From Anger to Aggressive Behaviour: A Systematic Analysis of the Factors that Influence the Process

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Declaration

This is to declare that:

- This work has been written by me.
- I am responsible for the work submitted in this thesis.
- This work has not been submitted within a degree programme at this or any other institutions.
- During the preparation of this thesis, some papers were prepared and published as listed below. The remaining parts of the thesis have not yet been published.

Publications and conferences in relation this thesis

1. Luo, J., Liu, M. J., Yuan, R., & Yannopoulou, N. The Moderating Effect of Customer Skepticism, Group Empowerment, Face Losing and Emotional Contagion on Customers' Aggressive Behaviors. Association for Consumer Research North American Conference, 2015 New Orleans, LA. Advances in Consumer Research.
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Service Management the New Paradigm in Hospitality. 3rd ed. USA: Pearson Prentice Hall.

Two ABS-Level 3 papers.

1. Luo, J., Chong, A. Y.-L., Ngai, E., & Liu, M. J. 2014. Green Supply Chain Collaboration Implementation in China: The Mediating Role of Guanxi. *Transportation Research Part E: Logistics and Transportation Review (TRE)*, 71(November): 98-110.
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Abstract

Service failure is an unfortunate reality in service encounters. Although much literature suggests that the consequences of service failure include low customer satisfaction and customer loyalty, and another stream of research concerns service recovery, research on customers' aggressive behaviour as the consequence of service failure – a cause of severe problems for service organizations, customers and employees – remains under researched. To understand this important process and the factors that influence the process, the first objective for the current research is to understand the antecedents of customer aggressive behaviours. When a service fails, customers tend to engage in an appraisal process, as described in appraisal theory, to assess what caused the poor service. Specifically, the cognitive appraisal process can lead to some negative emotions, namely anger. The results of this research suggest that via attribution of blame, perceived injustice and severity evaluation, these appraisals elicit customer anger, and this anger increases the possibility of aggressive behaviour. Therefore, this thesis suggests that anger partially mediates the relationship between appraisals and aggressive behaviour.

The second research objective concerns the appraisal process, specifically the role of consumer skepticism. Typical applications of cognitive appraisal theory have been limited to situations in which customers make causal inferences based on the information presented. However, the route of appraisal would be influenced when customers are skeptical towards company claims and information provided by companies. The research findings suggest that the relationship between customers'

appraisals (blame, perceived justice and severity evaluation) and anger level is stronger when customers are more skeptical about company claims. Hence, consumer skepticism acts as a moderator on the appraisal process and anger.

The third research objective concerns the moderating factors influencing the relationship between anger and aggressive behaviour. Even if consumers have strong anger after appraising the service failure, not all consumers will engage in aggressive behaviours. Thus, current understanding of the key causal links between anger and aggressive behaviour is insufficient. This research assesses the eliciting factors influencing the anger—aggressive behaviour relationship, namely, group empowerment, loss of face, emotional contagion and consumer expertise.

In order to fulfil the research objectives, this research adopts a mixed research method using a qualitative critical incident technique method (CIT) and a quantitative survey method. Through the adoption of CIT method in interviewing 30 participants, this research explores the triggers for customers' aggressive behaviour. The interview results suggested two groups as triggers for customers' aggressive behaviour. Group empowerment as a new measurement was developed in the interview stage. The research framework was then empirically tested with a sample of 399 respondents to examine the effects of these factors on customers' aggressive behaviours. The survey results suggested that most of hypotheses were supported with an exception of educational level which was rejected, namely: (1) anger mediated the relationship between appraisal components and aggressive behaviour; (2) higher consumer skepticism strengthened the relationships of blame attribution—anger, perceived injustice—anger and service failure severity—anger;

(3) the moderating effects of group empowerment, loss of face, emotional contagion and consumer expertise strengthened the anger—aggressive behaviour link; (4) educational level weakens while frequency strengthen the relationship between customer anger and aggressive behaviour; and (5) aggressiveness directly influences customers' aggressive behaviour and unpleasant servicescape relates to customers' aggressive behaviour.

This thesis contributes to the service marketing literature on customers' aggressive behaviours in threefold. First, this research used cognitive appraisal theory as a theoretical framework to examine customers' aggressive behaviour, contributing to our understanding of the mediating factor for eliciting aggressive behaviour. Second, this research also contributes to the effect of skepticism on customers' appraisal processes. Third, this research furthers our understanding of the factors leading from anger to aggressive behaviour by examining the moderating effects, namely, group empowerment, loss of face, emotional contagion and consumer expertise.

Apart from the theoretical contribution, this research also yields a number of managerial implications for service operators. Primarily, this study assists service organizations in understanding how customers appraise service failure, and thus how responding to customer needs can alleviate customers' anger and aggressive behaviours. Additionally, to further reduce customers' anger and aggressive behaviours, service companies should inhibit the development of skepticism by adopting appropriate marketing communication strategies to enhance the credibility of their claims. Finally, service companies should enhance their service failure management skills.

Abbreviations

CON	–	Controllability
STA	–	Stability
BL	–	Blame
PJ	–	Perceived Justice
SFS	–	Service Failure Severity
ANG	–	Anger
SKEP	–	Consumer Skepticism
GE	–	Group Empowerment
FL	–	Face Loss
EC	–	Emotional Contagion
CE	–	Consumer Expertise
AB	–	Aggressive Behaviour
AGG	–	Aggressiveness
SER	–	Servicescape
EDU	–	Education
FRE	–	Frequency

From Anger to Aggressive Behaviour: A Systematic Analysis of the Factors that Influence the Process

Our aim is to care for passengers... and we welcome feedback on the customer service we deliver. We must advise that we also care for and aim to protect our staff against verbal and physical abuse.

(Notice, Heathrow airport, London)

Chapter 1 Introduction

This thesis is centred on the understanding of customers' aggressive behaviour as a consequence of service failure. The outcome of customers' aggressive behaviours may be very severe to the service organizations, service employees and even bystanders. However, the causes of such aggressive behaviour require theoretical clarification and empirical investigation.

This thesis aims to first develop a model to examine antecedents for customers' aggressive behaviour in the service failure context. Through illustration of the appraisal process, how consumers' aggressive behaviour can be appraised and elicited via consumer anger are addressed. Second, cognitive appraisal theory is used to advance the understanding of aggressive behaviour following a service failure. This thesis examines the role of consumer scepticism and investigates how consumer skepticism influences the relationship between customers' appraisal processes and anger. Third, this research further advances the anger-aggression relationship by examining the eliciting factors. To be more specific, this thesis examines the roles of group empowerment, face loss, emotional contagion and consumer expertise in influencing the anger—aggressive behaviour relationship.

This chapter introduces and summarizes the organization of the whole thesis. The sequence of this chapter is organized as follows. Section one addresses the research background and elaborates on the scope of the study through research overview, theoretical background, research objectives, research questions, summary of research methodology, and data analysis. Section two highlights theoretical contributions and managerial implications for the current study. Section three presents the thesis structure, followed with a summary in section four.

1.1 Background and Scope of the Research

1.1.1 Overview

Customer service management has been extensively studied in the literature and is of substantial importance and benefit to managers as well as organizations. In many commercial advertisements and promotional materials, customers are portrayed as happy or even delighted to be served (Fisk et al., 2010). However, this utopia is divorced from reality. Too frequently we witness that customers in the service context increasingly express their anger and behave in an extreme or aggressive approach. Customer aggression has become a growing problem recently. To provide just a few examples, an American customer had an outburst and broke the window of McDonald's, intending to hit employees because her request of having McNuggets at breakfast time had been denied (AP, 2010); a Lamborghini customer in China smashed his car in public because he was not satisfied with the service from a 4S store (Frank, 2011); angry customers slammed Australia Post for closing down on New Year's Eve (Tolj, 2016); and an irritated customer attacked a Coventry bookmakers store in the UK (Eccleston, 2015). The above incidents are just a few examples, as there are too many to enumerate in practice.

Such aggressive behaviours cause substantial problems for employees, both short-term and long-term, including psychological or physical harm, emotional stress, and burnout (Grandey, Dickter and Sin, 2004; Grandey, Kern and Frone, 2007; Harris and Reynolds, 2003), and cause harm to service organizations, such as in high turnover rate, costs associated with negative word-of-mouth, damage to brand equity (Singh, 1990; Ward and Ostrom, 2006), and economic loss for organizations (Grandey, Dickter and Sin, 2004), as well as causing consequences for bystanders (Harris and Reynolds, 2003). It is apparent that customers' aggressive behaviour causes substantial problems for employees, service organizations, and other customers (Harris and Reynolds, 2003). But what triggers customers' aggressive behaviour is still unclear.

Following the definition provided by psychologists of human aggression (Anderson and Bushman, 2002), customer aggression is defined as customers' direct behaviours that cause harm to front-line service employees or service companies. It is of great importance to understand what causes customers to behave aggressively, as this will help organizations to comprehend the antecedents of customers' aggressive behaviour, so that they can at least try to prevent such incidents from happening. Psychologists suggest that human beings may behave aggressively under the condition of provocation (Berkowitz, 1993; Geen, 2001). In the service interaction context, this provoking can be initiated as service failure, as customers may behave aggressively under the provoking effect of service failure. However, even with the provocation effect of service failure, customers may not always engage in aggressive behaviour. Thus, the process between provocation and aggressive behaviour needs further investigation. When there is a service failure, customers make a causal inference to look for what causes the service failure. Consumers may have emotional and behavioural responses after appraisal. Even if customers appraise the service failure through various dimensions via the effect of anger, it does not necessarily mean they will behave aggressively. Therefore, how appraisal processes influence customers' aggressive behaviour remains untested.

When there is a service failure, customers may not only become angry because of this undesirable service failure outcome, but also because they make a causal inference to appraise the situation and its impact on their well-being (Lazarus, 1991; Berkowitz, 1993). Cognitive appraisal theory provides resources for understanding people's emotional responses (Bagozzi, Gopinath and Nyer, 1999). By recognizing the significance of the appraisal processes, it is vital to examine what could alter the appraisal processes.

Averill (1983) suggests that anger is a strong predictor for aggressive behaviour. However, even if customers have strong anger after appraising the service failure, not all customers will engage in aggressive behaviours. Therefore, current understanding of the key causal links between anger and aggressive behaviour is insufficient. The anger-aggressive behaviour relationship needs to be further investigated.

Acknowledging the importance of the issue of customer aggressive behaviour, few studies have investigated this in the marketing literature. This research addresses these issues, and the following section will propose research questions and elaborate on research objectives.

1.1.2 Theoretical Background, Research Questions and Research Objectives

Most marketing theorists have devoted considerable attention to the perception of service quality, customer satisfaction and customer loyalty (Bitner, 1990; Smith, Bolton and Wagner, 1999; Dewitt, Nguyen and Marshall, 2008). Customers behave aggressively which interrupt the otherwise functional service encounter has been largely ignored in service marketing literature. Some marketing scholars have begun to investigate the potential causes and consequences of customer aggression (e.g. Lovelock, 1994; Fullerton and Punj, 2004; Harris and Reynolds, 2003, 2004; Fisk et al., 2010). However, the antecedents for customers' aggressive behaviours are still under-researched.

Past research on service failure focuses on service failure type (Bitner, Booms and Tetreault, 1990; Hoffman, Kelley and Rotalsky, 1995; Smith, Bolton and Wagner, 1999), service recovery strategies (Hoffman, Kelley and Rotalsky, 1995; Wirtz and Mattila, 2003), and customer satisfaction following service failure (Spreng, Harrell and Mackoy, 1995; McColl-Kennedy and Sparks, 2003; Choi and Mattila, 2008). Customers' aggressive behaviour as the consequence of service failure remains a void.

When a service fails, customers usually infer what causes the failure. This inferring process can be understood through cognitive appraisal theory (Lazarus, 1991). Cognitive appraisal theory provides an important avenue for the current study because it on the one hand demonstrates a comprehensive evaluation of how customers appraise (Watson and Spence, 2007) and on the other hand enables the investigation of customers' emotion and behavioural response (Bagozzi, Gopinath and Nyer, 1999; Johnson and Stewart, 2005). Therefore, it will be employed as the theoretical bases for this thesis. Cognitive appraisal theory has been utilized to understand consumers' emotions (Nyer 1997; Voorhees et al., 2009), complaint behaviour (Folkes, Koletsky and Graham, 1987), and switching behaviour (Bougie, Pieters and Zeelenberg, 2003). However, little research has investigated how appraisal processes would influence customers' aggressive behaviour. Therefore, the first research question is:

Research Question 1: How do customers appraise service failure and how do customers' appraisal processes influence their aggressive behaviour?

When there is a service failure, customers engage in the appraisal and evaluation processes – for example, who should be blamed, whether they get justice in the service interaction, and the severity of the failure. When they perceive that service employees or the service organization should be blamed (Folkes, Koletsky and Graham, 1987; Ruth, Brunel, and Otnes, 2002), or that the service organization is unfair to them (justice pursuing process) (Taylor, 1994), or the service is very severe (Joireman et al., 2013), they are more likely to be angry about service organizations and employees. Moreover, emotional theorists suggest a high correlation between anger and aggressive behaviour (Averill, 1982, 1983; Berkowitz, 1983). **Therefore, the first objective of this study is to investigate customers' aggressive behaviours through appraisal processes.**

Cognitive appraisal theory, although enabling the examination of customers' appraisal-emotion-behaviour relationship, has been limited to the information presented to consumers. The appraisal components are influenced by personal or situational characteristics or both (Smith and Kirby, 2009). When consumers question companies' claims on service failure, this 'questioning' attitude, as skepticism, (Forehand and Grier, 2003) alters the appraisal routes. Skepticism has been limited to studies in advertising (Obermiller, Spangenberg and MacLachlan, 2005), public relations (Ford, Smith and Swasy, 1990; Webb and Mohr, 1998), and corporate social responsibility (Forehand and Grier, 2003; Skarmeas, Leonidou, Saridakis, 2014; Skarmeas and Leonidou, 2013). Information about how customers' skepticism influences the cognitive appraisal process remains sparse. Thus, the second research question of this study is:

Research Question 2: How does consumer skepticism influence their appraisal processes?

When there is a service failure, customers with higher skepticism would feel the urge to get explanations for the failure from the company, and may not believe companies' claims concerning service failure either. Therefore, consumers' appraisals and anger relationship are altered when they are highly skeptical. **Hence, the second objective of this thesis is to analyse the role of consumer skepticism in influencing consumers' appraisal processes.**

Averill (1983) suggests that anger can further provoke aggressive behaviour. Even if consumers have strong anger after appraising the service failure, not all consumers will engage in aggressive behaviours. Thus, the current understanding of the key causal links between anger and aggressive behaviour is insufficient. Therefore, the third research question is:

Research Question 3: What eliciting factors elevate customer' anger to aggressive behaviour? How do they influence customers' anger level to lead to aggressive behaviour?

This research assesses the moderating roles of group empowerment, face loss, emotional contagion and consumer expertise in influencing the anger—aggressive behaviour relationship. **This study examines the moderating effects between customers' anger and their aggressive behaviour as the third research objective.** The research framework is presented in the figure below.

