ2	The airline's facilitation has easy-to-follow procedures
	PJ4	The airline has shown adequate flexibility in dealing with the problem
Interpersonal Justice (IPJ)	IPJ2	The staff are appropriately concerned about my problem
	IPJ3	The staff put proper effort into solving my problem
	IPJ4	The staff are always willing to help me
Informational Justice (IFJ)	IFJ2	The staff offered me an adequate explanation for the problem
	IFJ3	The staff spontaneously informed you me of the reason for the problem
	IFJ4	The staff provided me with clear and understandable information regarding the cause of the problem
	IFJ5	The staff's communication was straightforward
Post-Recovery Trust (PRT)	PRT2	I think the airline does their best for me to handle my problem
	PRT3	I think the airline can be relied on to keep its promises
	PRT4	I think the airline is a company in which I have great confidence
	PRT5	I think the airline deserves my trust, considering the trouble caused and the service recovery provided by the airline

Constructs	Coding	Items as in the Questionnaire
Overall Company Satisfaction (OCS)	OCS1	I am satisfied with the overall service this airline provided to me
	OCS2	This airline provides satisfactory service experience exceeding my expectation
	OCS3	Overall, I am satisfied with my decision to fly with this airline
	OCS5	I now have a positive attitude towards this airline
Customer Loyalty (CL)	CL1	I will choose this airline next time as opposed to other competitors
	CL2	I consider myself as a regular customer of this airline
	CL4	I will continue using this airline in the future
Locus of Causality (LCa)	LCa2	The cause of the flight delay was assumed as the airline's responsibility
	LCa4 (Rev)	I was not responsible for the flight delay
Stability (LSt)	LSt2	The cause of the flight delay was something permanent
	LSt3 (Rev)	I consider that the flight delay occurs frequently in this airline
	LSt4	It is likely that the flight delay is common for the airline
Controllability (LCo)	LCo1 (Rev)	I consider that the flight delay was caused by something under the control of the airline
	LCo2	The cause of the flight delay was something avoidable
	LCo3	In my opinion, the cause of the flight delay was preventable by the airline
Company Reputation (CR)	CR1	This airline is a well-established company
	CR2	This airline is a successful company
	CR3	This airline provides consistently high quality service
	CR4	This airline cares about the interest and well-being of its customers

5.6 Assessing the Research Measurement Model

The measurement model evaluation procedure aims to ensure that only the reliability and validity measures of constructs are used to obtain conclusions regarding the nature of the relationships among constructs (Chin, 2010). Prior to evaluating the structural model to investigate the relationships between the latent constructs, validation of the measurement model is required (Hair et al., 2017). The measurement model examines the relationships between observed indicators and their underlying constructs by calculating the reliability and validity of the scale measures. The reliability and validity test must be verified to ensure that each conceptualised construct is accurately measured and represented under a particular investigation to minimise any measurement errors that might affect the structural model estimations (Henseler et al., 2009; Sanchez, 2013).

The reflective measurement model's adequacy was assessed upon internal consistency reliability, convergent validity and discriminant validity (Sanchez, 2013). Reliability analysis is performed initially to establish the consistency of an indicator within the construct's domain in order to estimate how consistent a block of indicators is with regard to what it intends to measure (Hair et al., 2017). A construct's internal consistency reliability is achieved if the criteria for assessing reliability, including Cronbach's alpha (α) and composite reliability (CR), all meet the suggested threshold value of 0.7. Cronbach's alpha is a traditional measure of reliability based on the equal indicator correlations, while CR estimates internal consistency reliability based on the intercorrelation of different loadings.

In this study, all of the measurement model assessments were conducted using plspm package in R software. As shown in Table 5.4 below, Cronbach's alpha **α** and CR estimates exceeded the threshold of 0.7. Thus, the internal consistency reliability of the scales was satisfactory. Also, based on the earlier purification process, since the standardised loadings for all indicators ranged from 0.7 to 0.9, the indicator reliability and unidimensionality of all constructs were confirmed.

Table 5.4: Reliability and validity results

Constructs	Indicators	Convergent Validity		Internal Consistency Reliability	
		Loadings (>0.7)	AVE (>0.5)	Cronbach's Alpha α (>0.7)	Composite Reliability (>0.7)
Distributive Justice (DJ)	DJ2	0.789	0.594	0.775	0.856
	DJ3	0.764			
	DJ4	0.798			
	DJ5	0.732			
Procedural Justice (PJ)	PJ1	0.738	0.647	0.733	0.849
	PJ2	0.846			
	PJ4	0.825			
Interpersonal Justice (IPJ)	IPJ2	0.868	0.720	0.806	0.886
	IPJ3	0.843			
	IPJ4	0.836			
Informational Justice (IFJ)	IFJ2	0.865	0.679	0.842	0.894
	IFJ3	0.804			
	IFJ4	0.855			
	IFJ5	0.769			
Post-Recovery Trust (PRT)	PRT2	0.834	0.627	0.801	0.870
	PRT3	0.776			
	PRT4	0.803			
	PRT5	0.751			
Overall Company Satisfaction (OCS)	OCS1	0.786	0.606	0.782	0.860
	OCS2	0.853			
	OCS3	0.727			
	OCS5	0.742			
Customer Loyalty (CL)	CL1	0.864	0.720	0.805	0.885
	CL2	0.864			
	CL4	0.816			
Locus of Causality (LCa)	LCa2	0.702	0.725	0.702	0.870
	LCa4	0.979			
Stability (LSt)	LSt2	0.883	0.744	0.830	0.898
	LSt3	0.844			
	LSt4	0.860			
Controllability (LCo)	LCo1	0.913	0.698	0.808	0.887
	LCo2	0.879			
	LCo3	0.700			
Company Reputation (CR)	CR1	0.782	0.593	0.778	0.857
	CR2	0.828			
	CR3	0.716			
	CR4	0.752			

The validity test is then examined by analysing the convergent validity and discriminant validity of the constructs. Convergent validity aims to check the positive correlation among the indicators in a block of constructs by evaluating the standardised outer loadings and average variances extracted (AVE) (Hair et al., 2017). AVE is the grand mean value of the squared loadings of the indicators associated with the construct (Chen, 2010). Based on the rule of thumb, support is provided for convergent validity when each indicator has an AVE value above 0.5. This means that a construct is able to explain at least half of the variance of its indicators on average (Henseler et al., 2015). Based on Table 5.4 above, all constructs in the model showed AVE estimates above the cut-off point of 0.5, thus convergent validity was satisfied.

Discriminant validity is used to prove sufficient distinction between the constructs in the model (Henseler et al., 2015). Discriminant validity relies on three assessments, including cross-loadings analysis, Fornell-Larcker criterion and the heterotrait–monotrait ratio (HTMT) (Hair et al., 2017). To ensure the uniqueness of each construct, the cross-loadings analysis was computed initially. Cross-loadings analysis is valid when an indicator's outer loading on the associated construct is higher than any of its correlations on other constructs (Hair et al., 2014). Results from the cross-loadings analysis (as presented in Table 5.5) revealed that the indicators loaded more highly on their underlying construct than on other constructs in the model. Hence, the cross-loadings analysis was approved.

Table 5.5: Measurement items loadings and cross-loadings

	DJ	PJ	IPJ	IFJ	PRT	OCS	CL
DJ2	**0.789**	0.506	0.468	0.521	0.471	0.462	0.411
DJ3	**0.764**	0.276	0.433	0.471	0.342	0.325	0.184
DJ4	**0.798**	0.448	0.470	0.543	0.430	0.307	0.354
DJ5	**0.732**	0.287	0.322	0.449	0.320	0.310	0.218
PJ1	0.363	**0.738**	0.408	0.292	0.291	0.319	0.338
PJ2	0.433	**0.846**	0.544	0.389	0.480	0.437	0.379
PJ4	0.427	**0.825**	0.573	0.401	0.452	0.238	0.325
IPJ2	0.523	0.617	**0.868**	0.586	0.503	0.415	0.355
IPJ3	0.430	0.406	**0.843**	0.583	0.422	0.330	0.168
IPJ4	0.457	0.595	**0.836**	0.586	0.477	0.329	0.351
IFJ2	0.564	0.459	0.612	**0.865**	0.482	0.511	0.431
IFJ3	0.463	0.288	0.603	**0.804**	0.396	0.389	0.219
IFJ4	0.561	0.456	0.607	**0.855**	0.455	0.420	0.426
IFJ5	0.541	0.275	0.439	**0.769**	0.390	0.429	0.253
PRT2	0.466	0.525	0.487	0.442	**0.834**	0.553	0.519
PRT3	0.376	0.290	0.449	0.386	**0.776**	0.493	0.344
PRT4	0.423	0.464	0.427	0.411	**0.803**	0.508	0.522
PRT5	0.363	0.350	0.384	0.422	**0.751**	0.524	0.386
OCS1	0.343	0.398	0.307	0.382	0.469	**0.786**	0.519
OCS2	0.409	0.384	0.378	0.472	0.578	**0.853**	0.599
OCS3	0.404	0.231	0.384	0.462	0.482	**0.727**	0.427
OCS5	0.285	0.257	0.251	0.341	0.509	**0.742**	0.461
CL1	0.277	0.337	0.203	0.270	0.435	0.554	**0.864**
CL2	0.362	0.418	0.357	0.399	0.500	0.572	**0.864**
CL4	0.370	0.337	0.331	0.380	0.506	0.526	**0.816**

Next, the Fornell-Larcker criterion was assessed to verify that the square root of each construct's AVE is greater than its highest correlation with any other construct (Henseler et al., 2009). As shown in Table 5.6, the Fornell-Larcker criterion matrix revealed that the square root of each construct's AVE is the largest value compared to other constructs' correlations. Therefore, the Fornell-Larcker criterion was confirmed.

Table 5.6: The Fornell-Larcker criterion matrix

	DJ	PJ	IPJ	IFJ	PRT	OCS	CL
DJ	0.771						
PJ	0.510	0.804					
IPJ	0.557	0.643	0.849				
IFJ	0.647	0.465	0.689	0.824			
PRT	0.518	0.523	0.553	0.525	0.792		
OCS	0.463	0.413	0.424	0.532	0.657	0.778	
CL	0.396	0.430	0.350	0.412	0.566	0.649	0.849

Lastly, the HTMT approach, the recent measurement of discriminate validity, is an estimation of the correlation between related constructs by bootstrapping procedure. A HTMT value below 0.85 seems warranted when the constructs in the path model are conceptually distinct (Henseler et al., 2015). Based on Table 5.7, results from the HTMT ratio correlations showed that all the constructs yield values below the conservative threshold of 0.85 in respect of the HTMT statistic. Thus, the HTMT ratio correlations were certified. Consequently, the discriminant validity was confirmed, implying that all constructs in the model are valid measures of unique concepts.

Table 5.7: Heterotrait–monotrait (HTMT) matrix

	DJ	PJ	IPJ	IFJ	PRT	OCS	CL
DJ	0.0000000						
PJ	0.6449480	0.0000000					
IPJ	0.6893281	0.8088520	0.0000000				
IFJ	0.7937872	0.5591723	0.8331237	0.0000000			
PRT	0.6386781	0.6481410	0.6838380	0.6367837	0.0000000		
OCS	0.5844478	0.5365090	0.5318784	0.6546170	0.8278626	0.0000000	
CL	0.4788631	0.5590842	0.4262515	0.4904238	0.6978450	0.8123514	0.0000000

Based on the reliability and validity assessment above, it can be summarised that the research measurement model is reliable and valid, having met all the assessment criterions. A summary of the results for the reflective measurement model can be seen in Table 5.8.

Table 5.8: Summary of the results for the reflective measurement model

| Constructs | Indicators | *t* Values *** | Convergent Validity | | Internal Consistency Reliability | | Discriminant Validity |
			Loadings (>0.7)	AVE (>0.5)	Cronbach's Alpha α (>0.7)	Composite Reliability (>0.7)	
DJ	DJ2	38.520	0.789				
	DJ3	30.699	0.764	0.595	0.775	0.856	Yes
	DJ4	41.212	0.798				
	DJ5	23.456	0.732				
PJ	PJ1	21.543	0.738				
	PJ2	51.293	0.846	0.647	0.733	0.849	Yes
	PJ4	38.691	0.825				
IPJ	IPJ2	67.679	0.868				
	IPJ3	48.218	0.843	0.720	0.806	0.886	Yes
	IPJ4	44.131	0.836				
IFJ	IFJ2	60.103	0.865				
	IFJ3	38.382	0.804	0.679	0.842	0.894	Yes
	IFJ4	56.019	0.855				
	IFJ5	30.518	0.769				
PRT	PRT2	48.092	0.834				
	PRT3	32.714	0.776	0.627	0.801	0.870	Yes
	PRT4	33.430	0.803				
	PRT5	26.293	0.751				
OCS	OCS1	36.238	0.786				
	OCS2	59.152	0.853	0.606	0.782	0.860	Yes
	OCS3	25.648	0.727				
	OCS5	22.755	0.742				
CL	CL1	59.449	0.864				
	CL2	44.126	0.864	0.720	0.805	0.885	Yes
	CL4	34.171	0.816				

***All reflective paths significant at *p*<0.001

5.7 Assessing the Research Structural Model

Having established the quality of the measurement model, the data were deemed acceptable for further analysis (Hair et al., 2017). An assessment of the structural model was performed to verify the relationships between the conceptualised latent constructs and to examine the model's predictive capabilities (Henseler et al., 2009). To provide statistical evidence for supporting the hypothesised relationships in the model, standardised path coefficients and the significance of these path coefficients were estimated. The standardised path coefficient usually falls between −1 and +1. The closer the statistical standardised values to +1, the stronger the positive relationships are, and vice versa for negative values (Hair et al., 2014). To ensure the significance of the estimated path coefficients, a bootstrapping procedure based on 1,000 samples replacement was computed to estimate the empirical t and p values for all structural path coefficients. In marketing research, the t value should larger than 1.96 and significant at a significance level of 5% to conclude that the path coefficient is statistically significant at a certain error probability. As the assumed level of significance is at 5%, the p value needs to be smaller than 0.05 to empirically confirm the significant path coefficient at a significance level of 5% (Chin, 2010, Hair et al., 2014).

The analysis of the size and significance of the structural paths is presented in Table 5.9, below. The results show that all main path coefficients in the structural model were statistically significant positive relations at a significance level of 5%. All four dimensions of perceived justice have statistically significant positive relations to post-recovery customer trust, overall company satisfaction and customer loyalty, subsequently. Assuming a 5% significance level, the standardised path coefficients of distributive, procedural, interpersonal and informational justice were 0.185, 0.233, 0.180 and 0.176, respectively. This indicates that procedural justice has the strongest association with post-recovery trust, followed by distributive, interpersonal and informational justice, correspondingly. The analysis also reveals that there were highly significant correlations between post-recovery trust and overall company satisfaction, and overall company satisfaction and customer loyalty, on path coefficients of 0.657 and 0.649.

For the control variables, the analysis shows that only age and flying class were statistically significant controls at a significance level of 5%. The linkage between age and customer loyalty was a negative relationship at −0.067, while the correlation between flying class and customer loyalty was a positive relationship at 1.955. This indicates that the airline may have greater difficulties in rebuilding customer loyalty in its younger customers and those customers who fly more in premium class.

Table 5.9: Path coefficients and t values

Hypotheses		Path Coefficients	t values, p-values
H1a	DJ → PRT	0.185	2.423*
H1b	PJ → PRT	0.233	3.550***
H1c	IPJ → PRT	0.180	2.041*
H1d	IFJ → PRT	0.176	2.089*
H2	PRT → OCS	0.657	15.190***
H3	OCS → CL	0.649	16.907***
Control Variable: (on CL)			
	Gender	0.052	1.459[ns]
	Age	−0.067	−2.046*
	Purpose of Flying	−0.062	−1.868[ns]
	Flying Class	0.069	1.955*
	Customer Perceived Inconvenience	−0.015	−3.210[ns]

Structural path significant at ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, [ns] = not significant

Additionally, to evaluate the performance of the structural model, the coefficients of determination (R^2), predictive relevance (Q^2) and effect size (f^2) were assessed, as unlike SEM, PLS does not provide overall fit indices for the model. First, the R^2 value is a measure of the model's predictive power, representing the amount of variance in the dependent variables explained by all of the independent variables linked to it. R^2 results of 0.67, 0.33 and 0.19 are described as substantial, moderate and weak predictive powers, respectively (Chin, 1998; Henseler et al., 2009). However, in consumer behaviour studies that aim at explaining customer satisfaction and loyalty, an R^2 value of 0.2 is considered as an acceptable predictive accuracy (Cohen, 1988). In this assessment, as presented in Table 5.10, the R^2 results were 0.409, 0.431, 0.422 on post-recovery customer trust, overall company satisfaction and customer loyalty, respectively. This means the modelled variables can

moderately explain 40.9% of variance on post-recovery trust, 43.1% of overall company satisfaction and 42.2% of customer loyalty.

Table 5.10: Predictive accuracy (R2 value) and predictive relevance estimates (Q2 value)

	Hypotheses	Predictive Accuracy (R^2)	Predictive Relevance (Q^2)
H1a	DJ → PRT		
H1b	PJ → PRT	0.409	0.237
H1c	IPJ → PRT		
H1d	IFJ → PRT		
H2	PRT → OCS	0.431	0.246
H3	OCS → CL	0.422	0.287

Since all the dependent constructs in the research framework were measured reflectively, the Q^2 value can be computed to assess the model's predictive relevance. The Q^2 value is obtained by means of a blindfolding procedure that omits part of the data in the dependent construct's indicators and then estimates are calculated for the omitted data using the estimated parameters (Chin, 2010). In other words, the blindfolding procedure is used to measure how well the collected data can be reconstructed with the help of a parameter of PLS (Hair et al., 2017). There are two different approaches to calculate the Q^2 value, including cross-validate redundancy and cross-validate communality. While the former approach relies upon estimates of both the measurement and structural models, the latter approach only uses the dependent constructs for estimations. Since the cross-validate redundancy approach fits with the assumption of the PLS technique (Hair et al., 2017), this approach is used in this study. The estimations of the Q^2 value should be greater than 0 in order to predict that the model has predictive relevance for a certain dependent construct, whereas a Q^2 value below 0 implies a lack of predictive relevance (Hair et al., 2014). In this research, the results from the cross-validation redundancy measure show that the Q^2 value for all dependent constructs in the research framework was greater than 0, as presented in Figure 5.10 above. Hence, it can be said that the research framework holds predictive relevance.

Besides the predictive accuracy and relevance estimates, f^2 is used to evaluate the effect of each independent variable on the dependent constructs. f^2 represents the change in the R^2 value of dependent constructs when a predictor is omitted from the model (Hair et al., 2017). The formula for calculating the effect size, recommended by Chin (2010), is shown below:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

Hence, for each dependent construct, the research model needs to run bootstrapping analysis twice, for calculating the $R^2_{included}$ and $R^2_{excluded}$, correspondingly. $R^2_{included}$ is the R^2 value of the dependent construct of interest when the predictor is included in the model, whereas $R^2_{excluded}$ is the R^2 value of the dependent construct of interest when the predictor is excluded in the model. The guidelines for assessing f^2 are the values of 0.02, 0.15 and 0.35, representing a small, medium and large effect, respectively (Chin, 2010).

Following the above formula, the effect size for each individual path was calculated, as shown in Table 5.11. The inclusion of the dimensions of justice – distributive, procedural, interpersonal and informational justice – as antecedents of post-recovery trust led to an increase in the R^2 value from 0.391, 0.379, 0.398 and 0.397, respectively, to 0.409. This reveals that each dimension of justice yielded a small effect (f^2 = 0.031, 0.051, 0.020 and 0.020, respectively) on post-recovery trust. By contrast, the inclusion of post-recovery trust as an antecedent of overall company satisfaction yielded a medium effect (f^2 = 0.150). Further, the effect size of overall company satisfaction on customer loyalty also yielded a medium effect (f^2 = 0.164).

Table 5.11: Effects size for individual constructs

Independent Variable	R^2 included	R^2 excluded	Effect Size (f^2)
Post-recovery Trust			
Distributive Justice	0.409	0.391	0.031
Procedural Justice	0.409	0.379	0.051
Interpersonal Justice	0.409	0.398	0.020
Informational Justice	0.409	0.397	0.020
Overall Company Satisfaction			
Post-recovery Trust	0.431	0.347	0.150
Loyalty			
Overall Company Satisfaction	0.422	0.327	0.164

The summary of the structural model assessment is illustrated in Table 5.12 and Figure 5.4. Following the guidelines on analysing and interpreting PLS path modelling with R (Hair et al., 2017; Sanchez, 2013), the research framework confirmed the constructs' reliability and validity, significant path coefficients and the acceptability of the model's predictive capabilities. Hence, the research framework can be said to be a good fit model.

Table 5.12: Results summary for structural model

Hypotheses		Path Coefficients	t values, p-values	Predictive Accuracy (R^2)	Predictive Relevance (Q^2)	Effect Size (f^2)
H1a	DJ → PRT	0.185	2.423*			0.031
H1b	PJ → PRT	0.233	3.550***	0.409	0.237	0.051
H1c	IPJ → PRT	0.180	2.041*			0.020
H1d	IFJ → PRT	0.176	2.089*			0.020
H2	PRT → OCS	0.657	15.190***	0.431	0.246	0.150
H3	OCS → CL	0.649	16.907***	0.422	0.287	0.164

Structural path significant at ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

Figure 5.4: Structural path model assessment
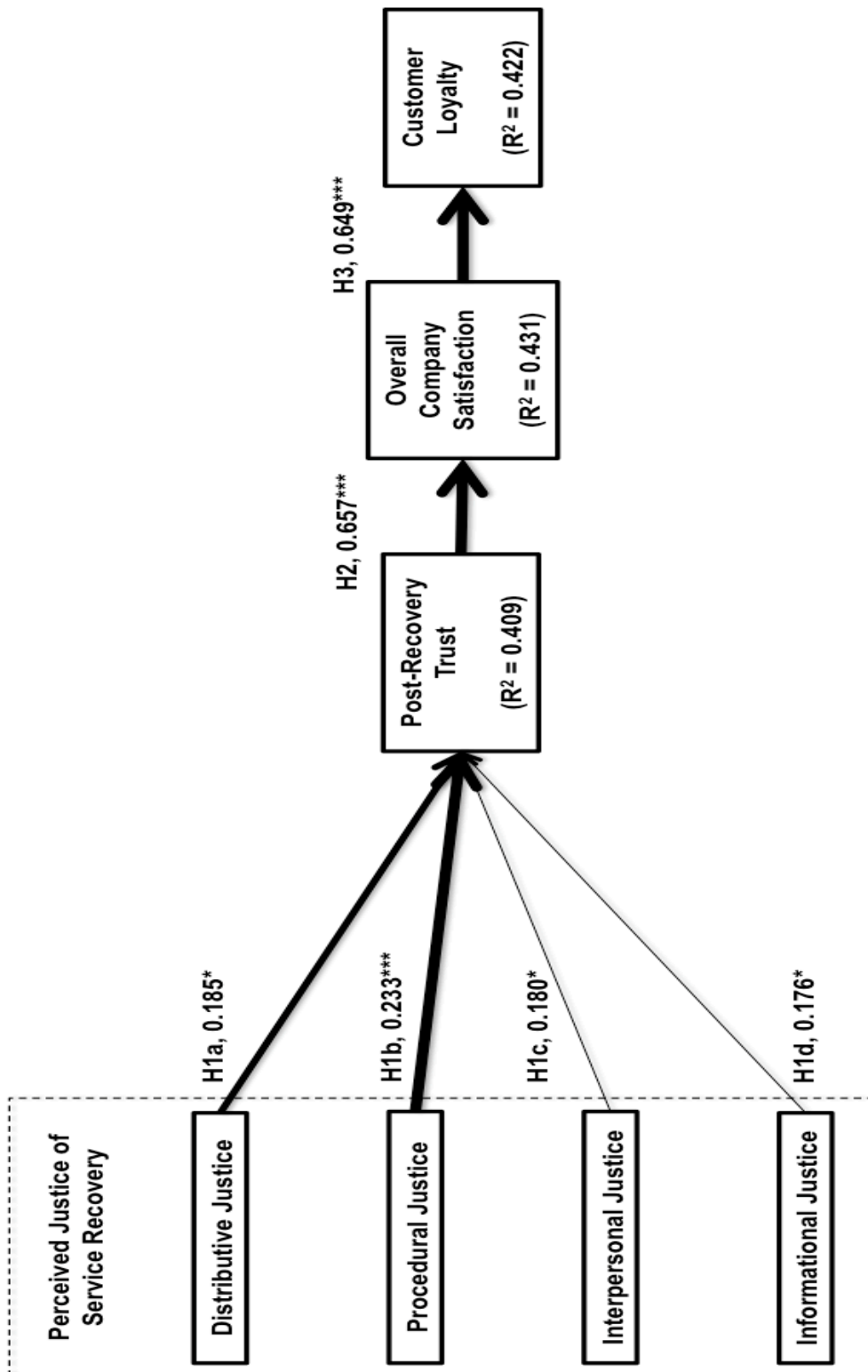
Structure path significant at *** $p < 0.001$, **$p < 0.01$, *$p < 0.05$

5.8 Testing the Mediating Effect

The aim of this research is to examine how customer perceptions of the perceived justice of service recovery impacts post-recovery behaviour. To clearly understand the development of post-recovery customer behaviour, the mediators of post-recovery customer trust on the relationships between each dimension of the perceived justice of service recovery – distributive, procedure, interpersonal and informational justice – and overall company satisfaction were analysed. A bootstrapping procedure based on a 1,000 sample replacements was calculated to ensure the significance of the path coefficients in the mediation model. According to the mediating effects guidelines (Nitzl et al., 2016; Zhao et al., 2010), the developed steps of mediation were followed and the details of the testing of the mediating effects for post-recovery trust are summarised in Table 5.13.

Based on the analysis of mediations, post-recovery customer trust was proved as a mediator of the relationship between the perceived justice of service recovery and overall company satisfaction. More specifically, there is a complete mediation on the relationship of interpersonal justice, but the remaining relationships show only complementary partial mediations. The indirect effects of partial mediation are 62.6%, 74.5% and 50.9% on the relationships between distributive, procedural and informational justice and overall company satisfaction, respectively. Logically, this indicates that, when customers perceived interpersonal justice, they experienced a loss of trust from the failure that when restored, in turn, led to regaining overall company satisfaction. There is no direct effect of interpersonal justice on customer's overall company satisfaction. By contrast, when customers perceived distributive, procedural and informational justice, their overall company satisfaction can be re-established either directly or indirectly rebuilt through their recovered trust.

Table 5.13: Results of mediation for post-recovery trust

Independent Construct (X)	Path a	Path b	Path a*b	Path c	Mediation	Proportion of Mediation
DJ	0.516***	0.567***	0.293*	0.175***	Partial	0.626
PJ	0.520***	0.602***	0.313*	0.107**	Partial	0.745
IPJ	0.553***	0.607***	0.336*	0.091^{ns}	Complete	Not Applicable
IFJ	0.526***	0.519***	0.273*	0.263***	Partial	0.509

Path significant at ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, ^{ns} = not significant

5.9 Testing the Moderating Effects

With regard to the research objectives, this study aims to identify how factors external to the recovery encounter – service failure attributions (locus of causality, stability and controllability) and company reputation – influence the effect of the perceived justice of service recovery on customer loyalty recovery. Thus, the moderation was used to explain how the strength of the relationships between each dimension of justice and post-recovery trust change due to the moderating variables. In this research, the factors external to the recovery encounter were investigated as the moderators on the relationships. This means there are total of 16 interaction effects (4 moderators interact with the relationships between each dimension of perceived justice and post-recovery customer trust) examined in the research framework, as presented in Figure 5.5.

Figure 5.5: Moderating effect of factors external to service encounter
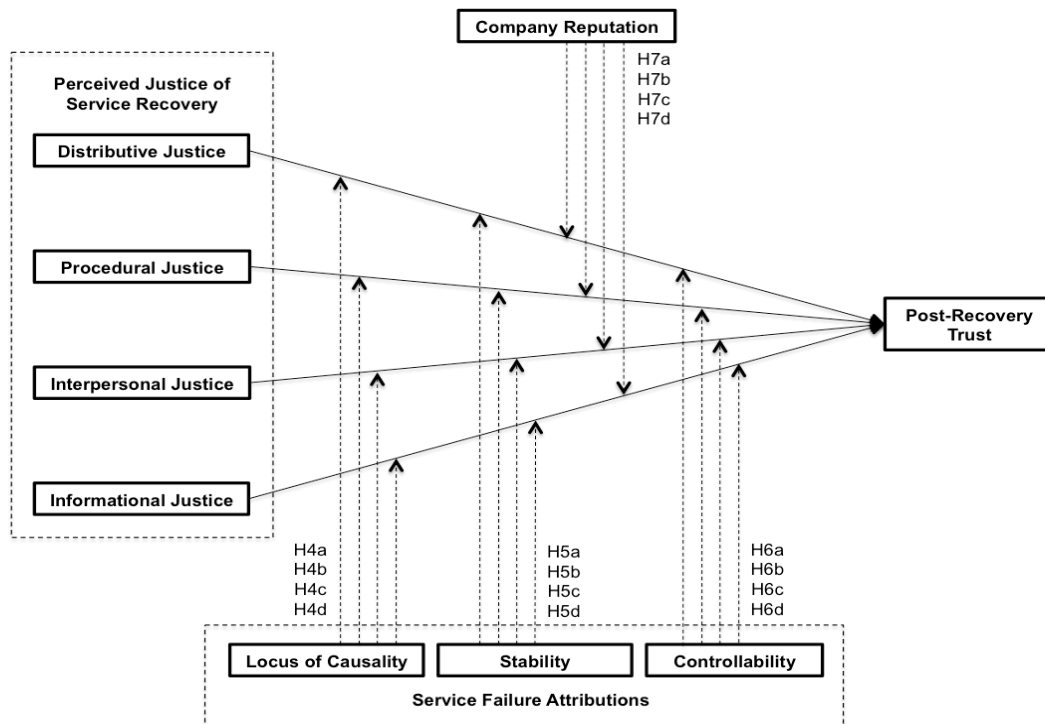
Since this study aims to assess the significance of the moderating effects, a two-stage approach to testing the moderation was employed. A bootstrapping procedure set at 1,000 subsamples was performed. Assuming the significance level at 5%, the confidence interval for an interaction's term effect on a dependent construct must not include zero to empirically confirm the significant effect. When the interaction's term effect is statistically significant, it can be concluded that the moderator has a significant moderating effect on the relationships. The details of testing the moderating effect of each moderator are presented in Tables 5.14 to 5.17. In this current study, 9 out of 16 interactions have proved statistically significant in the moderation of the research framework.

5.9.1 The Moderating Effect of the Locus of Causality

The results represent that the moderating effect of the locus of causality was not significant on all four dimensions of justice. This indicates that customer's perceptions of which person/entity is responsible for the flight delay does not influence their perceived justice of service recovery on restoring trust in the airline.

Table 5.14: The moderating effect of the locus of causality

Interactions	Path Coefficients, *p*-value
LCa * DJ → PRT	-0.022^{ns}
LCa * PJ → PRT	-0.001^{ns}
LCa * IPJ → PRT	0.012^{ns}
LCa * IFJ → PRT	0.036^{ns}

$^{\text{ns}}$ = Interaction paths are not significant

5.9.2 The Moderating Effect of Stability

The moderating role of the stability was statistically significant in moderating the relationships between distributive, procedural and informational justice and post-recovery customer trust. The relationships between distributive, procedural and informational justice and post-recovery trust have values of 0.480, 0.535 and 0.519, respectively, when the locus of stability is equal to the mean value. Positive/negative signs of interaction terms indicate that the same relationship increases/decreases by the size of the interaction term (-0.122, -0.098 and 0.186) and reach the values of 0.358, 0.437 and 0.705, correspondingly, as the stability increases by one standard deviation point.

Table 5.15: The moderating effect of the locus of stability

Interactions	Path Coefficients, *p*-value
LSt * DJ → PRT	-0.122*
LSt * PJ → PRT	-0.098*
LSt * IPJ → PRT	-0.040^{ns}
LSt * IFJ → PRT	0.186*

Interaction path significant at *$p < 0.05$, $^{\text{ns}}$ = not significant

The conditional effects of distributive justice on post-recovery customer trust at two levels of stability – high stability (stable cause) and low stability (unstable cause) – is graphically illustrated in Figure 5.6. There is less of a steep slope under the condition of a stable cause (red line) compared to an unstable cause (blue line). This suggests that distributive justice elicited by fair treatment has a weaker influence on restoring post-recovery trust when the cause of the flight delay is stable, and vice

versa for an unstable cause. In this case, customers demand a higher level of treatment to restore their lost trust when they perceive that the cause of the flight delay is a frequent occurrence in the airline.