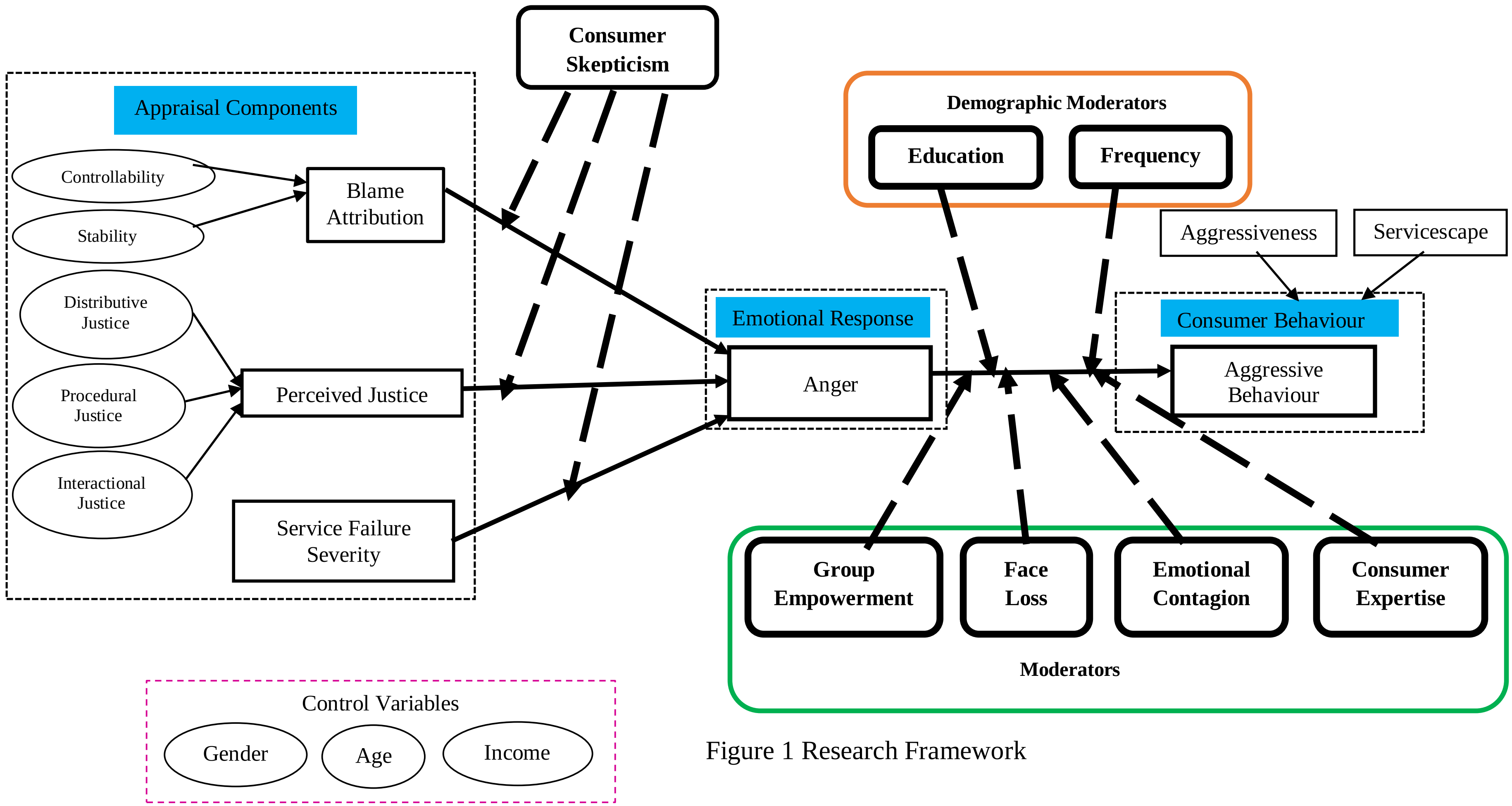

Figure 1 Research Framework

1.1.3 Summary of Research Methodology and Research Method

In order to better answer the research questions, a qualitative-quantitative mixed methodology has been adopted in the current study.

1.1.3.1 Research Setting

Bobby, Lynn and Tybout (1981) and Eisenhardt (1989) suggest that the appropriate selection of a research setting could enable the researcher to effectively understand social phenomena, to have better grounding for construct measures and to sharpen external validity and draw more conclusive results. This research is conducted in China, and flight delay service failure is used as the research context, because Chinese mainland's airports have been ranked the world's worst in terms of punctuality in departures and arrivals, based on data from July 2013 (Liu, 2013). Flight delay service failure has become an important and salient issue in China. Furthermore, Chinese passengers behave more and more aggressively toward the front-line service employees and organizations. According to recent statistics, Chinese passengers behave aggressively once every two days in the airport, especially in the form of insulting front-line service employees, physically attacking service personnel, and even 'occupying' the apron parking areas (Pawlowski, 2013). Additionally, the literature on understanding consumers' aggressive behaviour, especially in the airline industry, remains sparse. Thus, conducting research in this setting enables the researcher to explore and examine consumers' aggressive behaviour better, contributing to the literature.

1.1.3.2 Unit of Analysis

According to Churchill (1979, p. 67), target respondents should "cover the appropriate number of respondents, for example, consumers who use the product or service, sales representative, dealers, persons in marketing research, as well as outsiders who have a special expertise such as university or government … and the insight-stimulating examples could include a comparison of competitors". In order to answer the research questions and fulfil the research objectives, the unit of analysis for the current study is at the consumer level. All the participants from both qualitative and quantitative studies of this research are Chinese consumers who disclosed flight delay service failure in the past six months.

1.1.3.3 Research Method

This research employs both qualitative and quantitative research methods. The qualitative phase is to gather preliminary data to explore the situation and to seek better insights into consumers' behaviour around the flight delay service failure phenomenon. It helps to examine the feasibility of the research arena, the relevant issues, and to identify key factors to provide a sound theoretical basis for the development of the conceptual framework. The critical incident technique (CIT) method enables this research to explore the causes of customers' aggressive behaviour. A total number of 30 critical incidents are collected in the qualitative session. The sample includes consumers who had a flight delay experience in the past six months. The major aim of this phase is to gain insights from consumers to better understand the case, in addition to reviewing literature. The second phase, as the main study of this research, is a quantitative survey method, employed to further test and examine the hypothesized research model. By doing this, this study helps service organizations to understand the causes of customers' aggressive behaviour, thus enabling organizations to minimize the likelihood that customers will behave aggressively.

1.1.4 Summary of Data Analysis

The qualitative interviews are carried out by using critical incident technique (CIT), and data is analysed using grouping method and content analysis. This method helps the researcher to explore the phenomenon further. This research classifies customers' aggression incidents as the consequences of either customers seeking reasons for the failure or of customers' behaviour being incited by anger and associated social encounter features. The construct of group empowerment is developed in the qualitative research stage.

For the quantitative study, this research yielded 399 survey respondents. The purification of measurements was performed using Exploratory Factor Analysis (EFA) with SPSS 22. This determines the factorability of the measurement scales and reduces the item pool (Bryman and Cramer, 1997; Hair et al., 1998; Netemeyer, Bearden and Sharma, 2003). The measurement model and hypothesized structural model have been tested using Partial Least Squares Structural Equation Modelling (PLS-SEM).

1.2 Summary of Research Contributions

1.2.1 Theoretical Contributions

This study contributes to the literature in three ways. First, this research employs cognitive appraisal theory to understand customers' aggressive behaviour. Cognitive appraisal theory has been used in marketing literature to understand consumer emotion (Bagozzi, Gopinath and Nyer 1999; Johnson and Stewart, 2005), complaint behaviour (Folkes, Koletsky and Graham, 1987) and switching behaviour (Bougie, Pieters and Zeelenberg, 2003). Customers' aggressive behaviour has not yet been investigated as a behavioural response of consumers' appraisal process. Therefore, this thesis contributes to the investigation of customers' aggressive behaviour by utilizing cognitive appraisal theory. Specifically, how customers' appraisals (i.e. blame, perceived justice, and service failure severity) influence their aggressive behaviour and how customer anger mediates the relationship between customer appraisal and their aggressive behaviours are investigated.

Second, people make causal appraisal and inference based on the current situation and the characteristics inherent in the event (Bagozzi, Gopinath and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007). Cognitive appraisal theory has been limited to the given information, because the appraisal process would be influenced by personal and situational characteristics (Smith and Kirby, 2009). When customers are skeptical about company claims regarding service failure, their appraisal route alters. Consumer skepticism has been investigated in studies of advertising (Obermiller, Spangenberg and MacLachlan, 2005), public relations

(Ford, Smith and Swasy, 1990; Webb and Mohr, 1998) and corporate social responsibility (Forehand and Grier, 2003; Skarmeas and Leonidou, 2013; Skarmeas, Leonidou, Saridakis, 2014). However, research into how skepticism influences customers' appraisals of service failure remains sparse. Therefore, the second contribution of this study is to examine consumer skepticism as a moderator of appraisal processes. To be more specific, the study examines how consumer skepticism influences the relationship between customer appraisal (i.e. blame, perceived justice and service failure severity) and anger.

Third, although anger is a strong predictor for aggressive behaviour (Averill, 1983: Berkowitz, 1993), our current understanding of the key causal links between anger and aggressive behaviour is deficient (Geen, 2001). This thesis contributes to the anger-aggressive behaviour relationship by investigating the moderating effects of group empowerment, face loss, emotional contagion and consumer expertise in influencing the relationship between anger and aggressive behaviour.

The below sections will illustrate these four moderators one by one.

The Moderating Effect of Group Empowerment on the Relationship between Customer Anger and Aggressive Behaviour

When consumers complain or demonstrate aggressive behaviour together in a group facing service failure, they perceive that they have more power. Past research on group behaviour mainly focuses on consumers' 'irrational' behaviour, since they lose their individuality in groups (Festinger, Pepitone and Newcomb, 1952). However, the impact of customers' rational collective action needs further investigation. Recent social psychologists (Drury and Reicher, 2005; Drury and Richer, 2009) have developed the concept of 'collective action' because people in a group perceive they have more power, but their research focus remains on people's protest behaviour and the use of interview and ethnographic method. Group empowerment in the service failure context examining consumers' aggressive behaviour remains unknown. Therefore, this research contributes to the anger and aggressive behaviour relationship by examining the group empowerment as a moderator.

The Moderating Effect of Face Loss on the Relationship between Customer Anger and Aggressive Behaviour

This research contributes to the anger-aggressive behaviour relationship by examining the moderating effect of loss of face. When consumers perceive that their face has been lost in service interaction, they would perceive their social status, self-esteem and social position would be threatened (Hwang, 1987; Van Ginkel, 2004), as face is a representation of self-ego, respect and pride (Goffman, 1972; King, 1993; Liao and Bond, 2011). The face-losing phenomenon has been studied in the service failure literature, and the consequences of face loss have been studied in influencing consumers' complaint intention (Chiu, Tsang and Yang, 1988; Chan, Wan and Sin, 2009), complaint behaviour (Wan, 2013) and feeling of dissatisfaction (Chan, Wan and Sin, 2009). How loss of face influences consumer's aggressive behaviour needs further investigation. Thus, this research investigates the moderating effect of face loss in influencing the anger and aggressive behaviour relationship.

The Moderating Effect of Emotional Contagion on the Relationship between Customer Anger and Aggressive Behaviour

Hatfield, Cacioppo and Rapson (1994) suggest that when people already have strong emotions, these emotions would stir up the ripples of emotional contagion. As in this study, consumers already have anger when facing service failure, and this anger can be transmitted to other customers to stir up the ripple effect (Barsade, 2002). Emotional contagion has mainly been studied in organizational behaviour literature (Barsade, 2002). Only a few recent studies have employed emotional contagion in the service literature (Dallimore, Sparks and Butcher, 2007; Hennig-Thurau et al. 2006). However, their studies focus on how emotion can be transmitted between customers and employees. Thus, how transmitted anger emotion among customers influences customers' aggressive behaviour remains to be answered. Hence, this research assessed the moderating role of emotional contagion on the relationship between customer anger and aggressive behaviour.

The Moderating Effect of Consumer Expertise on the Relationship between Customer Anger and Aggressive Behaviour

This research demonstrates that expert consumers, who possess more knowledge, display a stronger relationship between anger and aggressive behaviour. Expert consumers are able to 'strip down' the product offering attributes (Brucks, 1985) and witness companies' problem-solving pattern (Wood and Lynch, 2002). In the service failure situation, expert consumers have the ability to judge the attributes of the failure, and they witness a repeated problem-solving pattern. If they perceive that the company only follows their problem-solving pattern and does not endeavour to handle the service failure, they are more proactive. Thus, this research proposes that expert consumers display a stronger relationship between anger and aggression.

To sum up, this thesis contributes to the service marketing literature in examining the causes of customers' aggressive behaviour through: (1) applying cognitive appraisal theory in examining customers' aggressive behaviour, suggesting that anger mediates the relationship between appraisal components and aggressive behaviour; (2) examining the role of consumer skepticism as a moderator in influencing appraisal components and customer anger relationship; (3) investigating the roles of group empowerment, face loss, emotional contagion and consumer expertise in moderating anger and aggressive behaviour relationship.

1.2.2 Managerial Implications

Apart from the theoretical contributions, this research also has a number of managerial implications. This research facilitates managers in understanding the following.

First, the key managerial implementation for the current study lies in handling customers' aggressive behaviours in the event of service failure. When service failure occurs, companies should be aware what aspects of a service failure consumers evaluate and how they appraise the service failure. Thus, knowing customers' appraisal inferences, a company may get insights on how to respond to customer needs. This can alleviate customers' anger and aggressive behaviours.

Second, when a service failure is not due to the firm's wrongdoing, companies should make sure customers know the exact causes for the failure in order to reduce any skepticism and disbeliefs among consumers. Additionally, to further reduce customers' anger, service companies should inhibit the development of skepticism by adopting appropriate marketing communication strategies to enhance the credibility of their claims.

Third, service companies should pay special attention to customers' group behaviours. Actions can be taken to tackle individual customers' needs instead of letting them carry out the collective actions. Further, when dealing with customers, employees in the service exchange settings should bear in mind maintaining customers' face or preventing their face from being undermined in the public setting. In addition, service providers should spot customers who have already displayed anger, and strive to comfort them in order to avoid spreading this anger to the other customers, which escalates the whole situation. Service organizations should also bear in mind that, although it is valuable to have frequent customers, expert consumers would gain knowledge through regular purchase experience and may develop the ability and knowledge to assess service failure. Thus, service employees should not make up excuses to attempt to fool expert consumers.

1.3 Structure of the Thesis

This thesis is divided into seven chapters.

Chapter 1 Introduction

This chapter starts from elaborating the research background and scope of the thesis. It presents the research background, research questions and objectives, theoretical framework, research methodology and method and data analysis. This chapter then gives a summary of research contributions and a presentation of the structure of the thesis.

Chapter 2 Literature Review

This chapter reviews the existing literature on service failure and appraisal processes, negative emotions and customer aggressive behaviours. It then describes consumer skepticism and the consequences of consumer skepticism. The factors that influence the relationship between customers' anger and aggressive behaviour is also described in this chapter. The gaps in the literature are identified and presented at the end of this chapter.

Chapter 3 Conceptualization

Cognitive appraisal theory, which articulates the appraisal components of emotional response and behavioural response, is presented in this chapter, as anger mediates the relationship between cognitive appraisal components and customer aggressive behaviours. Subsequently, the moderating effect of consumer skepticism in influencing appraisal components and customer anger is illustrated in this chapter. It is followed with elaborations on the moderating effects of group empowerment, face loss, emotional contagion and consumer expertise in influencing customer anger and aggressive behaviour relationship. The demographic moderators as educational level and consumption frequency are presented in this chapter. The direct impact of aggressiveness on aggressive behaviour and the relationship between servicescape and customers' aggressive behaviour are also presented. All the hypotheses are listed in this chapter.

Chapter 4 Methodology

This chapter describes the philosophical foundation of this research in terms of philosophical position, selections of research methodology and method. The research design regarding the qualitative phase and quantitative phase is described in this chapter as well. This chapter also illustrates data collection for both studies and analyses the qualitative research result. This chapter concludes with the ethical issues for this research.

Chapter 5 Data Analysis

This chapter deals with data analysis of this thesis. The results for both qualitative interview and quantitative survey are analysed in this chapter. The measurement model and structural model are analysed using Partial Least Squares Structural Equation Modelling.

Chapter 6 Finding and Discussions

This chapter illustrates the research findings for each hypothesis and discusses the current research in relationship to previous literature.

Chapter 7 Conclusion

The final chapter summarizes the entire thesis and highlights the theoretical contributions and managerial implications for the thesis. It also presents the research limitations and pinpoints a direction for future study.

1.4 Summary of the Chapter

This chapter provides an overview of the entire thesis in terms of the research background, research questions and research objectives, research framework, methodology and method employed, data analysis, theoretical contribution and managerial implications.

There will be a synthesis literature review in the following chapter concerning the key theories and main concepts in terms of service failure and appraisal processes, negative emotions and customer aggressive behaviour; consumer skepticism and its consequences, and factors influencing the relationship between anger and aggressive behaviours.