Figure 5.6: Conditional effects of distributive justice on post-recovery customer trust at two levels of stability
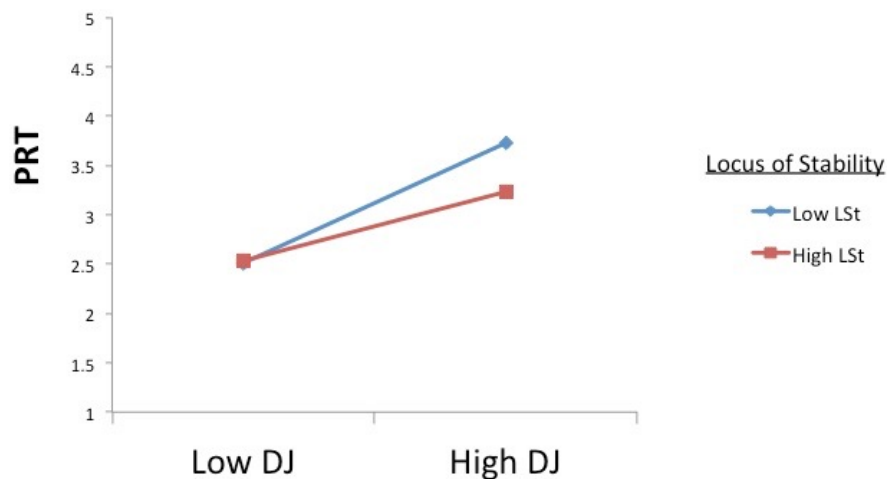
Similarly, the effects of procedural justice under conditions of stable and unstable cause are illustrated in Figure 5.7. There is less of a steep slope under the condition of a stable cause (red line) than an unstable cause (blue line). Regarding the earlier interpretation, this means procedural justice elicited by an efficient recovery process has a weaker influence on restoring post-recovery trust when the cause of the flight delay is stable. In other words, a more efficient recovery process is needed to restore customer lost trust when customers perceived that the cause of the flight delay is a frequent occurrence in this airline.

Figure 5.7: Conditional effects of procedural justice on post-recovery customer trust at two levels of stability
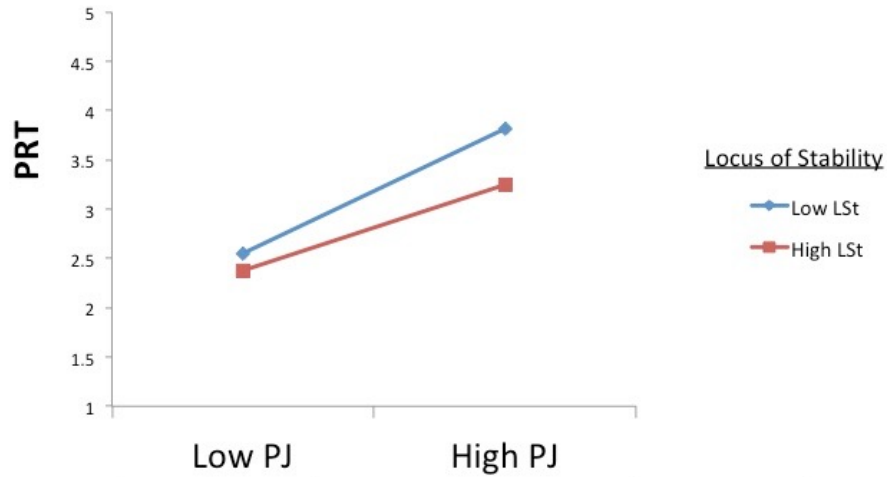
Contradicting the above two conditions, the plot in Figure 5.8 (below) shows that there is a more of a steep slope under the condition of a stable cause (red line) compared to an unstable cause (blue line). This implies that informational justice elicited by adequate information provided has a stronger influence on restoring post-recovery trust when the cause of the flight delay is stable. This case has demonstrated that customers are less demanding regarding the information presented when they perceived that the flight delay frequently happens in this airline, but when they perceived that the flight delay is a rare occurrence, they are more interested in seeking out the information.

Figure 5.8: Conditional effects of informational justice on post-recovery customer trust at two levels of stability
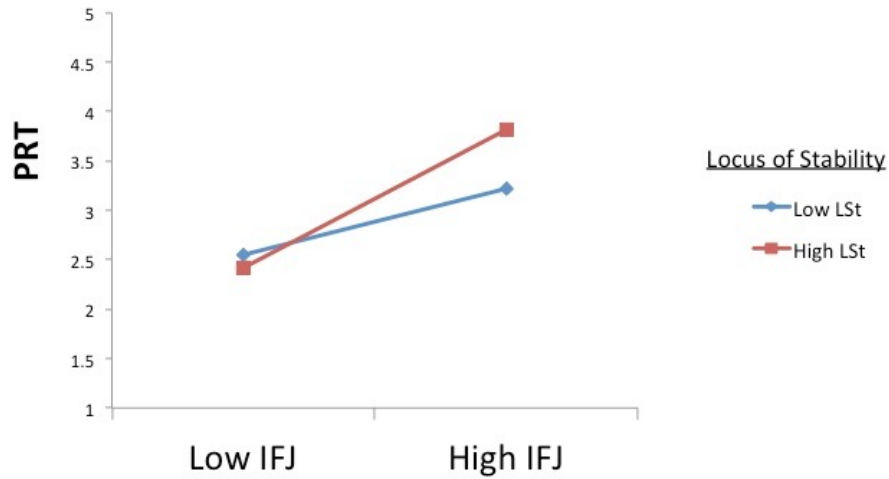
5.9.3 The Moderating Effect of Controllability

The influence of the controllability was an empirically significant moderator on all dimensions of justice except distributive justice. The relationships between procedural, interpersonal and informational justice and post-recovery customer trust have values of 0.533, 0.573 and 0.538, respectively, when the controllability is equal to the mean value. The negative sign of the interaction terms indicate that the same relationship decreases by the size of the interaction term (-0.084, -0.171 and -0.092) and reach values of 0.449, 0.402 and 0.446, subsequently, as the controllability rises by one standard deviation point.

Table 5.16: The moderating effect of controllability

Interaction	Path Coefficient, p-value
LCo * DJ → PRT	-0.087^{ns}
LCo * PJ → PRT	-0.084*
LCo * IPJ → PRT	-0.171*
LCo * IFJ → PRT	-0.092*

Interaction path significant at *$p < 0.05$, ^{ns} = not significant

The conditional effect of procedural justice on post-recovery trust at two levels of controllability – high controllability (controllable cause) and low controllability (uncontrollable cause) –- is graphically presented in Figure 5.9. There is less of a steep slope under the condition of a controllable cause (red line) compared to an uncontrollable cause (blue line). This suggests that procedural justice elicited by an efficient recovery process has a weaker influence on restoring post-recovery trust when the cause of the flight delay is controllable, and the reverse for an uncontrollable cause. In other words, customers require a more efficient recovery process to regain their lost trust when they perceive that the cause of the flight delay is under the airline's control.

Figure 5.9: Conditional effects of procedural justice on post-recovery customer trust at two levels of controllability
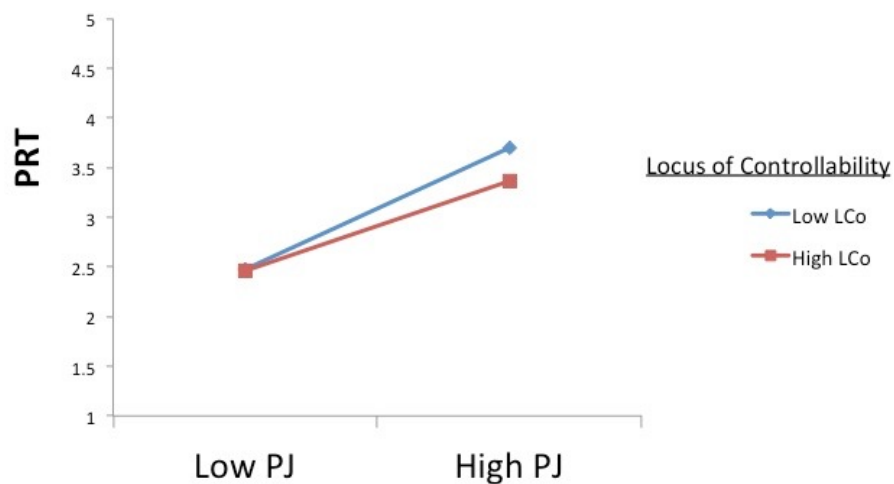
According to the plot of interpersonal justice under conditions of controllable and uncontrollable causes, presented in Figure 5.10, there is less of a steep slope under the condition of a controllable cause (red line) than an uncontrollable cause (blue line). This also means that interpersonal justice elicited by the attentive behaviour of employees has a weaker influence on restoring post-recovery customer trust when the cause of the flight delay is under the airline's control but the airline has failed to prevent it. In this case, a greater degree of attentiveness in the behaviour of staff is required to recover trust in the airline.

Figure 5.10: Conditional effects of interpersonal justice on post-recovery customer trust at two levels of controllability
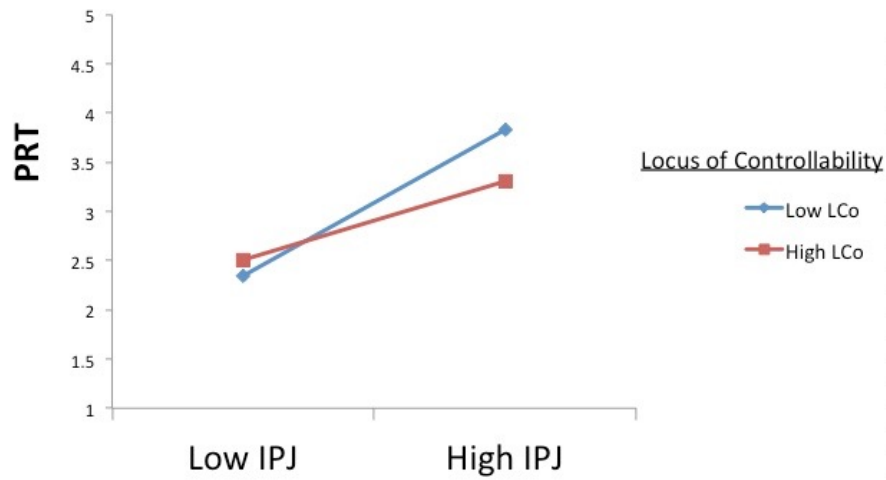

Similarly, the plot in Figure 5.11 shows that there is less of a steep slope under the condition of a controllable cause (red line) compared to an uncontrollable cause (blue line). This indicates that informational justice elicited by adequate information provided has a weaker impact on regaining post-recovery customer trust when the flight delay occurred from a controllable cause, and the opposite for an uncontrollable cause. In other words, more information needs to be provided to restore lost customer trust when the airline could have prevented the flight delay but failed to do so.

Figure 5.11: Conditional effects of informational justice on post-recovery customer trust at two levels of controllability
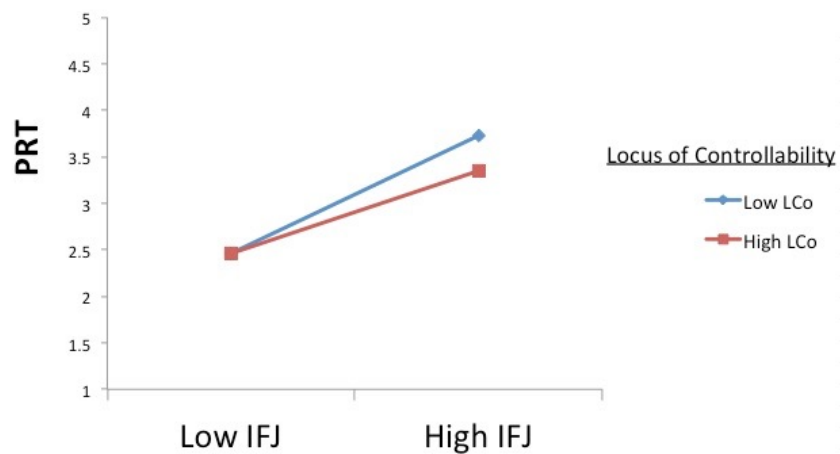
5.9.4 The Moderating Effect of Company Reputation

The effect of company reputation was a statistically significant moderator in the relationship between distributive, procedural and informational justice and post-recovery trust. The relationships between distributive, procedural and informational justice and post-recovery trust have values of 0.508, 0.520 and 0.522, respectively, when company reputation is equal to the mean value. Negative signs of the interaction terms indicate that the same relationship decreases by the size of the interaction term (−0.117 and −0.140 and −0.093) and reach values of 0.391, 0.380 and 0.429, correspondingly, as company reputation gains by one standard deviation point.

Table 5.17: The moderating effect of company reputation

Interaction	Path Coefficient, p-value
CR * DJ → PRT	-0.117*
CR * PJ → PRT	-0.140*
CR * IPJ → PRT	-0.023[ns]
CR * IFJ → PRT	-0.093*

Interaction path significant at *$p < 0.05$, [ns] = not significant

The conditional effect of distributive justice on post-recovery trust at two levels of high and low company reputation is graphically presented in Figure 5.12. There is less of a steep slope under the condition of high company reputation (red line) compared to low company reputation (blue line). This suggests that distributive justice elicited by fair treatment has a weaker influence on restoring post-recovery customer trust in conditions of high company reputation than in conditions of low company reputation. In other words, customers demand higher treatment to recover their lost trust when a flight delay occurs from a highly reputed airline.

Figure 5.12: Conditional effects of distributive justice on post-recovery customer trust at two levels of company reputation
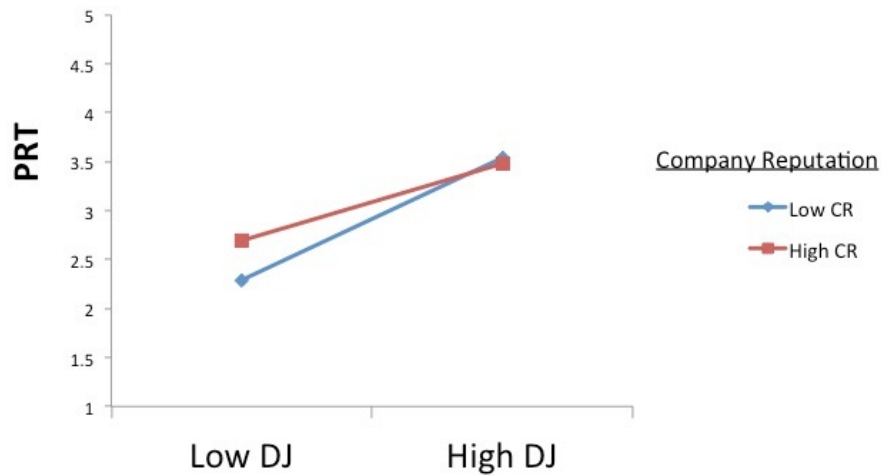
Similarly, the plot in Figure 5.13 indicates that there is less of a steep slope under the condition of a high company reputation (red line) compared to a low company reputation (blue line). This implies that procedural justice elicited by an efficient recovery process also has a weaker impact on regaining post-recovery customer trust in conditions of high company reputation and the reverse for a low company reputation. It can be said that, when the high reputation airline suffered the flight delay, a more efficient recovery process is needed to restore customers' lost trust.

Figure 5.13: Conditional effects of procedural justice on post-recovery customer trust at two levels of company reputation
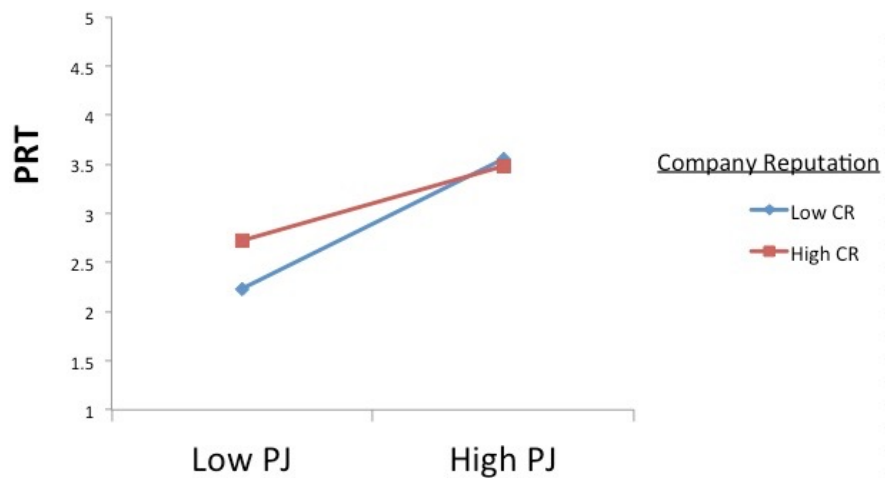
In the same vein, as graphically illustrated in Figure 5.14 (below), the plot indicates that there is a less of a steep slope under the condition of high company reputation (red line) compared to low company reputation (blue line). This suggests that, under conditions of high company reputation, informational justice elicited by adequate information provided has a weaker influence on restoring post-recovery customer trust. This case has shown that, in order to cope with lost customer trust, highly reputed airlines need to provide more information for the flight delay than low reputed airlines.

Figure 5.14: Conditional effects of informational justice on post-recovery customer trust at two levels of company reputation
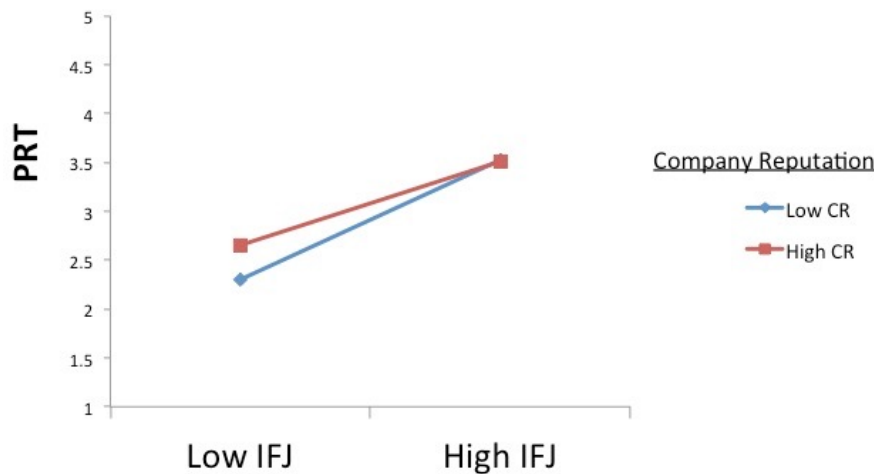
5.10 Hypothesis Testing Results

Based on discussion above, the quantitative results from the survey were analysed. The summary of the results of hypotheses testing for research path modelling is presented in Figure 5.15. The data analysis confirmed that all path coefficients in the model had statistically significant correlations and were in the predicted direction. This indicates that all dimensions of the perceived justice of service recovery (distributive, procedural, interpersonal and informational justice) have positive influences on post-recovery customer trust, supporting H1a to H1d. Additionally, the results revealed that, following service recovery, there were positive relations between post-recovery customer trust and customer's overall company satisfaction, and between customer's overall company satisfaction and customer loyalty. Therefore, H2 and H3 were also supported.

For the moderation analysis of factors external to the recovery encounter, the results from a two-stage approach revealed that 9 out of 16 interactions are statistically significant moderators in the research framework at a significance level of 5%. The moderating role of the locus of causality was not relevant on all four dimensions of justice; H4a to H4d were thereby not supported. The analysis statistically verified that the stability strengthens positive relationships between distributive and procedural justice, and post-recovery customer trust. Thus, consistent with the predictions, H5a and H5b were supported. However, contrary with the prediction, the moderating role of stability was found to dampen the positive relationship of informational justice; H5d was therefore counter supported. Additionally, the controllability was found to have a positive moderation effect on the relationships of procedural, interpersonal and informational justice, hence H6a, H6b and H6c were supported. Lastly, company reputation was found to dampen the positive effect of distributive, procedural and informational justice in shaping post-recovery customer trust, thus providing counter support to H7a, H7b and H7d. The summary of the research findings is presented in Table 5.18.

Figure 5.15: Result of hypotheses testing for the research path modelling
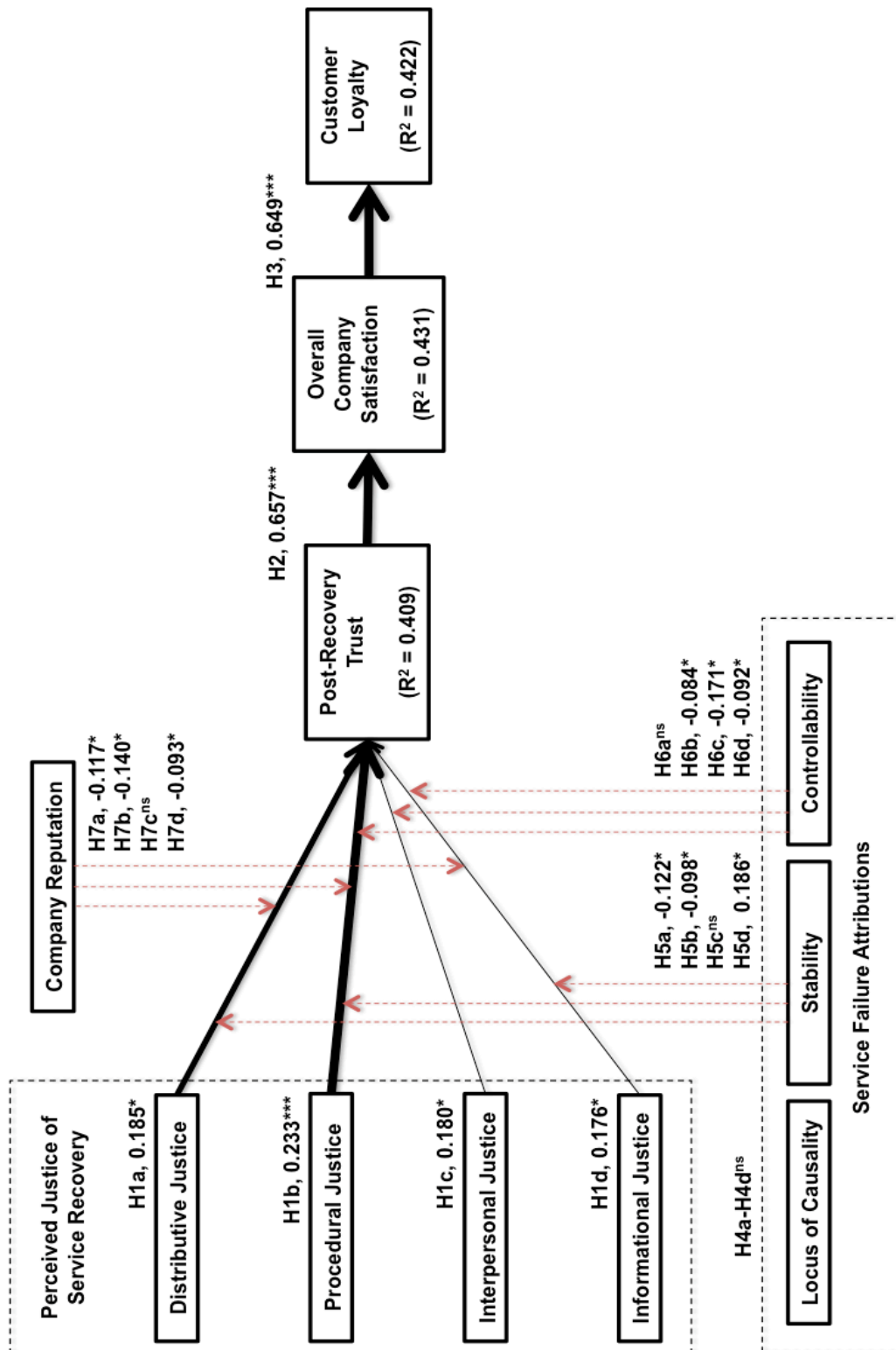
Structure path significant at *** $p < 0.001$, **$p < 0.01$, *$p < 0.05$

Table 5.18: Results summary for hypotheses testing

	Research Hypotheses	Path Coefficients , *p*-value	
H1a	Distributive justice → Post-recovery trust	0.185*	Supported
H1b	Procedural justice → Post-recovery trust	0.233***	Supported
H1c	Interpersonal justice → Post-recovery trust	0.180*	Supported
H1d	Informational justice → Post-recovery trust	0.176*	Supported
H2	Post-recovery trust → Overall company satisfaction	0.657***	Supported
H3	Overall company satisfaction → Customer loyalty	0.649***	Supported
H4a	Locus of causality * Distributive justice → Post-recovery trust	-0.022^{ns}	Not supported
H4b	Locus of causality * Procedural justice → Post-recovery trust	-0.001^{ns}	Not supported
H4c	Locus of causality * Interpersonal justice → Post-recovery trust	0.012^{ns}	Not supported
H4d	Locus of causality * Informational justice → Post-recovery trust	0.036^{ns}	Not supported
H5a	Locus of stability * Distributive justice → Post-recovery trust	-0.122*	Supported
H5b	Stability * Procedural justice → Post-recovery trust	-0.098*	Supported
H5c	Stability * Interpersonal justice → Post-recovery trust	-0.040^{ns}	Not supported
H5d	Stability * Informational justice → Post-recovery trust	0.186*	(Counter) Supported
H6a	Controllability * Distributive justice → Post-recovery trust	-0.087^{ns}	Not supported
H6b	Controllability * Procedural justice → Post-recovery trust	-0.084*	Supported
H6c	Controllability * Interpersonal justice → Post-recovery trust	-0.171*	Supported
H6d	Controllability * Informational justice → Post-recovery trust	-0.092*	Supported
H7a	Company reputation * Distributive justice → Post-recovery trust	-0.117*	(Counter) Supported
H7b	Company reputation * Procedural justice → Post-recovery trust	-0.140*	(Counter) Supported
H7c	Company reputation * Interpersonal justice → Post-recovery trust	-0.023^{ns}	Not supported
H7d	Company reputation * Informational justice → Post-recovery trust	-0.093*	(Counter) Supported

Structural path significant at ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, ^{ns} = not significant

5.11 Chapter Summary

This chapter has discussed the statistical analysis from the quantitative survey using a PLS-SEM analytical technique through the plspm package in R. The research hypotheses and the conceptual framework as a whole have been tested and the empirical results have been revealed. Following the guidelines on conducting plspm analysis (Hair et al., 2017; Henseler et al., 2009; Sanchez, 2013), the research framework was proven to be a good fit model, as the constructs' reliability and validity, significant path coefficients and acceptability of the model's predictive capabilities were demonstrated. For the moderation analysis, 9 out of 16 interactions were proven to be empirically significant in the moderation of the research framework. A further discussion of the research findings within the context of the extant literature will be presented in the next chapter.

CHAPTER 6

DISCUSSION OF FINDINGS

6.1 Introduction

Once the conceptual framework as a whole is tested, results from the data analysis reveal whether the research hypotheses are statistically confirmed or rejected. A summary of the research findings from this study is presented in Table 6.1. To introduce the discussion of the findings, the chapter first recapitulates the research objectives of the study. A discussion of the research findings in the light of the extant literature, including service failure attributions, perceived justice in service recovery, customer trust and customer loyalty are then examined. The findings relating to the influences of each dimension of perceived justice of service recovery – distributive, procedural, interpersonal and informational justice – on post-recovery trust is described. Next, the findings relating to the influences of post-recovery customer trust on customer's overall company satisfaction, and the influences of customer's overall company satisfaction on customer loyalty following service recovery are explained. Then, the results of the moderating effects of those factors external to the recovery encounter – service failure attribution (locus of causality, stability and controllability) and company reputation – are discussed. Lastly, a concise summary of the chapter is presented.

Table 6.1: Summary of the research findings

Research Hypotheses		Result
H1a	**Distributive justice → Post-recovery trust** Perceived distributive justice elicited by fair treatment will have a positive influence on post-recovery customer trust.	Supported
H1b	**Procedural justice → Post-recovery trust** Perceived procedural justice elicited by an efficient recovery process will have a positive influence on post-recovery customer trust.	Supported
H1c	**Interpersonal justice → Post-recovery trust** Perceived interpersonal justice elicited by the attentive behaviour of employees will have a positive influence on post-recovery customer trust.	Supported

Research Hypotheses		Result
H1d	**Informational justice → Post-recovery trust** Perceived informational justice elicited by adequate information provided will have a positive influence on post-recovery customer trust.	Supported
H2	**Post-recovery trust → Overall company satisfaction** Following service recovery, post-recovery trust will have a positive influence on overall company satisfaction.	Supported
H3	**Overall company satisfaction → Customer loyalty** Following service recovery, overall company satisfaction will have a positive influence on customer loyalty.	Supported
H4a	**Locus of causality * Distributive justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported
H4b	**Locus of causality * Procedural justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported
H4c	**Locus of causality * Interpersonal justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported

Research Hypotheses		Result
H4d	**Locus of causality *** **Informational justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported
H5a	**Stability *** **Distributive justice → Post-recovery trust** The stability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	Supported
H5b	**Stability *** **Procedural justice → Post-recovery trust** The stability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	Supported
H5c	**Stability *** **Interpersonal justice → Post-recovery trust** The stability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	Not supported
H5d	**Stability *** **Informational justice → Post-recovery trust** The stability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	(Counter) Supported

Research Hypotheses		Result
H6a	**Controllability *** **Distributive justice → Post-recovery trust** The controllability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	Not supported
H6b	**Controllability *** **Procedural justice → Post-recovery trust** The controllability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	Supported
H6c	**Controllability *** **Interpersonal justice → Post-recovery trust** The controllability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	Supported
H6d	**Controllability *** **Informational justice → Post-recovery trust** The controllability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	Supported
H7a	**Company reputation *** **Distributive justice → Post-recovery trust** Company reputation will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	(Counter) Supported

	Research Hypotheses	Result
H7b	**Company reputation * Procedural justice → Post-recovery trust** Company reputation will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	(Counter) Supported
H7c	**Company reputation * Interpersonal justice → Post-recovery trust** Company reputation will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	Not supported
H7d	**Company reputation * Informational justice → Post-recovery trust** Company reputation will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	(Counter) Supported

6.2 Overview of this Study

Due to the unique nature of service, even the best company cannot guarantee to deliver error-free service to satisfy their customers every time (Gruber et al., 2009; Nimako and Mensah, 2014). An airline provider is especially prone to service failures due to the high service process employed in service delivery (Chang and Chang, 2010; Nikbin and Hyun, 2014). These failure incidents are the main aspects causing customer dissatisfaction and generating a variety of negative behaviours towards organisations (Ali et al., 2015; Kim et al., 2009). To turn this crisis into an opportunity, an airline company must implement service recovery strategies in its businesses. Accordingly, how the airline effectively maintains good relationships with its customers in the event of a service breakdown is a prime highlight of this thesis.

According to the review of the service recovery literature, customer responses following service failure are not always based on their evaluation of the recovery outcomes (Maxham and Netemeyer, 2002). The extant research has found that customers' perceptions of both what is done and how it is done have a joint effect on customers fairness perceptions of service recovery, which in turn, influences post-recovery customer satisfaction (Kim and Cho, 2014; Van Vaerenbergh et al., 2012; Xie and Heung, 2012). Thus, in order to effectively remedy customer annoyance and strengthen customer–company relationships, it is vitally important for the company to understand its customers' perceptions of the perceived justice of service recovery. However, a better understanding of the relative effects of justice dimensions on customers' post-recovery behaviour appears warranted (Calisir et al., 2016; Choi and Choi, 2014; Vidal, 2012). Hence, the intention of this research is to examine how customer perceptions of the perceived justice of service recovery influences post-recovery behaviour, including post-recovery customer trust, overall company satisfaction and customer loyalty in the context of the airline industry.

Further, recent service recovery studies suggest that customer responses to service failure and recovery are often influenced by factors external to the recovery encounter, such as service failure attributions (Iglesias et al., 2015; Van Vaerenbergh et al., 2014) and company reputation (Ding et al., 2015; Sengupta et al., 2015). Nevertheless, empirical findings on the impact of factors external to the recovery encounter on the judgement of service recovery are lacking (Davidow, 2014; Migacz et al., 2017; Nikbin and Hyun, 2014). Thus, this thesis desires to identify how factors external to the recovery encounter – service failure attributions (locus of causality, stability and controllability) and company reputation - influence the effect of customer perceptions of the justice dimensions on post-recovery customer trust in the context of the airline industry. Given that the overview of this research has been summarised above, the attention now turns to the research results.