Chapter 2 Literature Review

2.1 Introduction

This chapter attempts to review the relevant literature on service failure, cognitive appraisal theory, customer anger and customers' aggressive behaviours, consumer skepticism, and the eliciting factors for aggressive behaviour. According to Blaxter, Hughes and Tight (2010, p. 122), a literature review is 'a critical summary and assessment of the range of existing materials dealing with knowledge and understanding in a given field'. A synthesising review of the literature will help the researcher to understand relevant literature and identify the research gaps.

This chapter consists of seven sections. Section one gives an outline of this chapter; section two reviews service failure and cognitive appraisal theory; section three illustrates negative emotions and customers' aggressive behaviours; section four discusses consumer skepticism with a focus on the definition of skepticism and the impact of customer skepticism. The group empowerment, face loss with a focus on the definition and types of face, emotional contagion and consumer knowledge and consumer expertise are illustrated in section five as the factors that influence the relationship between anger and aggressive behaviour. Section six identifies and summarizes the literature gap. The final section summarizes this chapter.

2.2 Service Failure and Cognitive Appraisal Theory

2.2.1 Introduction to this Section

Customers' aggressive behaviour causes problems for service organizations, service employees and other customers (Harris and Reynolds, 2003). Thus, it is important to understand what triggers customers' aggressive behaviour. Since customers' aggressive behaviour can be incited based on various causes, and the triggers for customers' aggressive behaviours are still not well presented (Reynolds and Harris, 2009), this study will focus on customer aggressive behaviour which is caused by service failure. Since service failure is the provocation of customers' aggressive behaviour, it is essential to first understand the concept and consequence of service failure, and how customers appraise the characteristics of service failure situations before further elaboration on customers' aggressive behaviour. Thus, this section will elaborate on service failure with the types, characteristics and consequences. Furthermore, when service failure occurs, customers spontaneously appraise the causes and situations of the service failure. Therefore, this latter section will discuss cognitive appraisal theory and how customers appraise service failure.

2.2.2 Service Failure

Service failure has been defined as situations in which customers are dissatisfied because the service they receive does not meet their expectations (Chuang et al., 2012). Broadly speaking, service failure can be understood from two perspectives. One is from the organization's point of view, such as Berry and Parasuramans' belief about non-reliable services (1991); and Verma's (2003) interpretation of core service failure; while the other perspective is from customers' viewpoint, for instance, Palmer, Beggs and Keown-McMullan (2000) mention that any situations where certain problems exist in the service process will be regarded as failure no matter who is responsible. In addition, Andreassen (2001), Chuang et al. (2012) posit that service failure represents situations that fail customers' expectations. This study will investigate service failure from customers' perspective, which means problems in service encounters, involving failed service in the customer-employee social exchange setting.

Hoffman, Kelley and Rotalsky (1995) follow Bitner, Booms and Tetreault (1990) in classifying three main streams of failures. They are service delivery failure, employees' responses to implicit/explicit customer requests, and unprompted and unsolicited employee actions. Keaveney (1995) gives a summary of core service failure including mistakes, billing errors and service catastrophes, and service encounter failures – uncaring, impolite, unresponsive and unknowledgeable employee behaviour and attitude. Smith, Bolton and Wagner (1999) review prior research and identify two types of service failure: outcome failure and process failure. Outcome failure refers to the organization failing to satisfy a basic service need or perform a core service; whereas the process failure means the failure is delivered with flaws or deficiencies. Outcome-related failure usually involves utilitarian exchange associated with tangible/economic loss; while process-related failure normally involves symbolic exchange – the loss of psychological resource loss (Smith, Bolton and Wagner, 1999). In contrast to the classification of 'process' vs. ‘outcome’ failure, service failure can also be classified as whether it can be controlled by service provider (Taylor, 1994; Choi and Mattila, 2008). For example, a flight delay can be controllable if it is caused by selling more tickets to consumers or uncontrollable if it is caused by bad weather. Service failure can also be varied based on the severity or magnitude of the failure (Hoffman, Kelly and Rotalsky, 1995; Smith and Bolton, 1998, 2002; Weun, Beatty and Jones, 2004; Harris, Mohr and Bernhardt, 2006) or whether it is perceived as embarrassing or not (Wan, 2013).

The main characteristics of service failures are as follows. Firstly, service failures are customers’ perceived failures, which depend on customers’ subjective judgements. The judgements will be varied if there are some differences in customers’ predispositions and contextual situations. Secondly, there are many reasons that cause service failure; however, no matter who is at fault, if customers’ expectations are not met, the service has failed. Thirdly, certain contexts (e.g. airport or train stations) are fundamentally stressful for some customers: in travel service encounters, delays are identified as a key factor to increase customers’ misbehaviour (Boyd, 2002) and this will increase the tendency for customers to react aggressively. Most of the current research on service failure has considered service failure in relationship with service recovery, for example, Tax, Brown and Chandrashekaran (1998) and Harris, Mohr and Bernhardt (2006), which tend to focus more on service recovery. That includes service recovery strategies (Harries, Mohr and Bernhardt, 2006), antecedents (Maxham and Netemeyer, 2003), mediators (Smith, Bolton and Wagner, 1999) and consequences of service recovery (Hoffman, Kelley and Rotalsky, 1995; Harris, Mohr and Bernhardt, 2006). There is extensive research on the influence of service failure and its interaction with perceived justice (Smith, Bolton and Wagner, 1999; Shoefer and Ennew, 2005) and customer satisfaction (Weun, Beatty and Jones, 2004) and service recovery (Smith, Bolton and Wagner, 1999; Weun, Beatty and Jones, 2004). Other studies also initially examine the impact of service failure from the perspectives of relationship marketing (Tax, Brown and Chandrashekaran, 1998) and branding (Aaker, Foumier and Brasel, 2004; Klein and Dawar, 2004).

Past research has examined the consequences of service failure on customer satisfaction (e.g., McCollough, Berry and Yadav, 2000; Bamford and Xystouri, 2005; Lapré and Tsikriktsis, 2006; Anderson, Baggett and Widener, 2009; Lapré, 2011), customer loyalty (e.g. Zins, 2001) and market share (Rhoades and Waguespack, 2005), and negative word-of-mouth, switching or withdraw (Zeithaml and Bitner, 2000). Sajtos, Brodie and Whittome (2010) initially examined how service failure would influence the interactions between trust in service brand, customer value and customer loyalty. Few studies investigate customers' deviant behaviours in facing failed services, until more recently. Grégoire, Laufer and Tripp (2010) and Joireman et al. (2013) give an account of customers' revenge and retaliation behaviour after service failure. However, customers' aggressive behaviour following service failure, focused on expressing anger and delivering an aversive stimulus from one to another, with an intention to harm or cause harm to others, and which others are motivated to avoid, remains sparse. Customers' aggressive behaviour will be articulated in section 2.3.

2.2.3 Cognitive Appraisal Theory

Cognitive appraisal theory is defined as 'a process in which a person evaluates whether a particular encounter within the environment is relevant to his or her well-being, and if yes, in what ways' (Folkman et al., 1986b, p. 992). Appraisal theory has been recognized as a core approach in understanding emotions, and the core theme of appraisal is that emotion is derived from one's subjective evaluations (Scherer, 1999). Appraisal theory was initiated by Arnold (1960) to understand the role of emotion, as emotion could be distinguished by different excitatory phenomena, and the first step of emotion is an appraisal of the situation.

Lazarus continued to evaluate emotions via appraisal theory following Arnold's appraisal theory, and proposed a relational-motivational-cognitive structural model of appraisal. Lazarus (1991) suggests that the appraisal process of internal and situational conditions leads to emotional responses, and the emotional responses then induce coping activities. There are different types of appraisal and variations based on goal relevance, goal congruence and ego-involvement (Lazarus, 2001). Appraisal theory has been further specified as relating to primary appraisal and secondary appraisal (Folkman et al., 1986a). The primary appraisal accesses the <u>motivational relevance</u> of the conditions, how important the situation is to an individual's well-being and the importance of one's goal; the <u>motivational congruence</u> – the conditions facilitating or deterring the achievement of one's goal; and <u>one's ego-involvement</u>. The secondary appraisal addresses the resources or options for coping strategies (Folkman et al., 1986b), for instance, attributing blame to oneself or another in order to avoid harm or gain benefits, engaging in problem or emotion focused coping and expecting to gain control over the situation (Lazarus, 2001). Bagozzi, Gopinath and Nyer (1999) adopt Lazarus' (1991) framework, first introducing the self-regulatory process, which means the monitoring, appraisal and coping activities that translate attitude into intention, subjective norm into intention, and intentions into actions. They specify the structural model of appraisal, relating to emotions and people's adaptation to the emotions and situations, as shown in Figure 2:

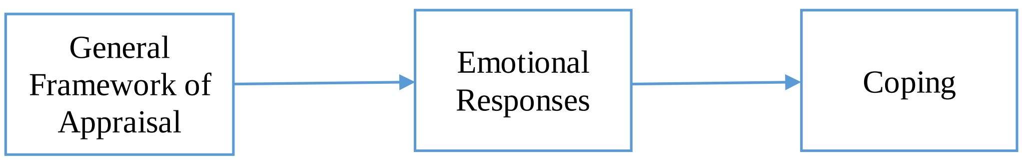

Figure 2 Structural Model of Appraisal

Bagozzi, Gopinath and Nyer (1999) and Johnson and Stewart (2005) suggest that cognitive appraisal theory addresses three issues: (1) what are the characteristics inherent in events that will be appraised; (2) what are the emotions experienced as a result of appraisal, if there are any; (3) what are the behavioural responses toward the experienced emotions.

Roseman (1996) further suggests that there are certain components of appraisal which elicit different emotions. These components include, first, motivation consistency, and second, the evaluation of responsibility or accountability. Moreover, the intensity of the components can also influence emotions. Motivation consistency refers to ones' evaluation of the situation which is not consistent with their goals, and this motivational inconsistency will elicit negative emotions, such as anger and regret. The evaluation of responsibility and accountability (especially certainty and strength) means whether oneself, another person or a group is responsible or accountable for a situation and what emotions are experienced. Watson and Spence (2007) further suggest the antecedents of appraisal theory as outcome desirability, agency, fairness and certainty. Based on their extension of cognitive appraisal theory, the structural cognitive appraisal theory is presented in Figure 3 below and the four appraisal components are elaborated as follows.

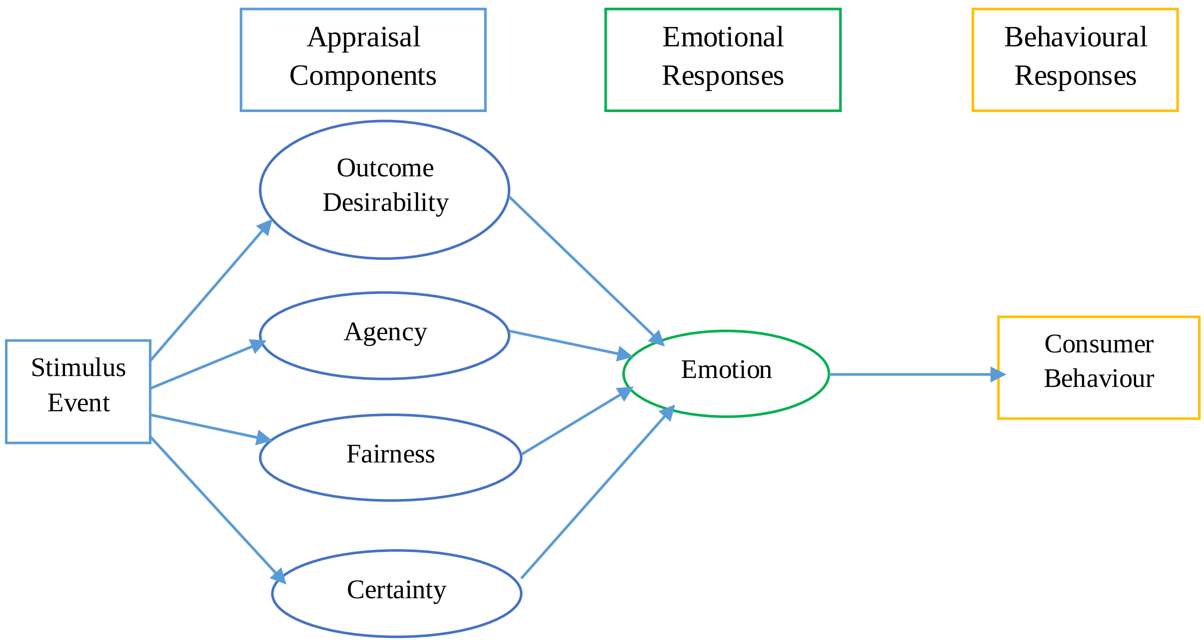

Figure 3 Extended Structural Model for Appraisal

Outcome desirability

Outcome-desirability represents the appraisals with personal significance for an individual (Watson and Spence, 2007). For one who fails to achieve a goal or experience an unpleasant outcome, the outcome-desire conflict appears (Bagozzi, 1992). For instance, when a service fails, customers evaluate the failure severity in terms of appraising the unpleasantness and failure to achieve a goal outcome (Bagozzi, 1992). In that case, the negative emotions occur, such as anger, sadness, jealousy and disgust. Then there will be intentions to “cope with” the conflict.

Agency

Agency is the second most important factor in composing appraisal. The appraiser may perceive agency as oneself, the others or the situation which has control over the stimulus circumstance (Ortony, Clore and Collins, 1988; Roseman, 1991). Agency is derived from attribution theory, to be more specific, controllability. Agency is more related to situations which elicit negative emotions than positive emotions, for instance, product failures (Yi and Baumgartner, 2004) or service failure (Folkes, Koletsky and Graham, 1987), because when encountering the negative events, the appraisers are more likely to attempt to engage in the appraisal process to explain why certain events occurred.

Certainty

Certainty refers to the perceived likelihood of an event (Watson and Spence, 2007). It focuses on the future event and the likelihood of the event to be certain or recur. Although not all events can be anticipatory in nature, the high level of uncertainty will be strongly associated with negative emotions in consumer decision making (Watson and Spence, 2007).

Fairness

Fairness deals with how the appraisers perceive the events to be morally appropriate (Frijda, 1986; Watson and Spence, 2007). The prominent view of fairness in service recovery has centred on justice theory (Tyler, 1994). When consumers perceive that they have not been treated fairly, they are more likely to generate negative emotions. In a service failure context, consumers appraise the resolution of the failure, the interaction process and the handling procedure. The appraisal of fairness can be more comprehensively understood via perceived justice, to be more specific, distributive justice, procedural justice and interactional justice. Nyer (1997) also indicated that perceived justice is one of the cognitive appraisal dimensions explaining the elicitation of positive and anger during and/or after service recovery encounters.

The detailed Literature Review Table for Appraisal Theory is summarized in Table 1 below.