6.3 The Influences of the Perceived Justice of Service Recovery on Post-recovery Customer Trust

The first set of hypotheses of this research focuses on the relationships between customer perceived justice of service recovery and post-recovery customer trust. Unlike previous research that mainly focuses on the improvement of customer satisfaction, this research has sought to go beyond, by aiming at sustainable customer–company relationships. Building on the theory of EDP, this research adds to the previous literature by examining post-recovery customer trust as a direct outcome of the perceived justice of service recovery, in order to effectively restore customer relationship with the company when a failure occurs. This result confirms the robustness of EDP for understanding service recovery in an exchange relationship context. As prior research states, when an unfavourable incident occurs, customers re-evaluate fairness in terms of perceived justice of service recovery and generally expect at least fair treatment in an exchange (DeWitt et al., 2008; Tax et al., 1998). This study has found that, when service recovery has at least met customer expectations, customer perceptions of fairness in the exchange relationships will be recovered, which in turn, regaining their confidence in the airline.

To provide a better fit for evaluating the fairness judgement of service recovery, four-factors of justice – (i) distributive, (ii) procedural, (iii) interpersonal and (iv) informational justice – were investigated. Particularly, the findings from this study extend prior service recovery research by providing empirical evidence revealing that all four dimensions of perceived justice have direct positive relationships with post-recovery customer trust. This finding indicates that although a customer may experience an unfavourable incident, such as a flight delay, successful service recovery can reinforce customer trust in the airline. More specifically, procedural justice was found to have the strongest impact on restoring post-recovery customer trust when an airline flight is delayed, followed by distributive, interpersonal and informational justice, respectively.

6.3.1 Distributive Justice and Post-recovery Customer Trust

H1a	**Distributive justice → Post-recovery trust**	Supported
	Perceived distributive justice elicited by fair treatment will have a positive influence on post-recovery customer trust.	

The hypothesised relationship between distributive justice elicited by fair treatment and post-recovery trust was identified as a significantly positive relationship, thus providing support to H1a. This finding indicates that fair treatment for a flight delay can restore customer confidence in the airline. The theory of distributive justice, which is built from equity and social exchange theory (Blodgett et al., 1997), refers to an equity outcome that the individual expected to receive in an exchange (Tax et al., 1998). However, in the event of a service failure, the exchange is thrown out of balance. Distributive justice will be obtained when compensation results are at least equal to the sacrifices incurred during the service encounter (Davidow, 2003; Gelbrich and Roschk, 2011). The fairness of treatment leads dissatisfied customers to evaluate that the company is willing to compensate for the failure, retaining confidence in the relationship. Similarly, to restore customer trust in the airline, adequate compensations to balance customer inconvenience from the flight delay should be provided.

This finding is consistent with evidence within service recovery research that distributive justice exerts a positive impact on customer satisfaction in the context of retail banking (Binh and Vi, 2013; Casado-Diaz et al., 2007; Chebat and Slusarczyk, 2005), hotel (Kim et al., 2009; Patterson et al., 2006; Smith et al., 1999), restaurant (Aurier and Siadou-Martin, 2007; Matilla and Patterson, 2004; Siu et al., 2013) and airline (Boshoff, 1997; Ding et al., 2015; Gautam, 2011; Nikbin et al., 2015a). The result echoes previous research that the presence of acceptable compensation leads to a stronger intention of forgiveness (Casidy and Shin, 2015). Due to the visible and straightforward outcomes of distributive justice, competent compensation can efficiently offset costs incurred by the customers (Gelbrich and Roschk, 2011). Taken together, this research suggests that, to maintain customer trust in the airline, fair treatment must occur. For example, an upgraded airline seat and food and drink voucher are attributes of attempts to achieve a perception of trust when a flight delay occurs (Ding et al., 2015; Khan and Khan, 2014).

6.3.2 Procedural Justice and Post-recovery Customer Trust

H1b	**Procedural justice → Post-recovery trust**	Supported
	Perceived procedural justice elicited by an efficient recovery process will have a positive influence on post-recovery customer trust.	

The hypothesised relationship between procedural justice elicited by an efficient recovery process and post-recovery customer trust was found to be positive and significant, supporting H1b. Distinctively, procedural justice was found to have the highest predictive power compared to other aspects. This finding implies that assuring an efficient recovery process from the flight delay is the most meaningful component to achieving a positive customer trust assessment. This may be because timeliness is a pressing issue for airline customers, thus the efficiency of the service recovery process is dominantly prioritised. Typically, customers perceive procedural fairness when the process used to allocate outcomes is efficient and effective (Sparks and McColl-Kennedy, 2001). A well-managed recovery process serves as a signal that the company cares about the customer and is being attentive to the customer (Mattila and Patterson, 2004). A prompt recovery process helps in reducing customer uncertainty in the company as it makes the customer believe that the company is instantly acting to rectify the problem (Cambra-Fierro et al., 2015b). Hence, to restore customer trust in the airline from a flight delay, a committed procedure to handling the failure must be primarily implemented at the recovery stage.

This finding is in line with the findings of many service marketing studies, that procedural justice is the most essential construct in shaping customer judgements when service is encountered (Cambra-Fierro et al., 2015b; Chang and Chang, 2010; Davidow, 2014; Ding et al., 2016; JHA and Balaji, 2015; Karande et al., 2007; Maxham and Netemeyer, 2002; Ok et al., 2005; Park and Park, 2016; Rio-Lanza et al., 2009; Sindhav et al., 2006; Tolba et al., 2015; Wirtz and Mattila, 2004). This evidence confirms Tsai et al. (2014)'s prediction that a good recovery process to rectify the problem makes customers believe that the airline can be trusted. Prior research suggests that customers usually evaluate the effectiveness of the recovery process based on six procedural components; (1) responsiveness, (2) timing and speed, (3) convenience, (4) follow up to the monitoring process, (5) flexibility, and

(6) knowledge of process (Tax et al., 1998; Van Vaerenbergh et al., 2012). Hence, airline companies should carefully design their recovery process in order to ensure that customers' needs are fairly met within a short time period when a flight delay happens. For instance, a recovery procedure that has clear facilitation with quick responses should be prioritised to accomplish increased trust when the flight delay occurs.

6.3.3 Interpersonal Justice and Post-recovery Customer Trust

H1c	**Interpersonal justice → Post-recovery trust**	Supported
	Perceived interpersonal justice elicited by the attentive behaviour of employees will have a positive influence on post-recovery customer trust.	

The hypothesised relationship between interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust was significantly positive, hence H1c was supported. The finding shows that, when customers perceive to be treated fairly, lost customer trust from the flight delay can be mitigated. Perceived interpersonal fairness arises when the interaction treatment meets an individual's need for self-esteem (Bitner et al., 1990). Customers re-establish the feeling of equity and self-esteem when they are treated fairly with respect, dignity and sensitivity (Dewitt et al., 2008). Similarly, in the event of a service failure, employees who show sensitivity in solving the problems and respect towards customers during recovery process boost customer self-esteem. Thus, when the airline is credible and concerned about the relationships by treating customers with an appropriate level of respect throughout the recovery process, customers' self-esteem can be restored, which in turn, re-establishes customer confidence with the airline.

This result reiterates findings from previous service recovery studies, showing that interpersonal justice influences the evaluation of service recovery and post-recovery customer satisfaction in the context of retail banking (Assefa, 2014; Cengiz et al., 2007; Maxham and Netemeyer, 2002), retail (Blodgett et al., 1997), hotel (McCollough, 2000b; Karatepe, 2006), restaurant (Ha and Jang, 2009; Ok et al., 2005) and airline (Chang and Chang, 2010; Wen and Chi, 2013). This research adds

to the above evidence by demonstrating that the attentive behaviour of employees helps to shape customer perceptions of the trustworthiness of the airline when a flight delay occurs. This also confirms that customers not only base their judgements on the outcome but also assess how the staffs treat them and respond to their dissatisfaction (Kamran and Attiq, 2011). As such, to achieve greater trust, it is vitally important for the airline to train its frontline staffs, which are the face of the organisation, to communicate and deal with customer annoyances with kindness, politeness, and honesty throughout the recovery process.

6.3.4 Informational Justice and Post-recovery Customer Trust

H1d	**Informational justice → Post-recovery trust**	Supported
	Perceived informational justice elicited by adequate information provided will have a positive influence on post-recovery customer trust.	

The hypothesised relationship between informational justice elicited by adequate information provided was significantly and positively related with post-recovery customer trust, providing support to H1d. This finding represents that the provision of adequate explanations at the recovery stage can restore customer confidence with the airline when a flight delay occurs. Generally, customers evaluate informational justice to be fair when information explaining the cause of failure is perceived as adequate and truthful (Colquitt, 2001). Customers tend to perceive that the company's willingness to present sufficient information to the failure illustrates the company's honesty and responsibility (Bradley and Spark, 2009; Mattila, 2006). Thus, a competent explanation to clarify the problem can alleviate risk perception and customer anxiety in the company (Liao, 2007; Karatepe, 2006). Accordingly, offering appropriate and relevant information during the flight delay can help customers to offset negative perceptions regarding the failure, which in turn, preserves customer trust with the company.

The result supports the prior literature that adequate explanation of the failure's cause is an effective way to regain customer satisfaction (Baker and Meyer, 2014; Bradley and Sparks, 2012; Shaw et al., 2003; Sparks and Fredline, 2007; Wenchao, 2009). This finding echoes evidence from the extant research showing that good

communication between customers and employees helps in building trust in the relationship (Morgan and Hunt, 1994). Commonly, customers have a normative expectation to receive an explanation following a breakdown in service (Shaw et al., 2003). Customers want to understand why the service went wrong and what is being done about it in order to cope with the uncertainty of the situation (Sparks and Fredline, 2007). Prior research has found that customers use information provided during the service encounter to re-evaluate the failure by seeing the problem from the company's viewpoint, making them more understanding about the situation (Baker and Meyer, 2014). Well-informed messages during the service encounter makes customers perceive that the airline is able to control the problem in an effective and straightforward manner (Grewal et al., 2008). Therefore, to minimise customer anxiety in the airline from the flight delay, providing customers with detailed flight status updates, helpful suggestions, and options pertaining to problem solutions should be a priority.

6.4 The influences of Post-recovery Customer Trust on Overall Company Satisfaction

H2	**Post-recovery trust → Overall company satisfaction** Following service recovery, post-recovery trust will have a positive influence on overall company satisfaction	Supported

The hypothesised relationship between post-recovery customer trust and overall company satisfaction was positive and significant, thus H2 was supported. As expected, this finding indicates that, following successful service recovery, post-recovery restored customer trust directly influences the evaluation of overall company satisfaction. Further, this study adds to those of previous scholars by providing empirical evidence revealing that post-recovery trust acts in a partial mediating role in the relationship between perceived justice of service recovery and overall company satisfaction. This means, when a customer perceives there to be justice in the service recovery, overall customer satisfaction will be re-established through the restoration of customer trust in the airline. More specifically, interactional justice (attentive behaviour of employees) only affects the customer's overall company satisfaction via customer trust recovery, whereas distributive (fair treatment), procedural (efficient recovery process) and interpersonal (adequate

information provided) justice can impact the customer's overall company satisfaction assessment, either directly or indirectly via customer trust recovery.

In the context of service recovery, customer trust is the emotional security that reflects a willingness to accept the company's recovery resolution on the service failure (Sun and Lin, 2010). Thus, when customers believe that the company has the ability and willingness to solve the problem, the customer perceived risk in an exchange will be lessened, which in turn, engenders customer acceptance in the resolutions provided (Singh and Sirdeshmukh, 2000). In the same way, when the flight delay has been successfully recovered, customers tend to believe that the airline is upright and reliable in its fulfilment of its promises, thus a greater sense of customer trust is (re-)established. Accordingly, customers who repeatedly perceive reliability and integrity in the airline are more likely to maintain a positive attitude towards the airline as a whole.

It is well recognised in the literature that customer trust is a core foundation in building a strong base for the enduring relationships between customers and the company (DeWitt et al., 2008; Singh and Sirdeshmukh, 2000; Siu et al., 2013; Zaltman, 1993). Trust has frequently been studied in marketing research as an antecedent of a growing relationship (Dagger and O'Brien, 2010; Morgan and Hunt, 1994; Ok et al., 2005; Tektas, 2016). Consistent with the dynamic view of customer loyalty, customer trust will lead to overall customer satisfaction, which plays a central role in a loyalty model (Han et al., 2008; Hennig-Thurau et al., 2012; Johnson and Gustafsson, 2000). The extant literature has also certified that customer trust is a direct antecedent of overall customer satisfaction (Kwortnik and Han, 2011; Ok et al., 2005; Rizan et al., 2014; Sajtos et al., 2010; Singh and Sirdeshmukh, 2000; Wang et al., 2008). Correspondingly, this study supports the existing scholars by showing that, following successful service recovery, post-recovery customer trust plays a pivotal role in enhancing the assessment of overall company satisfaction. When customers believe that the company can be relied on to behave in a manner that will benefit its customers, they tend to have greater confidence in the company's future performance, fostering them to renew their overall company satisfaction.

6.5 The influences of Overall Company Satisfaction on Customer Loyalty

H3	**Overall company satisfaction → Customer loyalty**	Supported
	Following service recovery, overall company satisfaction will have a positive influence on customer loyalty.	

The hypothesised relationship between customer's overall company satisfaction and customer loyalty was positive and significant, providing support to H3. This finding shows that, following effective service recovery, customers who are satisfied with the airline's performances as a whole tend to have more intention to continue the relationship and stay loyal to the airline. The result finds theoretical explanations in psychological and relationship marketing studies through the reciprocity norm (Cambra-Fierro et al., 2014; Gustafsson et al., 2005; Krishna et al., 2014; Wan et al., 2011). With regard to this norm, individuals are inclined to help those who have helped them (Eisenberger et al., 2001). Likewise, when customers have been treated fairly from the flight delay, any negative customer feeling regarding the failure can be reduced. The airline's recovery efforts to rectify the problem make customers feel valued, which engenders the norm of reciprocity. Thus, following successful service recovery, obliging customers tend to return the airline's assistance by preserving a positive attitude towards the airline and the intention to continue to use its services. Notably, it can be said that a successful recovery strategy to rectify the failure is fundamental to rebuild customer trust, which in turn, generates a satisfactory assessment of the company as a whole, resulting in a substantial gain in customer loyalty.

The relationship between customer satisfaction and customer loyalty is well established in numerous marketing researches (Balaji and Sarkar, 2013; Chang and Chang, 2010; Homburg and Furst, 2005; Maxham and Netemeyer, 2002; McColl-Kennedy et al., 2003; Oliver, 1997). It has been widely agreed that customer satisfaction and customer loyalty are direct related, since satisfied customers are more motivated to maintain and strengthen relationships with the company (Fornell et al., 1996; Gustafsson et al., 2005; Hennig-Thurau et al., 2012; Tax et al., 1998). This result confirms prior scholars that customer trust is a prerequisite for overall company satisfaction and both components are essential in assuring customer loyalty

(Al-Jader and Sentosa, 2015; Hart and Johnson, 1999; La and Choi, 2012; Morgan and Hunt, 1994; Kwortnik and Han, 2011). Further, this research's findings are consistent with the service recovery literature by empirically demonstrating that, following successful service recovery, regaining overall company satisfaction positively influences customer loyalty (Hennig-Thurau et al., 2002; Karande et al., 2007; Ok et al., 2005; Sengupta et al., 2015; Smith et al., 1999; Vidal, 2012). In conclusion, it can be said that, in the context of service breakdown, well-implemented service recovery can lead customers to re-evaluate any perceptions of service quality and can overturn negative perceptions towards the firm, which in turn, sustains customer willingness to continue the relationship.