Table 1 Literature Review Summary of Appraisal Theory

Authors	Outcome Desirability		Agency		Fairness	Certainty	Attention
	Pleasantness	*Goal Consistency*	*Agency*	*Intention*			
Frijda (1987)	Valence or pleasantness	Open/closed	Self/other intent		Value relevance	Certainty	Expectedness
Johnson and Stewart (2005)		Direction and degree of goal congruence, goal importance	Agency		Normative/moral compatibility	Certainty	
Nyer (1997)	Goal congruence	Goal relevance		Attribution			
Ortony, Clore and Collins (1988)	Appealingness	Desirability		Agency	Blameworthiness	Likelihood, prospect realisation	Unexpectedness
Roseman (1991)	Appetitive/aversive	Motive consistency	Agency		(Legitimacy)	Certainty	
Ruth, Brunel and Othes (2002)	Pleasantness	Perceived obstacle	Self/other agency	Situational control	Fairness	Certainty	Attentional activity
Scherer (1988)	Intrinsic pleasantness	Goal-related valence, goal relevance, goal consistency	Agent cause	Motive cause	Compatibility standards	(probability)	Novelty
Smith and Ellsworth (1985)	Pleasantness	(Perceived obstacle or goal/path obstacle)	Self/other agency	Situation/human control	(Legitimacy)	Certainty	Attention

Outcome desirability		
Pleasantness		
Ortony et al. (1988, p. 57)	Appealingness	People’s evaluations relative to attitudes or predispositions to like or dislike certain objects or activities
Scherer (1988, p. 97)	Intrinsic pleasantness	the inherent pleasantness/unpleasantness or hedonic valence of the event. . .in its own right, independent of the current goal priority or degree of conduciveness of the event to further goal attainment
Smith and Ellsworth (1985, p. 818)	Pleasantness	Intrinsic pleasantness of a situation

Frijda (1987, p. 119)	Valence or pleasantness	The event was pleasant or unpleasant
Nyer (1997, p. 297)	Goal congruency	The extent to which an event or outcome is congruent with an individual's wants or desires
Goal consistency		
Ortony et al. (1988, p. 49)	Desirability	The degree to which an event is or would be beneficial, of value, worth or utility
Roseman (1991, p. 192)	Motive consistency Appetitive/aversive	Assesses the consistency of events with motives Whether motives are states to be attained or avoided
Scherer (1988, p. 97, 99, 101)	Goal relevance Goal-related valence Goal consistency	Whether an event produces outcomes which affect needs or goals Degree to which events further one's plans or goals Consistency of one's state following an event with the expected state predicted for that point in the goal/path plan
Smith and Ellsworth (1985, p. 818)	Perceived obstacle or goal/path obstacle	Perception of something standing in the way of a goal
Frijda (1987, p. 120)	Open/closed	Offering possibility for approach or escape
Nyer (1997, p. 297)	Goal relevance	The extent to which an event or outcome is personally relevant to the individual
Johnson and Stewart (2005, p. 14, 17)	Goal importance Direction of goal congruence Degree of goal congruence	The appraised importance of a goal is associated with the value or desirability of the state that is sought Whether a situation is perceived to move the individual closer to or away from desired goals The degree to which the situation meets expectations or approximates the desired state
Agency		
Agency		
Ortony et al. (1988, p. 134-135)	Praiseworthiness	The degree to which the experiencer believes an agent to be responsible for a situation, and hence subject to praise or blame for his or her actions
Roseman (1991, p. 163)	Agency	Whether an outcome is seen as caused by impersonal circumstances, some other person, or the self
Scherer (1988, p. 98-99)	Agent cause	The perceived or attributed cause of the event. . . .the motive intention, or goal of the agent. . . need[s] to be integrated into the appraisal criteria scheme
Smith and Ellsworth (1985, p. 818)	Self/other responsibility	The extent to which oneself, someone or something else, is responsible for bringing about the event that arouses emotion
Frijda (1987, p. 120)	Agency or responsibility	The event was considered due to the responsibility of some other person or of the self
Nyer (1997, p. 297)	Attribution	The person responsible for and having control over the event or outcome
Johnson and Stewart (2005, p. 14)	Agency	Assessing whether the person or object is causal or responsible for outcomes in the situation

Intention (when separated from agency)		
Smith and Ellsworth (1985, p. 819)	Human/situational control	Whether events were controlled by the person, another person or impersonal circumstances
Frijda (1987, p. 120)	Controllability	An event was controllable or uncontrollable
Fairness		
Ortony et al. (1988, p. 53)	Praiseworthiness/blame worthiness	The degree that people do things that appear to us to uphold valued standards
Roseman (1991, p. 163)	Legitimacy	whether an outcome is deserved or undeserved
Smith and Ellsworth (1985, p. 819)	Legitimacy	The legitimacy or fairness of the outcome
Scherer (1982)	Norm/ self-concept compatibility	Evaluation of an outcome in terms of social norms or personal standards
Johnson and Stewart (2005, p. 17)	Normative/ moral compatibility	An assessment of the situation in terms of what is deemed to be normal and right by the individual and within a specific context
Certainty		
Ortony et al. (1988, p. 65, 84)	Likelihood	Probability of future events occurring, degree of belief that an anticipated event will occur
Roseman (1991, p. 163)	Probability	Whether a given outcome is judged to be certain or uncertain
Smith and Ellsworth (1985, p. 818)	Certainty	Predictability of outcomes
Frijda (1987, p. 120)	Certainty	Certainty or uncertainty regarding an event's outcome
Scherer (1988, p. 100)	Probability	The probability of the occurrence of specific outcomes is part of the relevance appraisal
Johnson and Stewart (2005,p. 16)	Certainty	The extent to which a situation implies an outcome that is known with confidence
Attention		
Smith and Ellsworth (1985, p. 817)	Attention	Whether to attend to a stimulus, ignore it, or avoid it
Ortony et al. (1988, p. 64)	Unexpectedness	Violations of event-based or person-based expectations
Frijda (1987, p. 119)	Expectedness Interest	An event was expected or unexpected The event was interesting or neutral
Scherer (1988, p. 95)	Novelty	Occurs when a stimulus situation deviates from the pattern expected or projected for a given point in time

(Source: adapted from Watson and Spence, 2007)

2.2.3.1 Operationalization of Cognitive Appraisal Theory

Cognitive appraisal theory is employed for the current study because, firstly, appraisal theory is a useful framework for understanding customers' reaction to service or product failure. Appraisal theory posits more comprehensive evaluations of a situation – service failure in the present study – and an understanding of different components of consumers' appraisals (Watson and Spence, 2007). These evaluations include certainty, fairness and failure severity as the operationalization of outcome desirability – the most important factors that consumers would assess in a service failure situation. Compared to other research frameworks, for instance, attribution theory or justice theory, which only assess some components of service failure, appraisal theory evaluates consumers' judgement more comprehensively. Secondly, cognitive appraisal theory is a promising avenue to understand consumers' emotions as evoked by consumers' appraisals (Bagozzi, Gopinath and Nyer, 1999; Johnson and Stewart, 2005). Thirdly, cognitive appraisal theory offers a complete model to explain consumers' behavioural responses – in this study, aggressive behaviour following service failure events.

Although the extant literature suggests that the cognitive appraisals are made up of the above components, the detailed explanations of each component are still under-developed. Since each appraisal component shares some similarities with the dimensions of other research models, and the component can be better explained using a more comprehensive model, this study will synthesize the values of different research models and form a detailed set of cognitive appraisal components. Furthermore, as most of the papers on proposing various appraisals are qualitative in nature (Roseman, 1991; Watson and Spence, 2007), there are some appraisal components which seem to have more theoretical support and suitability, and which are empirically more demonstrated in the service failure literature and context. Therefore, this study will appraise consumers' attribution of causality, perceived justice and service failure severity after the occurrence of service failure as presented in Table 2. The details will be discussed in the following section.

Table 2 Operationalization of cognitive appraisal theory

	Service failure severity — Outcome desirability		**Attribution of causality**		**Perceived justice**
	Pleasantness	Goal consistency	Agency	Certainty	
Frijda (1987) Frijda, Kuipers and Ter Schure (1989) Frijda (1993)	Valence (including pleasantness; bearable; goal-conductive, but mainly pleasantness) or Pleasantness	Open/closed; Goal importance	Self/other intent	Certainty (included clearness, stand, outcome)	Value relevance; Fairness-unfairness (but excluded in earlier study due to oversight)
Johnson and Stewart (2005)		Direction and degree of goal congruence; goal importance	Agency (appraisal of responsibility; indeterminate agency	Certainty	Normative/moral Compatibility
Nyer (1997)	Goal congruence	Goal relevance	Attribution		
Ortony et al. (1988)	Appealingness	Desirability	Agency	Likelihood; Prospect realization	Blameworthiness
Roseman (1991) Roseman (1996)	Appetitive/aversive (motivational state)	Appetitive/aversive (motivational state)	Agency (circumstance/self/other/no cause)	(probability)	
Ruth Brunel and Othes (2002) Appraisal elements are based on Smith and Ellsworth's study (1988), because they focus more on the relationship between emotion and cognitive appraisal	Pleasantness	Perceived obstacle	Self/other Agency & Situational control	Certainty	Fairness
Scherer(1988) Scherer and Ceschi (1997) Ellsworth and Scherer (2003)	Intrinsic Pleasantness	Goal-related valence, goal relevance, goal consistency, urgency	Agent Cause/ responsibility & Motive cause	(probability)	Compatibility Standards (external & internal)

		(motivational bases)			Morality particularly to be noticed as for cultural difference.
Smith and Ellsworth (1985)	Pleasantness	Perceived obstacle or goal/path obstacle	Self/other Agency& Situation/human control	Certainty	(Legitimacy)
Smith and Kirby (2009)		Motivational relevance			
Lazarus (1991) Lazarus and Smith (1993) cited in Lowe and Bennett (2003); Lazarus and Smith (1990) cited in Marsella and Gratch (2009) Lazarus categorized appraisal into primary and secondary aspect. Primary appraisal related to evaluation of situation; secondary appraisal evaluates coping options and outcomes.		Motivational/goal relevance; Motivational/goal congruence; Goal content/ego-involvement (primary appraisal)	Accountability / blame or credit (secondary appraisal)		
Marsella and Gratch (2009) Based on Smith and Lazarus (1990) and then detailed variables.	A, Relevance, valence and intensity B, Relevance; perspective; desirability		A, Blame and responsibility B, Causal attribution		
Connelly (2011) Silvia's appraisal model of interest, in which interest was considered as emotion and was the focus of appraisal model; But this model is yet incomplete.		Goal relevance			

2.2.3.2 Attribution of Causality

When a service fails, customers often attempt to figure out the reasons for the failure. Attribution theory has provided a useful framework for testing customers' reactions to service or product failure (e.g. Bettman, 1979; Richins, 1983; Folkes, Koletsky and Graham, 1987). Attribution theory was introduced in Heider's book *The Psychology of Interpersonal Relations* (1958), which states that it is worthy of understanding individuals' "naive" or common sense causal explanations of the world. He distinguished the categorizations of causes, where the main distinction lies in the actions due to personal causes or environmental situations (Heider, 1958). Although Heider use careful analysis to address psychology problems, he fails to distinguish cause and reason.

Kelley (1973), Kelley and Michela (1980) develop the model of causal attributions primarily to explain how people use information to make attributions for the outcomes of others, that is to say, his model focuses on how individuals arrive at specific types of attributions as opposed to the processes that emphasize the behavioural and motivational consequences of attributions. He uses three informational factors – consensus, consistency and distinctiveness – and their interactions with behaviours as the causes of attributions. Kelley (1973) posits that the causal schema is a concept that two or more causal factors interact which could lead to a particular effect. His propositions have mainly been used to describe how observers use information to make attributions for the behaviours of others (Martinko and Thomson, 1998).

Although Weiner's theory was originally grounded in the achievement-related context, it has been extended to a more general theory of human motivations (Weiner, 1985). For example, attribution processes have been found to play a significant role in motivational social behaviour (e.g. Meyer and Mulherin, 1980; Weiner, 1980a, 1980b; Schmidt and Weiner, 1988; Betancourt, 1990), reactions to rape and pregnancy (e.g. Janoff-Bulman, 1979; Major, Mueller and Hildebrandt, 1985), parole decisions (e.g. Carroll, 1978), and loneliness (e.g. Peplau, Russell and Heim, 1979; Cutrona, 1982; Peplau, Miceli and Morasch, 1982). The common motivational process in the above subjects includes a procedure of searching for the determinant of 'why' certain events occurred as the attribution of causality which may influence the subsequent behaviours and motivations. According to Weiner (1985, 2000), there are three causal dimensions, namely, locus, controllability and stability, and these three dimensions will be illustrated in detail in the following sections respectively.

Locus

Locus involves who or what is responsible for certain events (Weiner, 1985a). Locus influences the beliefs about who should be responsible or who should solve problems; one might imagine that problems arising from consumers' actions should be solved by consumers, and problems that arise from company's actions should be solved by companies (Folkes, 1988). In the social exchange settings, people can be perceived as the judge of thoughts and emotions which can pave the way for social motivations (Hamilton, 1978). Therefore, judgements regarding fairness, responsibility, blame and fault etc. are the essence of social behaviour. Locus can also be interpreted as the judgement of responsibilities, e.g. a person "should" or "ought to have" done (Weiner, 1995).

Controllability

Controllability means the degree to which the cause is under volitional control (Taylor, 1994). It has been suggested that the attributions relating to internal controllable factors will maximize the negative affect, like disgust and anger, while the attributions about uncontrollable factors are expected to generate positive affects like sympathy (Weiner, 1980b).

Stability

Stability refers to the degree to which a cause is being perceived as relatively permanent and stable or, alternatively, temporary and fluctuating (Folkes, 1988). Stability influences people's expectations of whether the causes of an outcome will reoccur (Weiner, 1986). Stable and unstable causes will change people's expectations for product or service failure. Specifically, when a product or service fails for stable reasons, customers are more certain that the same failures would be likely to recur based on stable causes (Folkes, 1984). When customers perceive a failure to be due to stable reasons, they are more likely to seek a refund from the company (Folkes, 1988).

Responsibility

Although Weiner (1995) distinguishes the above three causal dimensions, when utilizing the three dimensions in marketing research, especially relating to product or service, more critics appear in recent studies regarding the classification of these dimensions. More recent studies tend to combine some factors, for instance, combining locus and controllability because they are highly correlated (Folkes, 1984; Tsiros, Mittal and William, 2004). Anderson (1983) elaborates that people weight differently the causal dimensions in various situations, but the dimensions are highly correlated. For example, in the interpersonal failure situations like service encounters, Folkes (1984) uses attribution approach, mentioning that locus and controllability are highly correlated (r=0.94) in the studied restaurant in examining consumers' reaction towards product failure. Tsiros, Mittal and William (2004) use attribution theory in the customer satisfaction settings, also suggest the combination of the locus of causality and controllability, because it is challenging for consumers to distinguish the differences between 'who's at fault' and 'the degree of control over the fault', and their results have a high correlation. Even Weiner (2000) himself uses responsibility as a sequential outcome of controllability. Most recent studies use an additional factor as the sequential outcome of the traditional three attribution dimensions, such as, using responsibility (Wickens et al., 2011) as the outcome of locus, controllability and stability.

Blame

Blame refers to the extent to which customers perceive that a firm is accountable for the cause of the service failure (Bechwati and Morrin, 2003; Zourrig, Chebat and Toffolic, 2009). Blame is likely to be generated only when there is a negative event – service failure – and there should be someone to be assigned as accountable for the negative event (Shaver, 1985). When there is a service failure, customers would judge whether a firm has control over the incident but does not prevent it from happening, and then may make attribution of blame to the firm (Weiner, 2000). Apart from the traditional three attributional dimensions, Robertson, McQuilken and Kandampully (2012) suggest using blame attribution as an inferred outcome of locus, controllability and stability in the service failure context. Joireman et al. (2013) and Grégoire, Laufer and Tripp (2010) further propose that blame attribution is more suitable for the service failure context since consumers would appraise who should be blamed for the service failure. Vázquez-Casielles, del Río-Lanza, and Díaz-Martín (2007) and Hui and Toffoli (2002) suggest that consumers do not typically perceive that they should be blamed for the service failure, so they perceive that the locus of causality should not be inferred to internal factors. Therefore, blame attribution is referred as the outcome of controllability and stability in the service failure context.

2.2.3.3 Perceived Justice

Perceived justice, originating from legal, organizational and political science literature (Thibault and Walker, 1975; Lind and Tyler, 1988), illustrate that individuals involved in conflict or unpleasant situations would base their perceptions on the particular circumstances. Justice refers to a need that one should receive no less than one deserves (Lerner, 2003), derived from an implicit psychological contract of being treated fairly (Seiders and Berry, 1998). It can be considered as an evaluation of judgement on the appropriateness of treatments which one person gets from others (Chebat and Slusarczyk, 2005). Justice theory is used as a foundation in service revenge literature (Grégoire and Fisher, 2008; Grégoire, Laufer and Tripp, 2010), consisting of three facets: distributive justice, procedural justice and interactional justice (Tax, Brown and Chandrashekaran, 1998; Smith, Bolton and Wagner, 1999). The following sections will illustrate these three dimensions.

Distributive justice

Distributive justice refers to the perceived justice on the allocation of tangible resources comparing to costs involved (Blodgett, Hill and Tax, 1997). It centres on the perceived outcome of the exchange (Adam, 1965; Smith, Bolton and Wagner, 1999). In the service situation, distributive justice refers to consumers' evaluation of whether the outcome they get is equivalent to their input, and these inputs can be both monetary and non-monetary (McCollough, Berry and Yadav, 2000). Distributive justice can be achieved through equity, equality and need (Tax, Brown and Chandrashekaran, 1998).

Procedural justice

Procedural justice refers to procedures, policies and standards that decision makers decide to achieve an outcome (Thibaut and Walker, 1975; Blodgett, Hill and Tax, 1997). It focuses on how they endeavour to make decisions and solve conflicts during the exchange process (Thibaut and Walker 1975; Leventhal 1980; Lind and Tyler 1988, Smith, Bolton and Wagner, 1999). To achieve procedural justice, an action should be consistent and unbiased, and based on accurate information to represent all parties' interests (Blodgett, Hill and Tax, 1997). In the service context, Clemmer (1993) classifies procedural justice as flexibility, responsiveness, and efficiency. Tax, Brown and Chandrashekaran (1998) further develop procedural justice as control of the process, control for decision-making, flexibility, accessibility, and timing/speed.

Interactional justice

Interactional justice addresses how the outcome information is communicated and exchanged (Bies and Moag 1986; Bies and Shapiro 1987; Smith, Bolton and Wagner, 1999). It concerns people's perception of whether they have been treated fairly in the exchange situation or not. Tax, Brown and Chandrashekaran (1998) synthesize the dimensions of interactional justice as provision of explanation, politeness, effort, empathy and honesty. McColl-Kennedy and Sparks (2003) also suggest the dimensions of interactional justice as courtesy, honesty, empathy, endeavour, providing explanations and offering apologies. Since service interaction is an exchange setting, thus, interactional justice is of great significance as it focuses on the interaction between customers and service providers (Blodgett, Hill and Tax, 1997).

2.2.3.4 Service Failure Severity

Service failure severity refers to customers' perceived magnitude or intensity of service failure (Weun, Beatty and Jones, 2004; Sengupta, Balaji and Krishnan, 2015). The service failure severity can be classified as outcome desirability, since service failure is unpleasant to consumers and it is not consistent with consumers' goals. The more severe the service failure, the greater loss customers may perceive. Based on prospect theory and mental accounting theory, customers may weight what they have lost in the service failure and customers appraise the service failure severity as either a loss of resource, or a potential loss of money or time (Weun, Beatty and Jones, 2004). Zeithaml, Berry and Parasuraman (1993) suggest that consumers' zone of tolerance of failure depends on service failure severity situation. When the service failure is very severe, customers' tolerance zone might be narrowed. The severe service failure can have certain consequences, for example, negative word-of-mouth, or on post-recovery trust and customer loyalty (Weun, Beatty and Jones, 2004; del Río-Lanza, Vázquez-Casielles and Díaz-Martín, 2009). The service failure severity may also influence customers and their future relationship with the service organizations, for example, switching behaviour (Bell and Zemke, 1987; Berry and Parasuraman, 1991; Keaveney, 1995) and retaliatory behaviour (Bonifield and Cole, 2007).

2.2.4 Summary of this Section

This section considers service failure and elaborates on how, when service failure occurs, customers appraise the failure situation. Based on the structural appraisal process, customers' appraisal of the causes of the service failure would evoke negative emotions, and consequently influence consumers' behavioural responses. Although cognitive appraisal theory suggests that different appraisals generate different emotions, recent appraisal theory scholars also suggest that, instead of appraising based only on valence, appraising different components of a situation can generate one specific emotion (Lerner and Keltner, 2000). Therefore, customers' emotional response with a focus on anger and behavioural responses which are provoked by service failure and appraisals will be further explained in Section 2.3.

Consumers make appraisal inferences based on the current situation and the information presented to them. Smith and Kirby (2009) highlight that the appraisal components will be influenced by personal or situational characteristics or both. When there is a service failure, consumers might question the company claims, company motives or the information presented to them, and this questioning inference, termed as skepticism will alter customers' appraisal processes. Detailed elaboration on skepticism will be presented in Section 2.4.

2.3 Anger as a Type of Negative Emotion and Customer Aggression

2.3.1 Introduction to this Section

This section will present the relationship between negative emotion and aggressive behaviour. The negative emotions include the definition of emotion and different types of negative emotions with a focus on anger, since anger is the most salient emotional response to different appraisals, as discussed in the previous section. This section will also discuss the role of anger in influencing aggressive behaviour. This section will also illustrate the terminology, various theories and operationalization of aggressive behaviour. The direct influence of personality and situational factors on aggressive behaviour will also be discussed in this section.

2.3.2 Negative Emotions and Anger

Bagozzi, Gopinath and Nyer (1999, p.184) define emotion as "a mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological processes; is often expressed physically (e.g. in gestures, posture, facial features); and may result in specific actions to affirm or cope with the emotion, depending on its nature and meaning for the person having it." Oatley and Johnson-Laird (1987), in the communicative theory of emotion, also suggest that emotion can function to coordinate with one's cognition to respond to certain events and to form new activities.

Social psychologists suggest that discomfort caused by circumstances could lead to negative emotions (Neuman and Baron, 1998), as in service failure. There are different types of negative emotions which may be elicited when service fails, for instance, anger (Bougie, Pieters and Zeelenberg, 2003; Bonifield and Cole, 2007; Schoefer and Diamantopoulos, 2008, 2009; Gelbrich, 2010), dissatisfaction (Bougie, Pieters and Zeelenberg, 2003) and frustration (Gelbrich, 2010). Frustration is a retrospective emotion, which tends to appear when people attribute an incongruent goal of an event to the situation (Roseman, 1991). Customers feel frustrated when a service failed because they cannot often control the failure (Laros and Steenkamp, 2005). Dissatisfaction refers to emotional reaction to a product or service failure experience (Spreng, MacKenzie and Olshavsky, 1996). There are two streams of definitions in conceptualizing dissatisfaction, one viewing it as a judgement resulting from the cognitive antecedents (Mano and Oliver, 1993; Oliver, 2014), the other referring it as a consumption emotion (Hunt, 1991; Bougie, Pieters and Zeelenberg, 2003). Consumers who are dissatisfied may feel unfulfilled or that they are missing out and would like to find out who should take responsibility for the failure (Bougie, Pieters and Zeelenberg, 2003). Dissatisfaction occurs when the outcome of a service experience is not as good as it is supposed to be.

Although cognitive appraisal theory suggests that different appraisals generate different emotions (Lazarus, 1991), recent appraisal theory scholars suggest that one emotion might be more salient (Ellsworth and Scherer, 2003) in certain situations, even under impacts of different appraisal components. This has also been confirmed by psychology (Averill, 1983) and marketing literature (Kalamas, Laroche and Makdessian, 2008), suggesting that anger is the predominant emotion when individuals have certain appraisals of a situation, for example, service failure is highly uncertain, out of control, others are to be blamed (Bonifield and Cole, 2007), there is a threat to justice (Schneider and Bowen, 1999; Schoefer and Ennew, 2005) and it is very severe (Zorrig, Chebat and Toffoli, 2009). Thus, this study – based on the above theoretical rationale, and following recent research Grégoire, Laufer and Tripp (2010) and Joireman et al. (2013) – operationalizes anger as the emotional response to appraisal components. Elaboration on anger will be provided in the following sections.

Anger refers to an emotion which can be associated with or elicited by a harmful event (Bougie, Pieters and Zeelenberg, 2003). Anger is generated by inferences about responsibility (Averill, 1982, 1983; Frijda, 1986; Weiner, 1986), or is incited when one should be blamed or things have been wrong unjustifiably (Averill, 1982; Lazarus, 1991). In the emotional stream of literature, anger is one of the strongest stimuli identified as eliciting customers' responses and reactions (Bougie, Pieters and Zeelenberg, 2003). Anger is also an accusation, or a value judgement, that follows from the belief that another person "could and should have done otherwise" (Hamilton, 1978).

Cognitive appraisal theory also suggests that people may cope and behaviourally respond in order to reduce negative emotions when there is a negative event, for instance, service failure (Shaver, 1985; Lazarus, 1991). Angry customers are more likely to engage in confrontational coping or retaliatory behaviour toward the service organization or service provider (Gelbrich, 2010). When people feel angry, they tend to engage in certain behavioural tendencies, for example, perhaps they feel like behaving in a certain way [e.g. aggressively]' (Bougie, Pieters and Zeelenberg, 2003). Aggressive behaviour is a response to conditions which incite or provoke (Geen, 2001). The following sections will describe customers' aggressive behaviour.

2.3.3 Different Terminology for Customer Aggressive Behaviour

Psychologists of human aggression mention that aggressive behaviour is very difficult to understand, because scholars may interpret it from various perspectives in different social settings (Anderson and Bushman, 2002; Fisk et al., 2010). The stream of research on customer aggressive behaviour has received increasing attention in recent decades. However, there is no consensus in defining those inappropriate behaviours. In classifying customers' inappropriate behaviours, Grove, Vitell and Strutton (1989) provide three classes based on various purposes: 'acquisitive' purpose, such as in shoplifting, pilfering, and illegal downloading; 'usage' purpose, such as in product wastage and fraud in insurance; and 'dispositional' purpose, such as in illegitimate littering and graffiti behaviour. Fullerton and Punj (1993), from a norm-based perspective, define customers' misbehaviours as 'those behaviours which violate the generally accepted norms in exchange settings'. They are vandalism, victimization and financial/material loss. Lovelock (1994) first introduces customers' inappropriate behaviours into the service context and uses the term 'Jaycustomer', including thieves, rule breakers, belligerents, family feuders, deadbeats, and vandals specifically focusing on service setting. Bitner, Booms and Mohr (1994) use problem customers to define customers who are not willing to cooperate with service personnel, service organizations, other customers and industry or company regulations or policies. Harris and Reynolds (2003) define dysfunctional customer behaviour as customers' behaviour that intentionally or unintentionally, overtly or covertly, disrupts functional service encounters otherwise, in some way (Harris and Reynolds, 2003; Reynolds and

Harris, 2009). Harris and Reynolds (2004), after 106 interviews, further classify eight types of customer misbehaviours in the service industry according to their motives: financial (financial motivation—non-financial motivation) and intentional driven (overt—covert). Grégoire and Fisher (2008) and Grégoire, Laufer and Tripp (2010) focus on customers' retaliatory and vindictive behaviours such as customer revenge. McColl-Kennedy et al. (2009) discuss customer rage from the emotional perspective, to list customers' rage-associated emotions and expressions.

Scholars also investigate the customers' misbehaviours from different angles and disciplines, such as: criminology, involving crimes like shoplifting and credit card fraud (Cox, Cox and Moschis, 1990; Albers-Miller, 1999), sociology, considering the normative behaviours which are against standards and social norms (Moschis and Cox, 1989; Caruana et al., 2001); and exchange-setting theory, the characteristics of consumption settings or a particular factor in consumption setting may lead to a particular bad behaviour in that setting (Fullerton and Punj, 1993; Rose and Neidermeyer, 1999) (see more details in Table 3).

Table 3 Terminology of Customers' Aggressive Behaviors

Terminology	Authors	Definitions	Perspectives
Compulsive consumption	O'Guinn, Faber and krych (1987); Hirschman (1992)	A response to an uncontrollable drive or desire to obtain, use or experience a feeling, substance or activity that leads an individual to repetitively engage in a behaviour that will ultimately cause harm to the individual and/or to others.	Intentional perspective
Illegitimate complaining	Jacoby and Jaccard (1981); Kowalski (1996)	Customers who deliberately attempt to gain monetary reimbursement or reparation without justification through complaining	Intentional perspective
Customer vandalism	Levy-Leboyer and Claude (1984);	Damage to the organizational property	Harm perspective

	Demore et al. (1988)		
Aberrant consumer behaviour	Fullerton and Punj (1993)	Focus on externally directed acts of customer misbehaviour	Norm perspective
Jaycustomer	Lovelock (1994, 2001)	Customers who act in thoughtless or abusive ways which cause problems for employers and other customers	Norm perspective
Problem customers	Bitner, Booms and Mohr (1994)	Customers who are unwilling to cooperate with service personnel, service organizations, other customers and industry regulations or policies	Harm perspective
Retaliation	Huefner and Hunt (1994, 2000)	Aggressive behaviour done with the intention of getting even	Intentional perspective
Dysfunctional customer behaviour	Harris and Reynolds (2003, p. 145); Reynolds and Harris (2009)	Customers who intentionally or unintentionally, covertly or overtly, act in a manner that, in some way, disrupts otherwise functional service encounters.	Harm perspective
Customer rage	McColl-Kennedy et al. (2009); Bradley and Sparks (2012)	Furious, overwhelming and extreme anger accompanied by its expression and potentially harmful behaviours towards the organization following a dissatisfactory service experience	Emotional perspective, focusing more on the emotional escalation
Customer Retaliation	Grégoire and Fisher (2008); Grégoire, Laufer and Tripp (2010)	A customer’s felt need to punish and make the firm pay for the damages it has caused	Intentional perspective

2.3.4 Different Theories in Understanding Aggressive Behaviour

There are different theories of human aggressive behaviour suggested by psychology and social psychology specifically, such as Cognitive Neoassociation Theory (Berkowitz, 1989, 1990, 1993), Script Theory (Huesmann, 1986, 1998), Excitation Transfer Theory (Zillmann, 1983) and Social Interaction Theory (Tedeschi and Felson, 1994), but there are overlaps among the theories. Anderson and Bushman (2002, p. 34) synthesize the above four theories to form the General Aggression Model (GAM).

General Aggression Model

GAM describes 'a person in a situation' and the process for this person to become aggressive (Anderson and Bushman, 2002). There are mainly three stages in their model. First, there is an episode consisting of a personal trait and situational reason as an input; second, the interactions among cognition, affection and arousal operate as a route to form aggressive behaviour; and third, the outcomes of the decision-making process influence aggressive behaviour (Anderson and Bushman, 2002). According to GAM, these three processes form knowledge structure which enables the perception, interpretation and understanding of people's behaviour (Fiske and Taylor, 1991; Higgins, 1996). The processes include (or can be linked to) affective states, behaviours, beliefs and can become automated in use (Anderson and Bushman, 2002). GAM helps to understand customers' aggressive behaviour because it incorporates the aggressive actions both from cognitive and affective perspectives.

Information-processing Model

Several psychological studies (e.g. Baumeister and Leary, 1995; Shapiro, Schwartz and Astin, 1996) also suggest that an individual's cognitive process can act as a trigger for aggressive and destructive behaviours. An information-processing model (Dodge, 1986; Huesmann, 1986, 1998; Crick and Dodge, 1994; Anderson and Dill, 2000; Anderson and Bushman, 2002) suggests social-cognitive structures involved in social problem solving. They assert the interactions of emotions and cognitions, people and situation. The processes include (1) encoding, understanding and interpreting cues from environment; (2) generating and selecting goals, behaviours, or scripts to guide behaviour; (3) assessing the selected scripts for appropriateness on different dimensions; and (4) behaviourally enacting followed by interpreting the responses of others (Dodge, 1986; Crick and Dodge, 1994). Emotional state influences these processes, and it can also be changed by these processes (Huesmann, 1998). Since emotional state can be a part of the knowledge structure network, emotions can directly prime specific knowledge structures. Therefore, emotions can also influence knowledge which lead to the present situation (Huesman, 1998).

Social Learning Theory

According to social learning theory, individual's attitude and behaviour can be shaped through the interactions they have with social agents, and these agents include other people, institutions and media (McLeod and O'Keefe, 1972). Social learning theory (Bandura, 1973) suggests that people acquire aggressive behaviour the same way as they obtain other forms of social behaviour, through direct experience or indirect observation. Specifically in consumer behaviour literature, consumers can gain knowledge, e.g. consumer activism, attitudes towards prices, materialism, economic and social motivation (Moschis and Smith, 1985) through social learning experience (Bandura, 1983, 2001) with their peers, parents and even their own past experience. Therefore, customers can also acquire aggressive behaviour through direct learning from their past experience, as well as by observing others' behaviour.

Although the above theories obtain their own merit with different focus, the synergy and consensus can be achieved as aggressive behaviour is influenced by situational and social encounter factors (Bandura, 1977; Berkowitz, 1993; Anderson and Bushman, 2002). The situational and social interactional factors for the current study will be elaborated in 2.5.