6.6 The Moderating Effects of Service Failure Attributions

Since it is human nature to ask "why", particularly when things go wrong, individuals usually engage in spontaneous causal thinking about reasons for behaviours or events before they respond to the event itself (Bitner, 1990; Weiner, 2014). This indicates that customers normally use the reason for the service failure to formulate their reaction towards the company. Recent service failure and recovery studies have suggested that post-recovery customer behaviours are not always based on the outcomes of the recovery process, but are also based, somewhat sensibly, on the reason why such a failure occurs (Iglesias et al., 2015; Van Vaerenbergh et al., 2014; Xie and Heung, 2012). The concept of attribution explains that individuals tend to initiate logical reasons for the event that they wish to understand. Thus, to better understand post-recovery customer reactions, the attributed causes of failure were examined as the moderating effects in this study. Notably, this research adds to the previous literature by analysing customers' perspective on what the failures mean to them in order to develop successful service recovery to cope with different causes of failure together with encourage them to stay longer with the company.

Based on the attribution theory (Weiner, 2000), the moderations of three main attributes of service failure – the locus of causality (Who caused the failure?), stability (Is the failure likely to recur?) and controllability (Is the cause preventable?) – were investigated. This section includes a discussion of the findings related to the interaction effects of the locus of causality, stability and controllability on the

relationship between each dimension of perceived justice of service recovery – distributive, procedural, interpersonal and informational justice – and post-recovery customer trust.

6.6.1 The Moderating Role of the Locus of Causality

H4a	**Locus of causality *** **Distributive justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported
H4b	**Locus of causality *** **Procedural justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported
H4c	**Locus of causality *** **Interpersonal justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay to originate from the company (customer).	Not supported
H4d	**Locus of causality *** **Informational justice → Post-recovery trust** The locus of causality will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is originate from the company (customer).	Not supported

The locus of causality did not moderate any dimensions of perceived justice or post-recovery customer trust. Thus, H4a, H4b, H4c and H4d were not supported. This finding shows that the customer's perception of who is responsible for the flight delay does not influence their perceived justice of the service recovery. A possible explanation for this result could be that customers generally do not want to admit guilt (Albrecht et al., 2016; Anderson et al., 2009; Chang et al., 2015; Smith et al., 1999), making them more likely to uphold that the causes of the flight delay come from the airline's faults rather than the customer's faults. As suggested by prior research, self-serving bias has significant implications when an unfavourable situation occurs. Customers are subject to self-serving biases when making causal inferences to protect and enhance their self-esteem (Choi and Cai, 2016; Jin and DeVaney, 2011). Self-serving bias is the individuals' tendency to attribute successes to their own abilities, while usually attributing failures to external causes (Campbell and Sedikides, 1999). Similarly, when a flight delay occurs, customers are less likely to take responsibility for the failure, even when the causes were induced by them. Thus, airlines must provide adequate service recovery to restore lost customer trust from a flight delay regardless of where the responsibility for the failure rests.

6.6.2 The Moderating Role of Stability

H5a	**Stability * Distributive justice → Post-recovery trust** The stability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	Supported
H5b	**Stability * Procedural justice → Post-recovery trust** The stability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	Supported

H5c	**Stability ***	Not
	Interpersonal justice → Post-recovery trust	supported
	The stability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	
H5d	**Stability ***	(Counter)
	Informational justice → Post-recovery trust	Supported
	The stability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is stable (unstable).	

Attribution of stability was found to have positive moderation on the relationship between (1) distributive justice elicited by fair treatment and (2) procedural justice elicited by an efficient recovery process and post-recovery trust, but negative moderation on the relationship between (3) informational justice elicited by adequate information provided, and post-recovery customer trust. Hence, H5a and H5b were supported, while H5d was counter supported. This finding shows that customers demand better treatment and an efficient recovery procedure to restore the trustworthiness of the airline when the customer perceives that the cause of the flight delay is a frequent occurrence in this airline. By contrast, customers are less demanding regarding the information presented when they perceive that flight delays frequently happen in this airline, but when they perceive that flight delays are rare occurrence, they require more information provided to restore their lost trust.

A probable theoretical explanation for this result can be demonstrated through the lens of mental accounting theory, developed by Thaler (1999). With regard to this theory, individuals make their judgements based on how they perceived a loss or gain from the outcome (Chuang et al., 2012; JHA and Balaji, 2015; Yi and Lee, 2015). When the failure is perceived to occur regularly, customers tend to anticipate greater loss as they presume that a similar disappointed outcome will happen in the future. The attribution of stability heightens customer feeling of discontent with the

company's pattern of repeated failures (Liao, 2007; Maxham and Netemeyer, 2002). In attempting recovery, the company must make a greater recovery effort to offer the customers a gain. Consistent with this, it can be said that the attribution of stability creates greater demand to benefit from the company's recovery effort to compensate for the occurrence of the service failure incident. In other words, as the stability of the failure increases, the added value of the airline's recovery efforts is likely to decrease and the effect on customer perceptions of justice is likely to lessen.

This finding provides evidence of the interaction effects of stability and shows that such stability is taken as a reference point in adjusting perceived distributive, procedural and informational justice of service recovery. Commonly, customers have a normative expectation to receive appropriate levels of treatment following a breakdown in service (Grewal et al., 2008). Customers tend to perceive repeated flight delays as a sign of poor customer treatment, which implies that the airline lacks the ownership and ability to correct the mistake. Hence, customers expect the company to demonstrate more responsibility for the incident and be aware of the potential recurrence of such failure. Customers expect higher compensation to be offered because they typically see compensations as a symbolic expression of regret by the company (Au et al., 2001; Gelbrich et al., 2016). To prove to its affected customers that the airline acknowledges its faults and is willing to develop, more compensation is required to restore customer trust in the airline. When customers are adequately compensated, they are less likely to perceive risk in the future transactions with the airline because they believe that the airline will try to do its best to restore equity to the relationship even if the same failure recurs.

Customers also call for a more efficient recovery process on achieving the recovery outcome when they perceive that flight delay occurs regularly in the airline. This may be because customers perceive that promptness in the rectifying process is a sign of fairness on delivering the recovery outcome (Cambra-Fierro et al., 2015b). Thus, in the case of frequently occurring flight delay, the airline should have recovery guidelines and standards in place in order to offer immediate resolutions to the affected customers. This can make customers feel more confident that the airline is somehow responsibly with regard to the flight delay, making them renew their confidence with the airline.

On the other hand, contrary to the prediction, to regain customer confidence in the airline, customers are less demanding regarding the information presented when they perceive that flight delays frequently happen in the airline. However, when they perceive that flight delays rarely occur, they are more interested in seeking a greater degree of information. Customers tend to evaluate rare flight delays as an unintended failure (Hess, 2008), making them curious about the cause of the delay. Thus, the airline must provide affected customers with truthful information about its cause and the difficulty of preventing it. Such information can help customers to remain calm and to cope with any uncertainty as regards the airline's performance, engendering them to renew their trust in the airline. In contrast, when customers perceive that such flight delays frequently occur in the airline, provision of an explanation is not always effective. As such, to restore customer confidence from repeated failures, the airline should put greater effort into rectifying the root cause of the problem rather than trying to gain forgiveness for the recurring incident. Customers may see an abundance of notifications as an excuse to repeat mistakes, which may worsen the situation.

6.6.3 The Moderating Role of Controllability

H6a	**Controllability * Distributive justice → Post-recovery trust** The controllability will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	Not supported
H6b	**Controllability * Procedural justice → Post-recovery trust** The controllability will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	Supported

H6c	**Controllability ***	Supported
	Interpersonal justice → Post-recovery trust	
	The controllability will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	
H6d	**Controllability ***	Supported
	Informational justice → Post-recovery trust	
	The controllability will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive the cause of the flight delay is controllable (uncontrollable) by the airline.	

The controllability positively moderates the relationship between (1) procedural justice elicited by an efficient recovery process, (2) interpersonal justice elicited by the attentive behaviour of employees, and (3) informational justice elicited by adequate information provided, and post-recovery customer trust. Therefore, H6b, H6c and H6d were supported. As predicted, this finding indicates that when the airline can prevent the flight delay but fails to do so, customers tend to be demanding of the effectiveness of the recovery process, the attentiveness of the company's employees and the explanation provided at the recovery stage to restore their confidence in the airline. In contrast, customers are more likely to be understanding about uncontrollable causes of flight delays, making them more reasonably evaluate the recovery efforts.

A possible explanation for this finding could be that, when the flight delay occurs from a controllable cause, customers tend to evaluate that the airline does not make sufficient effort to prevent it, which is a sign of poor management. The incompetence in controlling the cause of the problem can reduce customer perceptions of the service's reliability, diminishing customer confidence in the airline. The recklessness of an airline to prevent a failure can create customer perceptions of harm in the airline's performance, leading customers to hold the company responsible to compensate their negative experiences. Therefore, greater

recovery efforts need to be offered to the affected customer in order to rebuild their lost trust. On the other hand, customers tend to evaluate uncontrollable causes of a flight delay as bad luck, making them less likely to blame the airline. Since customers comprehend that the problem is out of the airline's control, customer trust in the airline is less likely to decrease. In this case, a lower degree of recovery efforts is required because customers still have confidence in the airline's performance.

Additionally, customers tend to evaluate a failure that occurs from controllable cause as a deliberate failure, generating anger in the customers' emotions (Harrison-Walker, 2012; Iglesias et al., 2015). This may be because the recklessness to prevent the flight delay provokes customers to experience more negative emotions and concerns regarding the airline. According to affect control theory by Heise (1979), individuals act in such a way that their emotions are appropriate to the situations they experience (Chebat and Slusarczyk, 2005; Chaparro-Pelaez et al., 2015). This means, when customers become disappointed in the airline's performance, they tend to share their negative experiences to jeopardise the company's image. Consequently, when customers detect that the flight delay occurs due to the incompetence of the airline, the airline should primarily focus on calming angry customers back to the steady stage during the service encounter in order to reduce the possibility of hurting the airline.

The direction of the moderating roles of attribution of controllability is consistent with the predictions. This finding provides evidence of the interaction effects of controllability and shows that such controllability is taken as a reference point in adjusting perceived procedural, interpersonal and informational justice of service recovery. These outcomes are related to those reports in previous studies on the role of perception of justice in customer emotion. The prior service recovery literature has found that customer perceived justice of service recovery has a significant impact on emotional responses, but only procedural and interactional (interpersonal and informational) justice can immediately alleviate the customer outrage and trigger more positive emotion (Albrecht et al., 2016; del Rio-Lanza et al., 2009; McColl-Kennedy and Spark, 2003; Nikbin and Hyun, 2014; Schoefer, 2008; Wen and Chi, 2013). This finding may explain why only the recovery efforts on the rectifying process, sensitivity and respect of staff and truthful information provided should be

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prioritised at the recovery stage when the flight delay occurs from a controllable cause.

This finding could be explained in the following ways. First, more adequate and truthful explanations must be provided during the service encounter in order to make disappointed customers comprehend why the airline cannot prevent the flight delay and the difficulty of preventing it. This may make affected customers more understanding about the incident, which in turn, relieves customer stress and anxiety regarding the airline. Moreover, the airline's staff must communicate and deal with customer disappointments with kindness, politeness, and honesty throughout the recovery process. Customers may perceive these attempts as the implementation of a standard service that demonstrated the airline's involvement and understanding of the impact, lessening the customers' negative emotions and increasing their patience as regards the incident. Lastly, the airline essentially needs to establish appropriate recovery procedures, so that affected customers know where and how to voice their dissatisfactions. A prompt recovery process makes affected customers believe that the airline is acting promptly and responsibly to rectify the problem, reducing their perceptions of harm to the airline's performance. Also, customers, who express their disappointments directly to the airline, are less likely to engage in negative word-of-mouth communications to others and less likely to abandon their relationship with the airline.

6.7 The Moderating Effect of Company Reputation

This section includes a discussion of the findings related to the moderating effect of company reputation on the relationships between perceived justice of service recovery – distributive, procedural, interpersonal and informational justice – and post-recovery customer trust. The moderating effect of company reputation was hypothesised as follows:

H7a	Company reputation *	(Counter)
	Distributive justice → Post-recovery trust	Supported
	Company reputation will moderate the relationship between perceived distributive justice elicited by fair treatment and post-recovery customer trust, such that the effect of distributive justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	
H7b	Company reputation *	(Counter)
	Procedural justice → Post-recovery trust	Supported
	Company reputation will moderate the relationship between perceived procedural justice elicited by an efficient recovery process and post-recovery customer trust, such that the effect of procedural justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	
H7c	Company reputation *	Not
	Interpersonal justice → Post-recovery trust	supported
	Company reputation will moderate the relationship between perceived interpersonal justice elicited by the attentive behaviour of employees and post-recovery customer trust, such that the effect of interpersonal justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	
H7d	Company reputation *	(Counter)
	Informational justice → Post-recovery trust	Supported
	Company reputation will moderate the relationship between perceived informational justice elicited by adequate information provided and post-recovery customer trust, such that the effect of informational justice will be weaker (stronger) for customers who perceive a lower (higher) positive company reputation.	

Company reputation moderated the relationship between (1) distributive justice elicited by fair treatment, (2) procedural justice elicited by an efficient recovery process, and (3) informational justice elicited by adequate information provided, and post-recovery customer trust. However, contrary to the predictions, this finding indicates that, when the highly reputed airline suffers from a flight delay, customers demand better treatment, an effective recovery process and provision of an explanation to recover their lost trust compared to less highly reputed airline. Therefore, H7a, H7b and H7d were counter supported.

There are numerous advantages when a company has a positive reputation. Specifically, in the airline industry, the strong reputation of an airline is considered as a key asset in determining the sustainable competitive advantages of the business (Ding et al., 2015). A positive company reputation can strengthen customer confidence and reduce the customers' perceived risk during service delivery, which in turn, encourages greater loyalty (Chang, 2013; Ghalandari et al., 2012; Keh and Xie, 2009; Sengupta et al., 2015). However, based on the finding, the halo effect of a positive reputation cannot act as a shield to protect the airline when a flight delay occurs. This indicates that customers perceive company reputation more as a perk for evaluation rather than a shield for dissatisfaction from an incident. This result supports Ding et al. (2015)'s investigation that the other side of double-edged sword is not encouraging. In the event of a service failure, the highly reputed company is more probable to lead customers to have higher expectations about service than they believe they deserve. Since customers have placed their confidence in the highly reputed company, service failure may elicit feelings of being betrayed. The effect of a betrayal can lead to a greater change in customer attitudes, resulting in broken trust (Brady et al., 2008; Tektas, 2016). In this respect, when a flight delay occurs in the highly reputed airline, customers may trigger greater uncertainty about the company's performance, motivating them demand higher recovery efforts to cope with the failure. Hence, it can be said that customer perceptions of justice towards the airline's recovery efforts are expected to be contingent upon firm reputation for fairness.

The above result can be explained through the lens of EDP theory. Based on EDP, customers normally form their expectations of service performance prior to a purchase (Oliver, 1977). Due to the intangibility of service, customers use company reputation as an initial cue to form their expectations of the company's service performance (Jha et al., 2013). Customers tend to have higher expectations for highly reputed companies, and view them as delivering superior services (Haung, 2011; Roggeveen et al., 2007). Brady et al. (2008) have found that there is a sharper immediate drop in customer satisfaction for the highly reputed company than for a lesser reputed company when the failure occurs. Thus, when highly reputed company makes a mistake, customers may be extremely disappointed on

encountering the failure, resulting from the greater disconfirmation expectations. This disappointed feeling may displace the positive beliefs and attitudes associated with the company, resulting in them losing trust in the company (Ding et al., 2015; Mattila, 2004).

Adding to the above evidence, this study demonstrates that, when customers develop a positive mental schema of the airline, the effectiveness of the airline's recovery effort to restore customer confidence from the flight delay will be weaker compared to that of an airline with a less positive reputation. Specifically, customers expect fairer treatment, a more efficient recovery process and better explanations provided at the recovery stage when a highly reputed airline fails to deliver its promise. Since the flight delay engenders customer feelings of being betrayed, affected customers tend to respond negatively to jeopardise the airline's image. Customers try to penalise the airline for not able to deliver its promise by demanding substantial compensation to pay for their loss. The affected customers want the airline to accept its faults and take responsibility for its failure. Hence, a highly reputed airline needs to be more aware of such failure in the future, as substantial cost must invested to remedy customer confidence in the airline.

Further, it is not surprising that affected customers also expect a more efficient recovery process to regain their confidence in the highly reputed airline. This may be because customers generally perceive that a positive reputation indicates consistency in delivering a high quality of service to customers. Therefore, it is compulsory for the highly reputed airline to establish appropriate recovery policies and procedures to deliver fair outcomes in an effective and timely manner to its customer when an unfavourable incident occurs. This prompt recovery procedure helps to assure affected customers that the airline always does its best to deliver a quality service and preserves the positive relationship with the customer, making them confident to renew their trust in the airline.

Customers tend to feel greater disappointment when a highly reputed airline makes a mistake as a good reputation increases customer expectations towards the airline. Based on the finding, customers are more interested in the information provided when a flight delay occurs in a highly reputed airline. This may be because

customers want to understand why the service has failed and how the airline will rectify before their harmed perceptions of the airline's performance are reduced. Customers tend to use the information provided to re-evaluate the failure by seeing the problem from the company's viewpoint, which helps them cope with their uncertainty more effectively. Thus, to rebuild customer trust in the airline, the adequacy and truthfulness of the information provided in explaining the cause of the failure, and the process undertaken to rectify that failure, must be consistently presented during the service encounter.

In contrast, since the primary customer expectation after a service failure is to have the problem fixed (Fang et al., 2012; Lee and Cranage, 2017), extra interpersonal treatment may not be required during this unfavourable incident. A likely explanation might be that customers believe that attentive behaviour is a typical standard of the highly reputed airline and they want the airline to quickly and honestly resolve the problem rather than act opportunistically. Consequently, due to heightened customer expectations in the reputable company, the airline needs to primarily focus more on the provision of sufficient information, promptness of the recovery process and satisfactory compensations to mitigate customer uncertainty arising from the flight delay.

6.8 Chapter Summary

This chapter has discussed all the research findings, built upon the research framework and the developed hypotheses as well as the existing literature. The findings are compared and contrasted with the extant knowledge in the fields of service failure and service recovery. The findings support the prior literature (e.g. Dewitt et al., 2008; Gelbrick and Roschk, 2011; Maxham and Netemeyer, 2002; Tax et al., 1998; Vazquez-Casielles et al., 2010) that there are positive influences of each dimension of justice on post-recovery customer trust. Following service recovery, the results are consistent with the dynamic view of customer loyalty (e.g. Han et al., 2008; Hennig-Thurau et al., 2012; Johnson and Gustafsson, 2000; Singh and Sirdeshmukh, 2000) that there are direct positive relationships between post-recovery customer trust, overall company satisfaction and customer loyalty. Adding to the previous research, this study provides evidences supporting that customer

responses to service failure and service recovery are influenced by customer attribution of stability and controllability, and company reputation. The executive summary of this research, its theoretical and practical implications, the limitations of the study and suggested future research directions will be provided in the next and final chapter of this research.

CHAPTER 7

CONCLUSIONS

7.1 Introduction

To achieve the research aim, this study has developed a theoretical model of customer perceived justice of service recovery in relation to loyalty recovery, and has empirically tested it in the airline context. The empirical investigation provides interesting results for discussion, while also contributing to the existing service failure and recovery literature, and will be of interest to airline practitioners in particular. In the final chapter of this research, the conclusions regarding the important areas covered in this study are presented. This chapter begins with a brief summary of the research according to the main research aim and objectives. Then, the key contributions of this research and both its theoretical and practical implications will be highlighted. Lastly, the limitations of this study and directions for future research will be drawn.

7.2 Summary of the Research

With the rise of interest in customer relationships marketing, both academics and practitioners have agreed that building solid customer relationships is becoming the number one strategic goal to achieve a sustainable advantage in the era of competition (Migacz et al., 2017; Sandada and Matibiri, 2015). Considering the unique nature of airline services and the inevitability of human errors, airline companies are continuously under pressure to recover this dilemma. Thus, to offset this negativity, it is important for airline companies to know how to implement service recovery strategies in their businesses. It has been widely agreed that the outcomes of service failure are not always negative when customers are treated fairly and appropriately during the recovery process (Abou and Abou, 2013; Cambra-Fierro et al., 2015b; Nikbin et al., 2015b). As such, the focus of this study is to determine how to implement successful service recovery strategies to sustain positive customer relationships with the airline in the case of service failure.

Accordingly, the main aim of this research is to elucidate the impact of customers' perceptions of the perceived justice of service recovery and those factors external to the recovery encounter, including service failure attributions and company reputation, in relation to loyalty recovery in the context of the airline industry. To achieve the research aim, the research objectives set at the beginning of thesis need to be met. Table 7.1 (following) restates the research objectives and the chapters in which these objectives were achieved.

Table 7.1: The research objectives and their achievements

Research Objectives	Achievement
I. To understand the notion of service failure and service recovery in the airline industry.	Chapter 2
II. To examine how customers' perceptions of the perceived justice of service recovery influences post-recovery customer behaviour, including post-recovery trust, overall company satisfaction and customer loyalty in the context of the airline industry.	Chapters 2 and 3
III. To identify how factors external to the recovery encounter – service failure attributions (the locus of causality, stability and controllability) and company reputation – influence the effect of the perceived justice of service recovery in relation to customer loyalty recovery in the context of the airline industry.	Chapters 2 and 3
IV. To develop and propose a theoretical model of the consequences of customers' perceptions of the perceived justice of service recovery and the factors external to the recovery encounter – service failure attributions and company reputation – in relation to customer loyalty.	Chapters 3 and 4
V. To empirically validate the theoretical model by assessing the hypotheses' relationships.	Chapter 5
VI. To provide possible theoretical and practical implications of the key results and offer suggestions for future research directions.	Chapters 6 and 7

This study builds upon the identified gaps from the review of the literature surrounding service failure, service recovery and consumer behaviour, examined in Chapter 2. In Chapter 3, this thesis developed a conceptual framework along with related hypotheses to answer the research question of "how do customer perceptions of the perceived justice of service recovery drive customer loyalty in different service failure situations and with a distinct level of company reputation in the

airline industry?". Then, an explanation of research methodology and design used for collecting empirical data was presented in Chapter 4. To test the proposed conceptual framework, this thesis adopted questionnaire survey method on 480 respondents who have experienced a full service airline's flight delay in the past 12 months. The detailed of the data analysis using PLS-SEM analytical technique via plspm package in R software to statistically validate the research conceptual framework and testing the hypotheses was discussed in Chapter 5. Next, the finding of this study was discussed in light of the extant literature in Chapter 6. Lastly, in Chapter 7, the conclusion of this research, theoretical and practical contributions, limitations of this study and suggested future research directions were demonstrated.

With regard to the research framework, this study examines how customer perceptions of justice dimensions (distributive, procedural, interpersonal and informational justice) influence the restoration of post-recovery customer trust, overall company satisfaction and customer loyalty, respectively. To better understanding customer evaluation of service recovery, this study further investigates the moderating role of factors external to recovery encounter, including service failure attributions (locus of causality, stability and controllability) and company reputation on the investigated relationships. In light of the finding, this study provides strong support for the relevant of all four dimensions of justice in reshaping customer trust, overall company satisfaction and customer loyalty. This study advances service recovery literature that customer trust following service recovery acts as a mediator of the relationship between the perceived justice of service recovery and overall company satisfaction. Procedural justice elicited by an efficient recovery process was found to have the strongest impact on recovering lost customer trust from service failure, followed by distributive justice elicited by fair treatment, interpersonal justice elicited by attentive behaviour of employees and informational justice elicited by adequate information provided, correspondingly. Meaning that, although customer experiences unfavourable incident, successful service recovery can reinforce customer trust, preserve overall company satisfaction and even enhance loyalty behaviour in the future.

According to the moderating results of factors external to recovery encounter, this study has revealed that customer attribution of stability and controllability of failure

impact the strength of the relationships between customer perceptions of justice dimensions and post-recovery trust, but not found any effects on locus of causality. In the presence of stability attribution, the finding only shows positive moderating impact on distributive and procedural justice but negative moderating effect on informational justice. In contrast, there are only significant positive moderations on the relationships between procedural, interpersonal and informational justice and post-recovery customer trust regarding to controllability attribution. Additionally, contradict with the predictions, company reputation was statistically positive moderate only on the relationships of distributive, procedural and informational justice. This indicates that the effectiveness of the company recovery activities is contingent upon what customer perceived cause of service failure and level of company reputation.

7.3 Research Contributions

There is a consensus among scholars that service recovery is an important issue for developing academic research and for informing practice in the area of customer relationship management. Given the important of service recovery, this study proposes to provide a greater understanding on how customer perceptions of perceived justice of service recovery influence their loyalty recovery. A contingency framework has been empirically tested in the airline context to examine (i) the impact of each dimension of perceived justice of service recovery - distributive, procedural, interpersonal and informational justice - on post-recovery customer trust, (ii) the interrelationship between post-recovery customer trust, overall satisfaction and customer loyalty, and (iii) the moderating roles of factors external to recovery encounters, including service failure attributions (locus of causality, stability and controllability) and company reputation on each dimension of justice and post-recovery customer trust.

7.3.1 Theoretical Contributions

This research has contributed to the current services marketing literature, particularly on service failure and recovery literature, in several ways. First of all, the presence study confirms the robustness of EDP for understanding service recovery in an exchange relationship context. Building on theory from EDP, this research has

examined how customer evaluations of company's recovery efforts, through justice perceptions, influence their post-recovery trust. As prior research states, when an unfavourable incident occurs, customers re-evaluate fairness in terms of perceived justice of service recovery and generally expect at least fair treatment in an exchange (DeWitt et al., 2008; Tax et al., 1998). This study found that, when service recovery has at least met their confidence expectations, customer perceptions of fairness in the exchange relationships will be recovered, which in turn, regaining their confidence in the company.

Second, this study adds empirical evidence to fill the gap in the literature on the relative effect of customer perceived justice of service recovery and post-recovery behaviour. Extant studies have found that customer trust is becoming a major component when managing strong customer–company relationships, particularly, in the situation of uncertainty (Kwortnik and Han, 2011; La and Choi, 2012). Thus, this study expands previous service recovery research by introducing customer trust as the direct outcome of customer perceived justice of service recovery. This research contributes to this line of literature highlighting the significant strategic role of trust on the sustainable customer–company relationships. The finding provides strong support for the relevant of perceived justice of service recovery in reshaping customer trust, overall company satisfaction and customer loyalty. Meaning that, when customers perceived justice of service recovery, customer trust will be rebuilt, which in turn, fortified customer's overall company satisfaction evaluation and ultimately led to customers willingness to continue on the relationship. Hence, in terms of relationship marketing, it can be emphasised that the restoration of customer trust is a critical variable in determining the level of customer loyalty following effective service recovery.

In light of recent advances in service recovery research, this study expands the concept of justice theory in the previous service recovery literature. Unlike most traditional studies that focus on three dimensions of justice - (i) distributive, (ii) procedural, (iii) interactional justice, this research by joining very few others study (Iglesias et al., 2015; Nikbin et al., 2015b; Umar et al., 2016) investigates on four-factors of justice by further separating interactional justice into interpersonal and informational justice. The result validates that all four dimensions of justice are

strongly interrelated and they all have an important positive impact on post-recovery customer trust. Procedural justice (efficient recovery process) presents the strongest impact on restoring lost customer trust from service failure, followed by distributive (fair treatment), interpersonal (attentive behaviour of employees) and informational (adequate information provided) justice, respectively. As such, this study provides strong support to prior scholars that customers not only base their evaluations on the final result of service recovery, but they also base heavily on the way the failure is handled. This research reinforces the idea that the significance of customer perceptions of justice dimensions could not be overlooked.

Several theoretical contributions can be drawn from the moderating relationships investigated in this study. This study responded to the call for research by Van Vaerenbergh et al. (2014) who suggested that service failure attribution might have an impact on customer judgement of company's recovery efforts. Therefore, this thesis brings together studies of justice theory and attribution theory in an effort to enhance understanding of customer psychological process and behaviour in the context of service failure and recovery encounter. For the first time, this research provides empirical evidence demonstrating that the consequences of service failure attributions have significant impact on customer perceptions of justice in rebuilding their trust. It has been found that different dimensions of justice affect post-recovery customer trust differently depending on customer perceptions of service failure attributions.

In light of the discussion, this study certified that customer attributions of stability and controllability of failure influence their recovery expectations but not found any effect on locus of causality. Regarding to stability attribution, the finding only shows positive moderating impact on distributive and procedural justice but negative moderating effect on informational justice. This indicates that once customers attribute failure as stable, customers are more likely to expect greater compensation and recovery process from the company but less judgement on information offered to restore their trust in the company, and vice versa for unstable attribution. On the other hand, in the presence of controllability attribution, there are only significant positive moderations on the relationships between procedural, interpersonal and informational justice and post-recovery customer trust. Meaning that, customers

require more efficient recovery process, attentive behaviour of employees and explanation provided when they attributed that the failure occurred from controllable cause, and reverse for uncontrollable cause. Accordingly, a major theoretical contribution of this study is that the investigation of customer responses to service recovery not be sole limited to the outcome of service recovery but should also focusing on stability and controllability attribution of service failure.

Furthermore, the research offers another theoretical understanding of how company reputation impact customer perceptions of justice dimensions and post-recovery trust. Regarding the mixed results of company reputation in the previous study, this research verifies that company reputation plays as a significant positive moderation on the relationships between distributive, procedural and informational justice and post-recovery customer trust. This means customers are more likely to demand higher treatment, effective recovery process and explanation provided to recover their lost trust when the more positive reputed company suffered from the failure. According to the empirical result, although there are numerous advantages when company has positive reputation, when a service failure occurs, it can trigger greater uncertainty. Therefore, this thesis adds to the emerging scholars that, in the event of service failure, company reputation acts as a perk for customer evaluations rather than a shield to protect the company.

Finally, in order to bridge the gap in the existing literature on the whole process of service failure leading to service recovery and post-recovery behaviour, this research provides a useful framework in unravelling such complexities. Since customers may react differently to service failures, for an airline to understand how the customer perceived justice of service recovery drives customer loyalty, in different service failure situations and with a distinct level of company reputation, can help to maintain sustainable relationships with that airline's customers. Thus, this study develops a theoretical model demonstrating the impact of those factors external to the recovery encounter, including service failure attributions and company reputation, on customers' perceptions of the perceived justice of service recovery in relation to loyalty recovery. With this research, the extant literature can gain a fuller understanding of which justice dimensions customers use to evaluate under which

attribution of service failure a company can maximise long-lasting relationships with its customers.

7.3.2 Practical Contributions

The prime highlight of this research is to provide valuable insights into building strong customer relationships, specifically, for airline managers interested in developing customer relationship marketing strategies that can maximise customer retention in the event of service failure. Given the nature of airline services, it may not be entirely possible to eliminate service failure during the service delivery process. Customers typically have certain expectations before their trip, consequently, service failure can lead to a customer breach of trust and customer defection, which can severely affect the bottom line of the airline. To overcome the negative effects of service failure, it is vital for airline managers to understand how to implement successful service recovery strategies in their businesses. In this sense, knowing customers' normative attitudes regarding service failure and expectations of service recovery, as provided in this study, can help airline managers to fine tune their service recovery strategies to preserve positive relationships with their customers when a service failure occurs.

This research has found that effective service recovery helps to ensure customer confidence and a satisfactory assessment towards the airline as a whole, which in turn, enhances their loyalty in the future. To turn frustrated customers into evangelists of the airline, the airline managers must learn how to enact the appropriate recovery actions to strengthen customer trust, since different efforts are differently effective at restoring lost customer trust arising from a service failure, such as a flight delay. In order of significance, it is highly important for the airline managers to primarily focus on establishing efficient recovery policies and procedures to promptly resolve customer dissatisfactions. The airline managers should give frontline employees authority, and empower them to provide a quick recovery solution when a service failure occurs. Then, equitable treatments to compensate customer loss need to be provided. During the service encounter, all airline staffs must display a courteous, considerate and helpful manner, and communicate appropriate information throughout the recovery process. Airline

managers should invest in a comprehensive training programme for frontline staffs on coping with customer dissatisfactions professionally to ensure customer trust in the airline.

More specifically, this study has found that the effectiveness of service recovery activities is contingent upon what the customer perceives as the cause of service failure. Principally, this study suggests that airline managers should make diligent efforts to avoid leading a customer to attribute negatively on the failure. However, it is very difficult to restrict customers' attribution tendencies. Regarding this dilemma, it is crucial for airline companies to have comprehensive service recovery strategies in place to recover lost customer trust from different attributed causes of failure. To completely transform dissatisfied customers into loyal customers, airline managers need to understand the differential attributions perceived by customers and their outcomes. To maximise customer loyalty in the event of service failure, it is important for airline managers to conduct sustained recovery efforts to preserve customer trust throughout their service experiences, regardless of where responsibility for the failure lies.