2.3.5 Operationalization of Customer Aggressive Behaviour

Aggression refers to the behaviour which is intended to injure or harm another person (Berkowitz, 1993). Geen (2001, p.3) further defines it as 'the delivery of an aversive stimulus from one person to another, with intent to harm'. Psychologists in human aggression suggest that aggressive behaviour is likely to be instigated with some provocations (Berkowitz, 1993; Geen, 2001; Anderson and Bushman, 2002), and, in the service setting, service failure can be regarded as an instigation. In order to have a deep appreciation of customers' aggressive behaviour, this research will focus on customer aggressive behaviour which is provoked by service failure. Customers' aggressive behaviour in the current study is defined as customers' overt behaviours, no matter whether in verbal, non-verbal or physical forms, that cause harm to front-line service employees or service companies (Anderson and Bushman, 2002; McColl-Kennedy et al., 2009).

2.3.6 Personality Trait

People's personality has been defined as a 'dynamic organization of human being's psychophysical systems inside of a person that create people's characteristics pattern of feeling, thought and behaviour' (Allport, 1961). The social-cognitive models suggest that aggressive behaviour are generated by personal factors, situational variables and their combination or interaction to influence the individual's current internal state (Berkowitz, 1993; Geen, 2001; Anderson and Bushman, 2002). Social-cognitive models suggest that people's personality is the sum of his/her knowledge structures (Sedikides and Skowronski, 1990; Mischel and Shoda, 1995). How people construct and respond to their world depend on some situational factors in their world and the knowledge structures they have established (Anderson and Huesmann, 2003).

Past research indicates that consumers' personality trait and predispositions could influence consumers' behaviour. For example, Fullerton and Punj (1993) suggest that consumers' personality traits could influence their misbehaviour. Daunt and Harris (2011) and Harris and Ogbonna (2006) suggest a correlation between customers' personality traits and deviant behaviours. Among consumers' personality traits, aggressiveness is one of the most influential personality trait factors influencing aggressive behaviour (Geen, 2001). Richins (1983) suggests that aggressive people are more likely to engage in deviant behaviour. Dill et al. (1997) also suggest that aggressiveness is an enduring personality trait, making people prone to behaving in an aggressive manner.

2.3.7 Situational Factors

Aggression theorists suggest that the conditions in the environment would incite people's aggressive behaviour because the environmental factors, especially inescapable and uncontrollable factors, cause stress to people and evoke negative emotion and aggressive behavioural response (Geen, 2001). Anderson, Bushman and Groom (1997) also demonstrate a linear correlation between environmental factors and aggressive behaviour. These environmental factors include: temperature, noise and unpleasant odours (Berkowitz, 1993; Anderson, Bushman and Groom, 1997). Aggression levels are also elevated by environmental conditions such as crowding, poor ventilation, an unsettling amounts of heat and noise, which may increase customer stress (Homel and Clark, 1994; Quigley, Leonard and Collins, 2003; Fullerton and Punj, 2004).

Architects and environmental psychologists have been paying attention to the influence of the physical environment on emotions and behaviours (Sadalla, Vershure and Burroughs, 1987). Physical environment has emerged as a critical area for studying the influence of store environment on consumer behaviour (Turley and Milliman, 2000). Kotler (1974) initiates the term 'atmospherics' to elaborate how the store's environmental stimuli, for instance, sound, smell and sight influence consumer behaviour. Baker, Grewal and Parasuraman (1994) further classify store environment as store ambient factors – lighting, music, temperature and scent (Milliman, 1982; Wineman, 1982; Baker, Grewal and Parasuraman, 1994);

functional/aesthetic design factors – layout, privacy and comfort/ layout, materials and style (Marans and Sprekelmeyer, 1982; Baker, Grewal and Parasuraman, 1994); and store social factors – number of people present in the environment, both employees or other customers (Wicker, 1973; Mazursky and Jacoby, 1986). Bitner (1992) also introduces the concept of "servicescape" to examine the effect of (1) ambient conditions (e.g. air quality, temperature, music, odour and noise,), (2) spatial layout and functionality (Layout, equipment and furnishings), and (3) signs, symbols and artefacts, on emotions and behaviour of customers and employees in the service industry.

2.3.8 Summary of this Section

This section discusses the factors which influence aggressive behaviour, in terms of negative emotion, definition, theories of aggressive behaviour, causes for customers' aggressive behaviour, and the direct influences of personality and situational factors impacting on people's aggressive behaviour.

2.4 Consumer Skepticism and its Impact on Appraisal – Negative Emotions

2.4.1 Introduction to this Section

As elaborated in 2.2.3, consumers make appraisal inferences based on the current situation and the information presented to them. However, when customers do not believe in the information presented to them, this leads to doubt and distrust, termed as "consumer skepticism". This section will discuss consumer skepticism in terms of definition and consequences.

A stream of literature in ethical consumption indicates that consumers are suspicious towards companies' claims, motives and reasoning because of company scandals, unethical actions, and consumers' general questioning attitude (Mohr, Eroglu and Ellen, 1998; Helm, 2004). Consumers also question the adequacy and truthfulness of the information given to them (Mattila and Cranage, 2005; Lee and Park, 2010). This questioning can be better explained through customer skepticism.

2.4.2 What is Consumer Skepticism?

Skepticism refers to a person's tendency to doubt, distrust, disbelieve and question (Boush, Friestad, and Rose, 1994; Forehand and Grier, 2003; Skarmeas and Leonidou, 2013). Skepticism originates from an Ancient Greek term 'skeptomai', meaning to think, evaluate and consider. Although skepticism shares some similarities with cynicism, they are different from the following perspectives. First, cynicism involves people's enduring belief that human beings act purely based on their selfish motives. Thus, cynicism lasts longer, while skepticism is more prone to situational stimulus and may not last for so long (Mohr, Eroglu and Ellen, 1998). Furthermore, Andersson (1996) and Dean, Brandes and Dharwadkar (1998) suggest cynicism has cognitive, affective and behavioural components, whereas skepticism focuses on cognitive response to the content and context of communication (Mohr, Eroglu and Ellen, 1998).

Skepticism has been studied in a variety of disciplines, such as politics (Taber and Lodge, 2006), psychology (Lilienfeld, 2012; Forgas and East, 2008), philosophy (McGrath, 2011; Sankey, 2012) and medicine (Rohrer and Borders, 2004). Recent studies have begun to examine the role of skepticism in business context. For example, researchers have examined consumer skepticism in influencing advertising information processing (Obermiller, Spangenberg and MacLachlan, 2005) public relations (Boush et al., 1994), and the effect of consumer skepticism on corporate social responsibility (Forehand and Grier, 2003; Skarmeas and Leonidou, 2013; Skarmeas, Leonidou, Saridakis, 2014). Skepticism has also been investigated in the discipline of marketing with a focus on consumer distrust or disbelief towards marketers' actions. These actions include advertising claims (Obermiller and Spangenberg, 1998), public relations efforts (Ford, Smith and Swasy, 1990; Webb and Mohr, 1998), cause-related marketing advertising (Kim and Kim, 2008) and company's environmental claims in their marketing communications (Mohr, Eroulu and Ellen, 1998).

Skepticism can be classified as 'trait skepticism' and 'state skepticism' (Forehand and Grier, 2003). Trait skepticism, also known as pre-dispositional skepticism, refers to an individual's disposition to doubt various forms of company endeavour, for example, in marketing communication, including public relations and advertisement (Obermiller and Spangenberg, 1998). State skepticism or situational skepticism, on the other hand, refers to the situational factors which direct consumers' attention to marketers' motives (Forehand and Grier, 2003). These motives may not simply be company's self-serving motive, but consumers' perception about firm's deception in their true motives (Skarmeas and Leonidou, 2013). State skepticism can be more salient to situations where customers are skeptical about advertising information, claims and tactics (Obermiller and Spangenberg, 1998) and companies' corporate social responsibility activities (Skarmeas and Leonidou, 2013; Skarmeas, Leonidou, Saridakis, 2014). The situation in the current research, where customers encounter service failure and are skeptical about company claims, can be best regarded as state skepticism. Specifically, when there is a service failure, customers may not have strong trait skepticism; rather, they question the company's claims about the causes of the service failure.

2.4.3 Consequences of Consumer Skepticism

Skepticism can be formed through certain venues. First, skepticism, which is evoked by disbelief, will result in questioning, doubt and refusing to accept company claims.

Furthermore, skepticism research also shows that skepticism is a learned attitude of consumers (Obermiller and Spangenberg, 1998; Bush, Smith and Martin, 1999), consumers can gain this skeptical attitude based on their past experience. In that, consumers who are skeptical are more selective to exposed information. Customer skepticism enables consumers' questioning attitude, and they question company motives, company claims, and fit between company image and their initiatives (Forehand and Grier, 2003). There are certain consequences of consumer skepticism. When consumers are high in advertisement skepticism about company claims, they have weaker brand beliefs, more negative attitudes toward advertisements, and lower purchase intention (Obermiller, Spangenberg and MacLachlan, 2005). Specifically, when consumers have high skepticism, they question the content of the information (e.g. the content of the advertisement), and they respond less to the information-based appeals (Obermiller, Spangenberg and MacLachlan, 2005). Moreover, Kuppens and Mechelen (2007) suggest that people's interpersonal distrust may lead to a hostile attribution of blame to others (Kramer, 1994). Skarmeas and Leonidou (2013) also indicate that when consumers are skeptical about company motives, this skepticism will have negative impact on word-of-mouth, consumers' perception on retailer equity, and resilience to negative information.

2.4.4 Summary of this Section

This section specifies the definition and consequences of consumer skepticism. Once customers are skeptical about company claims, motives and company tactics, they are more likely to generate hostile appraisals, and thus skepticism will influence consumer appraisal inference processes. How consumer skepticism influences the relationship between customers' appraisals and customers' anger will be further developed in the next chapter.

2.5 Factors Influencing the Relationship between Customer Anger and Aggressive Behaviour

2.5.1 Introduction to this Section

As illustrated in 2.3, anger plays a vital role in influencing aggressive behaviour. Averill (1982) suggests that anger as an emotional syndrome is a result of appraisal of events, and anger can further provoke aggressive behaviour. However, even if consumers have strong anger after appraising the service failure, not all consumers will engage in aggressive behaviours. Anger may not have a causal relationship with aggressive behaviour (Geen, 2001). Thus, current understanding of the key causal links between anger and aggressive behaviour needs to be further extended. Therefore, the following sections will elaborate the factors that influence the relationship between customer anger and aggressive behaviour, namely, group empowerment, face loss, emotional contagion and consumer expertise.

2.5.2 Group Empowerment

Group/crowd behaviour was first introduced by Le Bon (1895/1995). Le Bon highlights the importance of power in a crowd phenomenon. He suggests that individuals in a group tend to demonstrate anti-normative behaviour because they feel that the behaviours are ‘carried away by forces’. Individuals perceive that the powers are given to them by numbers in the crowd or group (Le Bon, 1895/1995). He elaborates that the combination of the psychological mechanisms, such as anonymity, suggestibility and contagion, could change the individual to a ‘psychological crowd’. People’s self and self-control will be lost in the crowd, which is in line with the essences of deindividuation theory. The below sections will elaborate and articulate theories around understanding people’s group behaviour.

2.5.2.1 Deindividuation in Group

Festinger, Pepitone and Newcomb (1952, p. 382) re-introduced Le Bon’s theory by suggesting deindividuation – ‘individuals are not seen or paid attention to as individuals’ when they are in a group. Specifically, human beings may conceive deindividuation as a loss of individuality in a group. Mann, Newton and Innes (1982) also indicates that deindividuation is a mode of reduced self-awareness and identity for social evaluations that occur in groups. In cases when members are not individuated in a group, it is likely that there is a reduction of members’ inner restraints in doing various things (Zimbardo, 1969; Diener, 1980). Past research on deindividuation suggests that when people are in a group, they may do things which are out of the ordinary for them (Postmes and Spears, 1998). Furthermore, deindividuation research suggests that anonymity, self-awareness, freedom from individual responsibility and group size could influence people's anti-social behaviour (Zimbardo, 1969). For them, they do not need to take responsibilities as individuals. In turn, neither the group, the group leader, nor anyone else need to be responsible. The anonymity in groups could reduce the risk of exposing individual identity and thus strengthen the inhibition of anti-social behaviour (Zimbardo, 1969). Furthermore, when in groups, the larger the group, the higher the degree of anonymity, the less is the individual's responsibility, and lower self-awareness could increase the aggressive behaviours (Festinger, Pepitone and Newcomb, 1952; Zimbardo, 1969).

Diener (1976) further elaborates on deindividuation theory, suggesting that deindividuation theory enables an explanation of aggressive behaviour. However, deindividuation theory fails to illustrate the transformation of the self/self-control lost in the crowd (Postmes and Spears, 1998). Even though people may lose individuality via submergence in a group, it is not hypothesized that the individuality is replaced by a collective mind. The discussion of the relationship between crowds and power remains sparse.

2.5.2.2 Social Identity Theory

The inhibited anti-social behaviour could be exhibited because people's perception of being in a group enables them to have lowered concern for society (Diener, 1977).

This assertion shares some similarities with the social identity model (Kugihara, 2001). People might easily engage in anti-social behaviour when they are in a group because there is a decrease in self-observation and self-awareness, and a minimized concern for social evaluation (Kugihara, 2001). Thus, the combinations of the above factors could lead to a weakening control and a lowered exhibition of inhibited behaviours. Social identity theory (Tajfel and Turner, 1979) posits that, when a valued social identity is salient based on some contextual features, this social identity guides how people think or act in the world. The crowded behaviour could be explained by conformity to salient local norms (Kugihara, 2001). The individual's conformity to a group protocol can lead them to act in accordance with a group norm rather than individual identity (Blackwood and Louis, 2012).

Social identity theory suggests that the collective behaviour is more socially regulated than reflecting the loss of self-awareness and social control (Reicher, Spears and Postmes, 1995). This norm indicates that one's personal identity and social identity are independent (Turner, 1982). In some circumstances, the salience of one's self-image may be based primarily on group membership rather than one's personal identity or image (Turner, 1982). In the group's situation, an individual's cognitive functions are shifted from the prior dominant personal identity to social identity (Reicher, 1982). People's disinhibited behaviour in a group is based on norms instead of on a lowered public self-awareness or a lowered self-awareness. These norms could be local norms or situation-specific norms. Thus, in the group or crowd situation, there will be a quick shift from personal identify to social identity for people in the crowd, and their behaviours will be focused on salient norms associated with the group in certain context (Kugihara, 2001).

2.5.2.3 Collective Action in Group

Although Le Bon (1895/1995) initially introduced and elaborated people's crowd behaviour, his theory has also been criticized as only focusing on people's 'irrational' behaviour. The rationality of crowd behaviour as illustrated in resource mobilization theory (RMT) (Gamson, 1975, 1992) has facilitated for the development of the social identity model, to help understand empowered collective action (Drury and Reicher, 2009).

There are a few reasons that people feel empowered in a crowd. First, apart from simply losing self-identity in a group, people form a group identity when they are in a crowd (Drury and Reicher, 2009). People will not simply slip into a role in a group which they comply with thoughtlessly. Instead, only when they actively identify with a group would they then act according to the group norms (Drury et al., 2005). This newly formed group identity would enable people to strengthen a sense of empowerment psychologically. This psychological empowerment is a major source for escalation (Drury et al., 2005). According to Staub (1989), belonging to a group makes people behave out of the ordinary more easily. Participating in a group enables people to give up 'themselves' and to share a similar and valued social identity. At the same time, the individual identity can be shed away. Thus, as group members, people can open up more emotionally. They are more easily experiencing love, connections and caring within groups. Meanwhile, they experience anger and hate towards the outsiders, especially when the group's beliefs promote those feelings more easily. The function of this group identity may make them feel empowered, and so escalate their behavioural response.

Second, when people are in a group, they would perceive that their behaviours can be legitimized, especially when they are opposed to the ones whose behaviours are oppressive and can be perceived as illegitimate (Drury and Reicher, 2000). Drury's recent studies suggest that participants may feel empowerment through crowd experience (Drury et al., 2005; Drury and Reicher, 2009). Furthermore, when they are fighting with the others outside the group, their behaviour might be legitimized as they are doing the right thing as they can change the context.