Further, this study proposes that the airline managers should restrict their focus to the negative perceptions of stable and controllable causes of failure. This means airline managers must avoid the customer considering the failure as preventable and occurring repeatedly. When customers perceive that the failure frequently happens in an airline, the airline's managers need to provide a more efficient recovery process and more adequate compensation to restore customer confidence, and fewer excuses/explanations regarding the failure. In contrast, when customers consider the failure as a consequence of the recklessness of the airline, it is critical for the airline's managers to respond to the failure immediately, with a well-designed recovery procedure, and to constantly inform those affected customers with courtesy and respect during the service encounter. To elevate the effectiveness of recovery strategies, these instructions can be used as guidelines for tailoring a recovery strategy that is consistent with varying failure attributions.

Last but not least, this research has other interesting implications for airline managers regarding the consequences of company reputation on customer

judgements of service recovery. Although a strong reputation brings numerous benefits to an airline in today's intense competitive market, it can be a drawback when an unfavourable situation occurs; since the company reputation acts as a service quality assurance, a service failure can severely erode customer confidence. Hence, to regain trust in the reputable airline, the airline managers should make genuine efforts to mitigate any negative effects of service failure. Particularly, this study suggests that greater efforts on delivering appropriate compensation, an efficient recovery process and provision of a truthful explanation, must be a company focus in order to reinstate lost customer trust. Consequently, to reap the maximum customer satisfaction with the airline in the event of a service failure, it is vitally important for an airline's managers to do their best to deliver the service the customers expect.

7.4 Research Limitations

Despite the meaningful theoretical and practical contributions, it is important to recognise the limitations of this research. This research employed a quantitative method using survey questionnaires at Bangkok International Airport in Thailand. The research questionnaire was extensively pre-tested and pilot-tested in order to offset the limitations of using a self-administered questionnaire. However, the limitations of questionnaires can be found in structure of method itself. As the research questionnaire forced respondents to answer all the questions that they might be ignorant of, the results might be slightly biased. To enhance validity on using forced-choice questions, this study only focuses on airline passengers who had experienced a full service airline's flight delay within the past 12 months. Nevertheless, as the sample was collected at one airport only, the number of relevant respondents gathered in this study is relatively small. Hence, to complement the results obtained in this study, additional samples at different airports in the world should be examined.

Moreover, as the research conceptual framework was only tested and validated in the airline context, particularly that of full service airlines, the generalisation of the results to the airline context as a whole must be carried out with caution. Customer perceptions of service fairness may not be the same in a low-cost airline, in which,

customer expectations in services would be lower. For example, the results of the moderation of factors external to the recovery encounter should be interpreted with caution. While this study confirms the significant consequences of service failure attributions and company reputation on customer perceptions of justice regarding loyalty recovery, this may not be the case with other studies, perhaps due to the sector analysed. Regarding to the context-specific nature of service recovery, it is very hard to overcome this practical limitation. In fact, most service recovery studies focus on a single sector and thus suffer from the same generalisability issues as this research.

Lastly, similar to most prior service recovery research, this study uses cross-sectional data to examine the effects of customer perceptions of the justice of service recovery on their loyalty recovery at a specific point in time. While real-time techniques can exactly measure customer evaluations and responses towards service recovery, there is a certain level of difficulty in applying this technique in cross-sectional research design. Moreover, due to financial and time constraints in this study, the use of longitudinal research design to examine the dynamic process of customer fairness evaluations and post-recovery responses is also prevented. To mitigate this limitation, the causal relationships investigated in this study were based on strong and solid theoretical reasoning.

7.5 Future Research Directions

While there are some limitations to this study, these limitations suggest some promising opportunities for future research. First, given the specificity of the airline context, replication studies with large sample sizes in alternative settings and services industries are desirable. It would be interesting to examine whether customers from other service contexts, such as tourism, restaurant and banking, would display the same behaviour. Thus, future research should replicate and test the research conceptual framework in other services industries in order to determine if the results are generalisable.

Second, this study only examines service failure attributions and company reputation as factors external to the recovery encounter. However, a series of potential factors

could affect the relationships under investigation; for instance, the duration of the customer–company relationship, the relationship quality and switching barriers could moderate the impacts of customer perceptions of the justice dimensions on loyalty recovery. It would be useful to manipulate these variables within a survey design to further validate the proposed research framework. Hence, future research may take these variables into account in order to make the model more robust and broaden the insight on how customer perceptions of the justice of service recovery influence their loyalty recovery.

Third, in line with Swanson et al. (2014) and others who suggest that culture contributes significantly on customer perceptions, expectations and responses to service failure and recovery, it would be insightful for a future study to investigate cross-cultural comparison to explore the role of culture in perceived recovery preferences. By doing this, a greater understanding on how customers belonging to different cultural backgrounds evaluate service failure and recovery will be achieved. These cultural differences will have important implications for global companies attempting to tailor their recovery strategies to effectively reach customers from various cultural backgrounds.

Lastly, there are many fruitful avenues for future research to conduct longitudinal analysis using real-time techniques on the whole service recovery process, from the occurrence of service failure to the resolution of the incident. Additional longitudinal study is recommended to precisely measure the dynamic process of customer attributions about the failure, customer fairness evaluations of service recovery and post-recovery customer behaviours. Since it is acknowledged that customer perceptions may change over time, such attempts also help to examine the diverse perceptions of perceived justice of service recovery, especially, when multiple service failures are encountered.

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APPENDICES

Appendix 1: Completed Research Ethics Form

Brunel University London

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London
Kingston Lane
Uxbridge
UB8 3PH
United Kingdom

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7 October 2016

LETTER OF APPROVAL

Applicant: Miss Natthida Jareankieatbovorn

Project Title: Perceived justice of service recovery in the airline industry

Reference: 3802-LR-Oct/2016- 4135-1

Dear Miss Natthida Jareankieatbovorn

The Research Ethics Committee has considered the above application recently submitted by you.

The Chair, acting under delegated authority has agreed that there is no objection on ethical grounds to the proposed study. Approval is given on the understanding that the conditions of approval set out below are followed:

- The agreed protocol must be followed. Any changes to the protocol will require prior approval from the Committee by way of an application for an amendment.

Please note that:

- Research Participant Information Sheets and (where relevant) flyers, posters, and consent forms should include a clear statement that research ethics approval has been obtained from the relevant Research Ethics Committee.
- The Research Participant Information Sheets should include a clear statement that queries should be directed, in the first instance, to the Supervisor (where relevant), or the researcher. Complaints, on the other hand, should be directed, in the first instance, to the Chair of the relevant Research Ethics Committee.
- Approval to proceed with the study is granted subject to receipt by the Committee of satisfactory responses to any conditions that may appear above, in addition to any subsequent changes to the protocol.
- The Research Ethics Committee reserves the right to sample and review documentation, including raw data, relevant to the study.
- You may not undertake any research activity if you are not a registered student of Brunel University or if you cease to become registered, including abeyance or temporary withdrawal. As a deregistered student you would not be insured to undertake research activity. Research activity includes the recruitment of participants, undertaking consent procedures and collection of data. Breach of this requirement constitutes research misconduct and is a disciplinary offence.

Professor James Knowles

Chair

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London

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Appendix 2: Research Questionnaire

RESEARCH TOPIC: CUSTOMER PERCEPTIONS OF SERVICE FAILURE, SERVICE RECOVERY AND LOYALTY RECOVERY: AN INVESTIGATION INTO THE AIRLINE INDUSTRY

Dear participants,

My name is Natthida Jareankieatbovorn and I am a PhD student at Brunel University London, UK. I would like you to participate in this research project, which forms part of my PhD research. Before you decide on whether to participate or not, it is important to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully. Should anything you read is not clear or if you would like more information, please do not hesitate to ask questions.

The aim of the study is to study how customers' perceptions of perceived justice of service recovery and those factors external to the recovery encounter, including service failure attributions and company reputation, impact their loyalty recovery in the airline context. The results of this study aim to improve theoretical understanding in service recovery literature and help airline managers to develop effective service recovery strategies to satisfy customers in different service failure situations.

This research is used for academic purpose only and has been approved by the Brunel Research Ethics Committee, which ensures that there are no risks and discomforts associated with it. This is an anonymous questionnaire, whereby all responses will remain confidential and be analysed at an aggregate, not individual level. Participation in this questionnaire is voluntary and the respondents can withdraw from it at any time. This questionnaire will take approximately 10 minutes to complete. Please try to answer the questions as honest as possible.

Yours sincerely,

Natthida Jareankieatbovorn
PhD candidate, CBASS, Brunel Business School
Brunel University London, Uxbridge UB8 3PH, UK
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Email: Natthida.Jareankieatbovorn@brunel.ac.uk

Thank you for your time and help.
☐ I confirm that I have read and understood the above informed consent form

and I agree to take part in this survey

Welcome to participate in this questionnaire survey.
There are no right or wrong answers.
It is your personal experience and true opinions that really matter!

Have you ever had any **significant flight delay experiences** on **full service airline** in the **past 12 months** (NOT include low cost airline)?

      Full service airline: e.g. Thai Airways, British Airways, Emirates etc.

      Low cost airline: e.g. Air Asia, Easy Jet, Ryanair etc.

This study considers an airline's flight to be significant delayed when it does not arrive within 45 minutes of the schedule.

☐ **YES** (please continue on next question)

☐ **NO** (please disregard the questionnaire. Thank you for your participation!)

If yes, please indicate how inconvenient your experience was

      (**Based on your worst flight delay experience on full service airline**)

Minor inconvenience   1   2   3   4   5   Major inconvenience

Which full service airline that you have the worst flight delay experienced?

      ....

PART I: The use of full service airline (NOT include low cost airline)

Below are some general questions about your experience in using **FULL SERVICE AIRLINE** (NOT include low cost airline). Please select your answer for the following questions.

1.1 How many flight(s) have you taken in the past 12 months?

☐ 1-2 ☐ 3-5 ☐ 6-11 ☐ 12 or above

1.2 Of these flight(s), what is the main purpose of your trip(s)? (Tick only one answer)

☐ Business/professional ☐ Leisure/recreation/holiday

☐ Convention/conference ☐ Visiting friends/relatives

1.3 What travel class do you fly most often? (Tick only one answer)

☐ Economy class ☐ Premium economy class ☐ Business class ☐ First class

1.4 How do you usually purchase your ticket(s)? (Tick only one answer)

☐ Directly from the airline/airline website ☐ Other travel website

☐ Tour operator/travel agent ☐ Other …………..........

PART II: Your perception on the airline reputation

Based on the airline specified earlier, please indicate **your level of agreement** with the following statements (*by circling the most appropriate option on the scale*).

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

Company reputation

2.1 This airline is a well-established company	1	2	3	4	5
2.2 This airline is a successful company	1	2	3	4	5
2.3 This airline provides a consistently high quality service	1	2	3	4	5
2.4 This airline cares about the interest and well-being of its customers	1	2	3	4	5

PART III: Your worst flight delay experience

Based on your worst flight delay experience, please indicate your level of agreement with the following attributions of that delayed flight (*by circling the most appropriate option on the scale*).

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

Locus of causality

3.1 The cause of the flight delay was something related to you	1	2	3	4	5
3.2 The cause of the flight delay was assumed as the airline's responsibility	1	2	3	4	5
3.3 The flight delay was directly caused by the airline	1	2	3	4	5
3.4 I was responsible for the flight delay	1	2	3	4	5

Locus of stability

3.5 In my opinion, the cause of the flight delay was something temporary	1	2	3	4	5
3.6 The cause of the flight delay was something permanent	1	2	3	4	5
3.7 I consider that the flight delay **does not** occur frequently in this airline	1	2	3	4	5
3.8 It is likely that the flight delay is common for the airline	1	2	3	4	5

Locus of controllability

3.9 I consider that the flight delay was caused by something beyond the control of the airline	1	2	3	4	5
3.10 The cause of the flight delay was something unavoidable	1	2	3	4	5
3.11 In my opinion, the cause of the flight delay was preventable by the airline	1	2	3	4	5
3.12 In my opinion, the cause of the flight delay was controllable by the airline	1	2	3	4	5

PART IV: Your perception on service recovery

Based on your opinion, please indicate how important each airline reaction is to your delayed flight (*by circling the most appropriate option on the scale*).

Extremely unimportant 1	Fairly unimportant 2	Neither unimportant nor important 3	Fairly important 4	Extremely important 5

Distributive justice

4.1 The airline gave me what I needed to resolve the problem	1	2	3	4	5
4.2 I did get what I deserves	1	2	3	4	5
4.3 The airline treated me fairly	1	2	3	4	5
4.4 The airline offered adequate compensation given the problem I experience	1	2	3	4	5
4.5 The final outcome I received is fair given the inconvenience caused	1	2	3	4	5

Procedural justice

4.6 The airline acted as quickly as possible to solve the problem	1	2	3	4	5
4.7 The airline's facilitation has easy to follow procedures	1	2	3	4	5
4.8 The airline has fair policies and practices to handle the problem	1	2	3	4	5
4.9 The airline shows adequate flexibility in dealing with the problem	1	2	3	4	5
4.10 The airline resolved the problem in the right way	1	2	3	4	5

Interpersonal justice

4.11 The staff are courteous and respectful to me	1	2	3	4	5
4.12 The staff are appropriately concerned about my problem	1	2	3	4	5
4.13 The staff put proper effort into solving my problem	1	2	3	4	5
4.14 The staff are always willing to help me	1	2	3	4	5
4.15 The staff are competent in answering my questions	1	2	3	4	5

Informational Justice

4.16 The staff immediately gave me a sincere apology for any inconvenience	1	2	3	4	5
4.17 The staff offered me an adequate explanation for the problem	1	2	3	4	5
4.18 The staff spontaneously informed me of the reason for the problem	1	2	3	4	5
4.19 The staff provided me with clear and understandable information regarding the cause of the problem	1	2	3	4	5
4.20 The staff's communication was straightforward	1	2	3	4	5

PART V: Your attitude after successful service recovery provided by the airline

Imagine that after the airline provides you with efficient and successful service recovery to compensate your time loss and hassle from the delayed flight, please indicate your level of agree ment with the following statements (*by circling the most appropriate option on the scale*).

Strongly disagree 1	Disagree 2	Neither disagree nor agree 3	Agree 4	Strongly agree 5

Customer post-recovery trust

5.1 I think the airline can solve my problem with reliability	1	2	3	4	5
5.2 I think the airline does their best for me to handle my problem	1	2	3	4	5
5.3 I think the airline can be relied on to keep its promises	1	2	3	4	5
5.4 I think the airline is a company in which I have great confidence	1	2	3	4	5
5.5 I think the airline deserves my trust, considering the trouble caused and the service recovery provided by the airline	1	2	3	4	5

Overall company satisfaction

5.6 I am satisfied with the overall service this airline provided to me	1	2	3	4	5
5.7 This airline provides satisfactory service experience that exceeding my expectation	1	2	3	4	5
5.8 Overall, I am satisfied with my decision to fly with this airline	1	2	3	4	5
5.9 I **am not** satisfied with this airline service	1	2	3	4	5
5.10 I now have a positive attitude towards this airline	1	2	3	4	5

Customer loyalty

5.11 I will choose this airline next time as opposed to other competitors	1	2	3	4	5
5.12 I consider myself as a regular customer of this airline	1	2	3	4	5
5.13 I **would not** switch to another airline	1	2	3	4	5
5.14 I will continue using this airline in the future	1	2	3	4	5
5.15 I will continue using this airline, even if other low-priced alternatives are available	1	2	3	4	5

PART VI: Information About Yourself

Below are some general questions about you.

Please select your answer for the following questions.

6.1 Your gender   ☐ Male   ☐ Female

6.2 Your age group

    ☐ 18-24   ☐ 25-34   ☐ 35-54   ☐ 55-64   ☐ 65 or above

6.3 Your nationality   ☐ Thai   ☐ Non-Thai

6.4 Your highest level of education

    ☐ Up to high school   ☐ Undergraduate degree

    ☐ Postgraduate degree   ☐ Other …………..........

6.5 Your job status

    ☐ Student   ☐ Employed

    ☐ Unemployed   ☐ Retired

    ☐ Other …………..........

6.6 Your annual income

    ☐ Up to £19,000   ☐ £20,000 - £29,000

    ☐ £30,000 - £39,000   ☐ £40,000 - £49,000

    ☐ £50,000 or more

**Thank you for taking the time to complete the questionnaire.

Your information is very valuable and greatly appreciated**