Third, Drury and Reicher (2005) suggest that, even if the formation of the group is heterogeneous (Drury and Reicher, 2009), when fighting with external forces, the members will no longer see each other in the group as 'others'. Rather, they believe that they possess a common self-categorization which leads to mutual goals, expectations and mutual support (Drury and Reicher, 1999; Fox-Cardamone et al., 2000; Drury and Reicher, 2005). In that, their group efficacy might be enhanced, and they will have more powerful motivation in their group (Alper, Tjosvold and Law, 2000; Gibson and Earley, 2007).

2.5.3 Ego-threat and Face Loss

Baumeister, Smart and Boden (1996) suggest that people with high self-esteem may be more likely to behave aggressively. Schlenker, Soraci and McCarthy (1976) demonstrate that people with high self-esteem react badly to criticism. High self-esteem people would take excessive self-defeating action in responding to a threat to their ego (Baumeister, Heatherton and Tice, 1993). Baumeister and Boden (1998) further suggest that the high self-esteem in such people does not directly lead to aggressive behaviour. Rather, the combination of a high self-esteem and an unfavourable external situation may cause aggression. Therefore, when people are exposed to negative external provocations, the high self-esteem people may react more problematically and irrationally. An aggressive behaviour is a mechanism to protect and maintain their self-esteem (Burton, Mitchell and Lee, 2005; Daunt and Harris, 2011). Furthermore, the effect of high self-esteem can be understood as a threat to one's ego (Baumeister and Boden, 1998), and thus the combination of the negative provocation and a threat to one's ego may lead to a high possibility of aggressive behaviour. There are different types of threats which a person can make to hurt another's ego, and making people lose face is one way of threatening their ego (Hu, 1944). The following sections will elaborate on the concept of face and the consequences of losing face.

2.5.3.1 Definition and Types of Face

"Face" is the respect, pride, and dignity of an individual as a consequence of his/her social achievement, and the practice of it, or "face work", is the use of a complex package of social skills to protect his/her face and the face of others in Chinese relational interaction (Goffman, 1972; King, 1993). The investigation of face can be traced back to 1940s. Hu (1944) is the first one to introduce the concept of face to Western society. She divides face into two categories: *lian* and *Mianzi* or *Mien-tzu*. Although both categories represent the respect of individuals, they represent different focuses. "*Lian*" emphasizes moral reputation, while *mianzi* or *mien-tzu* pays special attention to one's observable success and achievement.

Goffman (1955) defines face in the interactive social context as a form of recognition a person would like to gain from the surrounding people. Thus, face does not solely exist among individuals, but varies in various social events. Stover (1962) followes Goffman's definition, further suggesting that face can be regarded as a formalized and institutionalized property which can be better understood in the interaction context. Additionally, from the Chinese perspective, face is not allowed to be violated; otherwise, losing face can lead to embarrassment and shame. Apart from losing face, Brown and Levinson (1978) further proposed that face can be maintained and increased in social interactions. They define face as a publicly acknowledged self-image, in that losing face will result in more investments on emotions.

Ho (1976) initially distinguishes the differences between face, prestige, status and pride, and further defined face as a symbol of status which can be gained through social interaction, role appropriateness and others' acceptance. Following that, a few scholars expand the literature on face, for instance, Hwang (1987) and Zhai (1996). Chen (1989) further propose a definition of face as a self-involvement and self-evaluation. ‘No face’ reflects a person’s perception of not gaining respect from others, which will lead to embarrassment and shame. Cheng (1986) draws on the perspectives of Confucius thinking, value and relationship, suggesting that face can be enhanced via interpersonal relationships. Ting-Toomey (1988), the founder of face negotiation theory, further propose that members of various cultures undergo negotiations to garner the face that they are seeking. She suggests that the loss of face or the destruction of face is a denial of one’s social status and position, resulting in negative emotions.

Hu (1944) distinguished two types of face in Chinese culture, *mianzi* and *lian*. *Mianzi* or *mien-tzu* refers to one’s prestige: a reputation one got through his/her life, success and achievement (Brunner et al., 1989; Lam and Wong, 1995). *Lian* or *lien* is the moral face. Losing *lian* will make the person feel guilty. It can only be lost and a sense of guilt produced in the absence of an audience to discern the transgression through misconduct, and cannot be gained. “Having no *lian*” is more severe than “having no *mianzi*”, because “having no *lian*” is more insulting and doubtful about people’s personal integrity and moral character, while “having no *mianzi*” merely means failing to obtain success and achievement.

Although face work is not unique in the Chinese context, Hofstede and Bond (1988) suggest that it is different from the Western understanding. Face work as saving face is a weakness in the West, but a social recognition necessity in the Chinese social interaction (Leung and Chan, 2003). Hwang (1987) initiates the concept of horizontal face and vertical face. Horizontal face means giving face, saving face and avoiding losing face of others; while vertical face focuses on enhancing face through the projection of self-image (Leung and Chan, 2003). A summary of studies on face will be provided in the literature table below at Table 4.

There are two main definitions of face based on the above elaborations. First, face can be considered a social construct, emphasizing the reputation and position given by the society (e.g. Goffman, 1955; Stover, 1962; Chen, 1982). Second, face is a psychological construct (e.g. Ho, 1976; Cheng, 1986; Ting- Toomey, 1988), focusing on the self-image and perception one gained or portrayed in the public setting. Since the service industry is a social interaction setting, both the above two definitions fit into the current study. To be more specific, face is an indispensable component in service encounters. Thus, as regards consumer behaviour in the service industry, face functions both in the process of social exchange and as a mental perception.

Table 4 Literature Summary on Face

A Literature Review Summary on Face	
Author	Focus
A. Concept	
• Hu (1944) • Yang (1945) • Goffman (1955) • Brown and Levinson (1987) • Ho (1976)	• Analyses Chinese face into *mien-tzu* and *lien* • Defines face as social esteem • Defines face as a positive social value • Defines face as the public self-image • Distinguishes face from personality, honour and prestige
B. Conditions of Losing Face	
• Modigliani (1968, 1971) • Schlenker and Leary (1982) • Edelmann (1985) • Scheff (1988) Ho (1976)	• Fail to fulfil social expectation • Unintentional and undesired social predicaments • Unintentional violation of taken-for-granted rule in public; rejected by others (1) Fails to meet others' expectation

	(2) Not treated by others as respectfully as his/her face deserves (3) In-group member fails to meet their social roles
C. Consequences of Losing Face	
• Modigliani (1968, 1971) • Apsler (1975) • Schneider (1969)	• Tried to create more favourable self-image • Complies with requests more than unembarrassed subjects • Sought and used approval from others to re-establish a more positive self-evaluation
D. Face-work Strategies (types and choices)	
• Ting-Toomey (1988), Brown (1977), Brown and Garland (1971), Garland and Brown (1972)	• People engaged in face-saving behaviour more actively when they felt incompetent
• Bennett (1990)	• Type: Retrospective and prospective strategies • The use of prospective strategy (provision of disclaimer) reduces the risk of losing face
• Lim and Bowers (1991)	• Type: solidarity, approbation and tact • Relational intimacy was the strongest predictor of face work
• Rogan and Hammer (1994)	• Type: Restore Other's Face & Restore Self's Face • Negotiators use Restore Other's Face and Perpetrators use Restore Self's Face.
E. Cross-Cultural Research	
• Cocroft and Ting-Toomey (1994)	• Japanese workers use more indirect face work than US workers.

(Source: Adapted from Kim and Nam, 1998)

2.5.3.2 Consequences of Losing Face

According to Ting-Toomey's face work theory (1995), there are two focuses for face concern in social interactions: self-face concern and other's face concern. Self-face concern is a tendency to maintain one's own image in a social interaction; while the other face concern is a trend of maintaining others' image in a social interaction. Kim and Nam (1998), in their study on the organizational behaviour context, suggest that after losing face or losing *lian*, the person may not be perceived as properly functional because he or she may not be regarded as a legitimate human being. This may result in actions of quitting or hiding in order to avoid pain or spite from the organization. Transferring to the current flight delay service context, if customers believe that their *lian* has been damaged by employees, they may engage in anti-social behaviour.

Face plays an important role in the consumption context and in service settings, because according to the social exchange theory, every person engaged will be in a process to pursue or fulfil the needs and wants of another person (Ngai, Heung and Chan, 2007). In the service context, the interaction between customers and service employees follows the social exchange theory. For instance, customers use money to exchange for resources, services or other types of wants. According to the intangible nature of service, customers could achieve their wants via service experience. When encountering a service failure, where consumers' wants are not met, they normally engage in a dissatisfied service experience. In the process of pursuing their wants, customers pay attention to whether their feelings have been taken care of, whether they achieved self-image and pride, and whether the people around them, to be more specific, the service employees provide respect to them (Liao and Bond, 2011). These perceptions of self-image, pride, prestige and respect share the essences of face. When one feels that face is being lost, his/ her self-esteem is injured, resulting in emotional uneasiness. In service encounters, if customers perceive that their face is damaged in service interactions, they might engage in aggressive behaviours.

2.5.4 Emotional Contagion

Emotional contagion refers to the psychological phenomenon of people tending to ‘catch’ the emotions that other people display in a social interaction (Hatfield, Cacioppo and Rapson, 1994). Hatfield, Cacioppo and Rapson (1994, p.5) first define emotional contagion as a person’s ‘tendency to automatically mimic and synchronize facial expressions, vocalizations, postures and movements with those of another person and, consequently, to converge emotionally.’ Schoenewolf (1990, p. 50) defines emotional contagion as ‘a process in which a person or group influences the emotions or behaviour of another person or group through the conscious or unconscious induction of emotional states and behavioural attitudes’. Emotional contagion is also a social influence (Schachter, 1959; Cacioppo and Petty, 1987; Levy and Nail, 1993), and it can happen both consciously and unconsciously, although more focus is on the unconscious part.

People express their emotions through three channels: facial, vocal and postural (Scherer, 1986; Ekman, 1993; Keltner et al., 2003) and they often quickly and automatically interpret others’ emotions (Dimberg and Ohman, 1996; Keltner, Kring and Bonanno, 1999). Research on emotional contagion suggests that people are easily affected by the socially transmitted emotion. They automatically mimic others’ vocal tones, facial expressions and gestures when they interact with them, and that leads individuals to experience similar emotions (Hatfield et al., 1994; Dimberg and Ohman, 1996). Emotions are modes that relate to the environment (Frijda and Mesquita, 1994), and people who share similar emotions would perceive others' intentions and motivations more accurately (Hatfield, Cacioppo and Rapson, 1994; Levenson, 1994; Keltner, Kring and Bonanno, 1999). In turn, they would reinforce their emotions. That is to say, when people share similar emotions, their own feelings and emotions are appraised and validated (Locke and Horowitz, 1990; Rosenblatt and Greenberg, 1991).

Based on the mechanism of affective sharing and affective similarity-attraction suggested by Walter and Bruch (2008), an individual's emotion can be quickly transferred to the other group members, and this emotion will be spread continuously among members, to form a self-reinforced spiral. This spiral can be regarded as the group affect spiral. Walter and Bruch (2008) further suggest the power of the group affect spiral depends on the similarity of the emotions and the relationship quality. The more similarities of the emotions, and the better the group relationship quality, the stronger the group affect spiral. Hareli and Rafaeli (2008) further identify that the process of emotional interactions can be emotional cycles. In that, a specific emotion can emerge in the social context because the group members mimic others' emotions. Smith, Seger, and Mackie (2007) further suggest that people are inclined to emotional contagion by group members when they interact with each other, especially when they interact in a face-to-face situation. According to the psychological literature, the negative emotions can initiate greater contagion, thus leading to a more powerful display of negative emotion (Barsade, 2002; Du, Fan and Feng, 2014).

The concept of emotional contagion has been studied in the organizational behaviour literature (Barsade, 2002), specifically in the literature on bullying in international organization (Harvey, Treadway and Heames, 2007). For example, Barsade (2002) suggest that in the organizational context, people influence the emotion and behaviours of others through group emotional contagion. When people 'get into' a group, they are exposed to the emotions of other group members, which can be categorized by valence (positive vs. negative) and severity or energy level (Barsade, 2002). The expression of emotions is primarily perceived by group members via non-verbal signals, such as, facial expression, body language and tone expression rather than words. The emotional contagion comes from automatic, primitive and subconscious contagion as well as conscious emotional comparison (Hatfield, Cacioppo and Rapson, 1994). They noted that emotional contagion studies have mostly been performed on automatic processes and physiological responses levels, instead of at the conscious level. George and a few authors demonstrate the existence of group emotions in their articles emphasizing the impact of 'group affective tone' towards work outcome (George, 1989, 1990; George and Brief, 1992). Specifically, when people work together, they may transfer emotions among themselves; this group affective mechanism may help them to achieve efficiency in an organization. Individuals' emotion could influence the emotions of others, which in turn would influence the emotion of the individual. Therefore, the individuals' emotion level can be intensified. Barsade (2002) also suggested that emotional contagion occurring in groups can further change people's moods, and continuously influence their attitudes, judgements and behaviours. Emotional contagion has only recently been studied in the marketing literature, especially in the service marketing context (Hennig-Thurau et al., 2006; Du, Fan and Feng, 2011; Du, Fan and Feng, 2014).

2.5.5 Consumer Knowledge and Consumer Expertise

Bandura (1960) first initiated social learning theory. Social learning theory suggests that people's generic and biological factors might create their aggressive potential, however, the specificities of aggressive behaviour, such as, frequency, forms, and the situations which trigger the behaviour, are largely dependent and are acquired through experience and social learning (Bandura, 1983). The following section will elaborate on consumer knowledge and expertise.

2.5.5.1 Definition and Classification of Consumer Knowledge

Customer knowledge plays an important role in influencing consumer attitudes, cognition and behaviour (Flynn and Goldsmith, 1999). Brucks (1985) proposes measurement of their knowledge and suggests that consumer knowledge facilitates the acquisition of new information and enables searching efficiency. According to Alba and Hutchinson (1987), consumer knowledge has two major components, namely, familiarity and consumer expertise. Familiarity refers to the amount of product-related experience that consumers have accumulated; whereas expertise refers to consumers' ability to perform product-related tasks successfully. The relationship between familiarity and expertise is that basically the increased product familiarity could result in an increase in customer expertise. Moreover, different tasks generally require more types of expertise to form customer knowledge.

Greater knowledge about products or services enables a reduction of cognitive effort and the development of cognitive structure. In that, this could improve consumers' ability to analyse, elaborate on and remember product information (Alba and Hutchinson, 1987). Alba and Hutchinson (1987) also suggest five distinct customer knowledge (expertise) propositions: (1) repetition can improve task performance as cognitive effort required to perform the task can be reduced, because repetition which leads to performance is automatic; (2) the cognitive structure used to differentiate products becomes refined, complete and veridical as product familiarity increases; (3) customers' ability to analyse information and to decide the most important and task relevant factors improves; (4) consumers have greater ability to elaborate on given information and to generate accurate knowledge which goes beyond what is provided to them; and (5) consumers improve their ability to remember product information.

Regarding the categorization of consumer knowledge, Brucks (1985) classifies knowledge as subjective knowledge, objective knowledge and experience-based knowledge. Subjective knowledge refers to people's perception of what they know; objective knowledge concerns the information, for instance, name, type and amount which is actually stored in consumers' memory; and experience-based knowledge reveals consumers' purchase or use experience of the product (Brucks, 1985). Brucks (1985) suggests that subjective knowledge affects information-processing activities more significantly than objective knowledge, because subjective knowledge is associated with dealer's evaluations, while objective knowledge more concerns attribute classifications. Park, Mothersbaugh and Feick (1994) also indicate that subjective knowledge is more related to consumers' information search on product-related attribute, while, objective knowledge centres more on product classification search. Thus, Raju, Lonial and Mangold (1995) suggest that subjective knowledge has been viewed as a better predictor for consumers' purchase decision. Brucks (1986) further categorizes customer knowledge as declarative knowledge and procedural knowledge. Declarative knowledge entails the factual information which is stored in nature, for example, attributes, facts and situation; whereas procedural knowledge covers the dynamic information which needs skilful action, for instance, the rules and procedures for certain actions from company (Brucks, 1986).

2.5.5.2 Roots of Consumer Knowledge

There are different approaches for consumers to gain knowledge. People who build on their memory can form their knowledge structure (Bettman and Park, 1980). Information processing theory suggests that human beings' experience leads to the development of links among elemental nodes. A number of sets of concepts that are strongly interconnected are known as knowledge structures. When there is an external stimulus, a simple node or a more complex knowledge structure can be activated. Further, people gain skills through accumulated knowledge through years of trainings, practices and experiences (Brucks, 1985). They also obtain better cognitive processing skills to tailor the characteristics of problem solving and reasoning skills. More knowledge enables customers to establish a more comprehensive cognitive structure of product or service knowledge (Marks and Olson, 1981). Additionally, consumers who have more knowledge are more able to select information, making them more efficient in information search (Brucks, 1985). They engage in more automated information processing and pay more attention to recognition patterns.

2.5.5.3 Impact of Consumer Expertise

Customer knowledge facilitates the process of learning new information, and that knowledge allows more efficient information search (Bettman and Park 1980; Johnson and Russo 1984). Expert consumers can process product information more effectively and are expected to better assess the product performance and service outcome (Eisingerich and Bell, 2008b). This then enhances consumers' trust in the organization. The expert consumers would obtain domain-specific knowledge (Wood and Lych, 2002). Specific knowledge could enable consumers to have the ability to attribute product information to product performance. Consumers who have more knowledge could have higher expectations of the company. They have competence in evaluating company performance, and they could also map companies' performance compared with their competitor organizations (Eisingerich and Bell, 2008a, 2008b). They also have more confidence in evaluating overall service quality regarding the technical attributes which they built upon via their domain-specific knowledge (Moorthy, Ratchford and Talukdar (1997).

However, consumer expertise also has some drawbacks. First, expert consumers witness more incidents of problem solving. Thus, they know the problem solving pattern, and this problem solving pattern can cause them to form inappropriate inferences which then subsequently lead to a bias (Wood and Lynch, 2002). This bias could lead them to directly make inference without processing information in the new environment. Furthermore, expert consumers may fall into the 'feeling-of-knowing' phenomenon (Hart, 1965) which means that consumers 'feel' that they know the problem, and their judgements of the attributes may purely be based on their feeling of knowing the problem instead of retrieving their memory (Lynch and Srull, 1982). Moreover, expert consumers may process this overconfident effect, indicating that they perceive that new information might be redundant and unnecessary to what they already know, so expert consumers may be reluctant to learn more (Wood and Lynch, 2002). Additionally, expert consumers can learn from their past experience or from others as suggested by social learning theory (Bandura, 1977). The social learning theory specified that rewards and punishments for engaging in some particular behaviours might be learnt or reinforced via observing others' actions (Jones, 2009). Past research has widely applied social learning theory in the field of criminology, consumer and employee deviance behaviour, and customers' complaint behaviour (Terry and Steffensmeier, 1988; Fullerton and Punj, 1993; Babin and Griffin, 1995; O'Leary-Kelly, Griffin and Glew, 1996; Reynolds and Harris, 2005). Fornell and Westbrook (1979) also indicated that customers' assertive complaint behaviours are learned behaviour. Furthermore, this vindictive complaint behaviour can be viewed as a 'domino effect' of unwarranted complaint among customers.

2.5.6 Summary of this Section

This section has reviewed literature in which anger is insufficient in explaining aggressive behaviour. The four factors which may intensify people's aggressive behaviour have been discussed with their definition, classification and consequences. Regarding how they could influence the relationship between anger and aggressive behaviour will be proposed in Chapter 3, in relation to theoretical framework and hypothesis development.

2.6 Research Gaps

Despite the increasing interest and significance of service research, it remains unclear why certain consumers behave aggressively after a service failure. When there is a service failure, customers spontaneously appraise what causes the service failure. As presented in 2.2.3 cognitive appraisal theory enables the understanding of people's emotional and behavioural responses to certain events. Cognitive appraisal theory has been reviewed in the marketing literature to understand consumer emotion (Bagozzi, Gopinath and Nyer 1999; Johnson and Stewart, 2005), customer satisfaction (del Bosque and San Martin, 2008) and customer loyalty (Dick and Basu, 1994). Customers' aggressive behaviour as a behavioural response related to consumers' appraisal process is yet to be investigated. In order to fulfil this research gap, how customers appraise service failure and how customers' appraisal processes influence their aggressive behaviour will be addressed by the current study in next chapter.

People make causal appraisals through appraisal components (Watson and Spence, 2007) (i.e. blaming, perceived justice and service failure severity evaluation). Cognitive appraisal theory has been limited to personal or situational characteristics (Smith and Kirby, 2009) which influence how people make appraisal inferences. Consumers may question and doubt company claims or the information presented to them on service failure, referred here as consumer skepticism, on service failure. In that case, their cognitive appraisal routes would alter. From the presentation of the current literature in 2.4, how consumer skepticism influences cognitive appraisal routes remains under-researched. Therefore, the present study will contribute the extant literature by investigating the influence of consumer skepticism on consumers' appraisal processes in Chapter 3.

Furthermore, although anger is a strong predictor of aggressive behaviour, current understanding of the causal relationship between anger and aggressive behaviour needs further investigation (Geen, 2001). Current understanding of the causal relationship between anger and aggressive behaviour needs further investigation. As illustrated in 2.5, there are some potential factors that could enhance the relationship between anger and aggressive behaviour, for instance, group empowerment (2.5.2), face loss (2.5.3), emotional contagion (2.5.4) and consumer expertise (2.5.5). In order to expand the current literature exploring the anger-aggressive behaviour relationship, this thesis will investigate the interaction effects of group empowerment, face loss, emotional contagion and consumer expertise on the relationship between anger and aggressive behaviour, and examine how they influence customers' anger and aggressive behaviour. The research hypotheses and research model will be elaborated in the following chapter.

2.7 Summary of the Chapter

This chapter has examined the extant literature on service failure, appraisal theory, consumer skepticism, customer anger and negative emotions, customer aggressive behaviours and eliciting factors. After synthesizing the existing literature, it is suggested that customers' aggressive behaviour is influenced by various situational and social encounter factors. The examination of how these factors influence customers' aggressive behaviours is lagging behind. Therefore, in order to fill the research gaps, the conceptual basis and theoretical mechanisms will be analysed in more details in the next chapter.

Chapter 3 Conceptualization

3.1 Introduction

Recent research discusses the importance of customers' aggressive behaviours both theoretically and managerially. However, thorough investigation of the causes of customers' aggressive behaviours remains limited. Having reviewed and synthesized literature in the previous chapter, this chapter focuses on the theoretical framework and hypothesis development of this study. This study investigates customers' aggressive behaviours, which are provoked by service failure through the appraisal process. By adopting cognitive appraisal theory, this thesis examines how customers appraise the service failure situation, how they respond emotionally (being angry) and behaviourally (being aggressive), It is proposed that customer anger mediates the relationships that blame, perceived injustice and service failure severity respectively have with aggressive behaviour, as Hypothesis 1 (H1a – H1c).

This chapter will also articulate how appraisal processes can be altered when customers are skeptical about company claims and company motives. Skepticism as a moderator will strengthen the relationship between customers' appraisal components and their angry emotion, suggesting Hypothesis 2 (H2a – H2c). Furthermore, even when customers are very angry about service failure, they may not always behave aggressively. Their anger level will be escalated to aggressive behaviour with some eliciting moderating effects, namely group empowerment (H3), face loss (H4), emotional contagion (H5), consumer expertise (H6), customers' educational level (H7), and consumers' consumption frequency (H8). Finally, this research will propose that customers' aggressiveness personality trait or proposition will influence their aggressive behaviour directly as H9 and the relationship between unpleasant servicescape and aggressive behaviour in H10. This chapter will be concluded with an elaboration on control variables and a summary.

3.2 The Mediating Effect of Anger on Cognitive Appraisals and Customers' Aggressive Behaviours

Although cognitive appraisal theory has been utilized to understand consumers' complaint behaviour (Folkes, Koletsky and Graham, 1987), switching behaviour (Bougie, Pieters and Zeelenberg, 2003) and revenge behaviour (Grégoire, Laufer and Tripp, 2010), the essence of cognitive appraisal theory, which explains elicitation of emotion and demonstrates the appraisal-emotion-behaviour sequence, has not been captured to investigate customers' aggressive behaviour. Therefore, in order to answer the first research question, cognitive appraisal theory will be employed in the current study to examine customers' aggressive behaviour following service failure, and to examine how appraisal components (i.e. blame, perceived injustice, and failure severity) influence customer anger and aggressive behaviour. These will be discussed below.

When a service failure occurs, customers may spontaneously engage in causal attributions to seek the reasons why the failure occurred (Folkes, 1984; Choi and

Mattila, 2008). Since this study focuses on service failure, consumers would generally not attribute locus to their internal forces (Vázquez-Casielles, del Río-Lanza, and Díaz-Martín, 2007). Rather, they are more likely to appraise who has control over the failure – controllability – and whether the firm prevents service failure from recurring – stability (Hui and Toffoli, 2002; Vázquez-Casielles, del Río-Lanza, and Díaz-Martín, 2007). Consequentially, they further appraise who should be blamed for causing the service failure (Robertson, McQuilken and Kandampully, 2012). When customers engage in the blame attribution after encountering service failure, they are very likely to generate the emotion of anger (Grégoire, Laufer and Tripp, 2010; Joireman et al., 2013).

Although perceived justice generally consists of three justice dimensions (i.e. procedural, distributive and interactional justice), recent research recommends an overall justice as a latent variable (Colquitt and Shaw, 2005), because the three dimensions are too highly correlated. More importantly, as the three dimensions are independent of each other, the combination of the three facets can determine customers' overall justice perception and thus, ultimately, better determines customers' attitude and behaviour (Blodgett, Hill and Tax, 1997; DeWitt, Nguyen and Marshall, 2008). Xue, Liang and Wu (2011) further suggest it is legitimate to aggregate different types of justices and to conceptualize perceived justice as a formative second-order construct, because the three first-order justice perceptions (procedural, distributive and interactional justice) are theoretically independent and their joint effect can be examined in the second order. Therefore, this study also conceptualizes the overall perceived justice as a latent variable. Perceived justice has been regarded as one of the important factors in appraisal evaluation (Watson and Spence, 2007). It focuses on the cognitive processes of weighing the justice input (for instance, time, money, effort) against justice outcome (such as usage and utility). Injustice will occur when people believe that these are non-equivalent (Maxham and Netemeyer, 2003). After the occurrence of a service failure, customers naturally seek justice for the failure. Customers react strongly when they perceive that their justice has been threatened (Surachartkumtonkun, Patterson and McColl-Kennedy, 2013). When people do not feel they get justice, they are more likely to have angry emotion (Weiss, Suckow and Cropananzo, 1999; Miller, 2001; Chebat and Slusarczyk, 2005). Schneider and Bowen (1999) also suggest that intensive anger is likely to result from appraisal of threat to justice.

Furthermore, customers do not typically engage in aggressive behaviour simply when service goes wrong. When there is a service failure, customers would seek for answers and reasoning, for example, how much inconvenience the service failure caused or how serious the initial failure was (Weun, Beatty and Jones, 2004). Consumers may appraise service failure severity as a loss of resources, and this loss can either be a potential loss of money or a loss of time (Huang, 2008). Smith, Bolton and Wagner's study (1999) also indicates that critical service failure may imply a loss of time and monetary resource, as it does not deliver the basic service outcome. Zourrig, Chebat and Toffoli (2009) and Joireman et al. (2013) propose that, when customers appraise the severity of service failure, they are more likely to provoke anger.

Regarding the relationship between anger and aggressive behaviour, psychologists suggest that, among the various interpersonal emotions studied in relation to attribution processes, anger is the most relevant emotion in the study of violence and aggressive behaviour (Novaco, 1975; Baron, 1977; Averill, 1983; Berkowitz, 1983). A number of studies on investigating human beings' aggressive behaviour indicated that anger is a significant predictor of aggression (Buss and Perry, 1992; Novaco, 1997, 1998). Therefore, when customers feel that the company should be blamed for the service failure, they are more likely to generate anger, and this higher anger level will lead to a higher possibility of aggressive behaviour. Additionally, when customers perceive injustice, they are more likely to have higher anger, and this anger will incite a higher possibility of behaving aggressively. Furthermore, when customers appraise the service failure as very severe, they are likely to be angrier, and this greater anger will engage more aggressive behaviour.

To summarise, this research proposes that anger mediates the relationships that aggressive behaviour has with blame, perceived justice and service failure severity respectively. Therefore, this study formulates the following hypothesis as:

Hypothesis 1:

H1a: Anger mediates the relationship between blame and customers' aggressive behaviours.

H1b: Anger mediates the relationship between perceived justice and customers' aggressive behaviours.

H1c: Anger mediates the relationship between service failure severity and customers' aggressive behaviours.

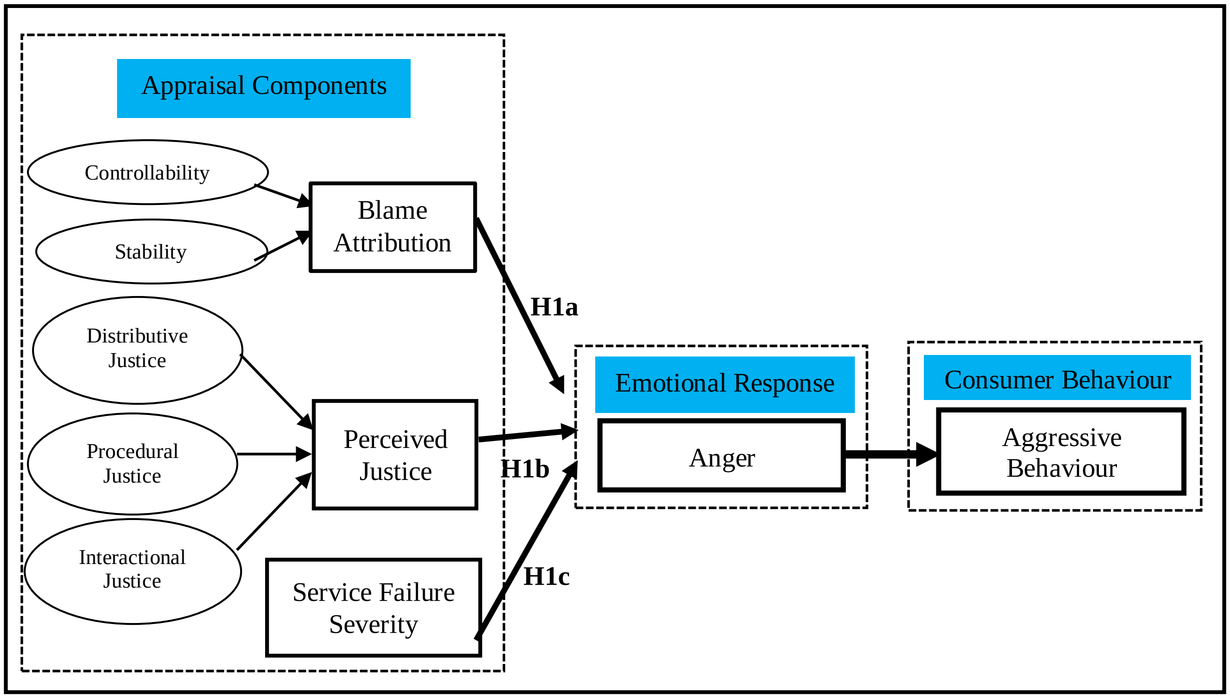

Figure 4 Hypothesis 1 (H1a, H1b, H1c)

3.3 The Moderating Effect of Consumer Skepticism on the Relationship between Consumers' Appraisals and Customer Anger

Cognitive appraisal theory enables the examination of customer anger, because how customers appraise the situation varies according to dispositional and situational variance (Scherer, 1999), and thus the appraisal-emotion route will be changed. Smith and Kirby (2009) also hold that the appraisal components will be influenced by personal or situational characteristics or both. When consumers are questioning companies' claims about service failure, this state and trait 'questioning' (Forehand and Grier, 2003) will alter how customers make appraisal inference. To account for these disbelief variations, the concept of customer skepticism will be coined to address this altering.

When there is a service failure, apart from looking for the responsible party for the service failure, customers also seek explanation for the failure from the company. This seeking for explanation can be termed as skepticism, since the key theme of skepticism is to question or doubt the reality of a phenomenon (Lunardo, 2012). Boush, Friestad and Rose (1994) indicate that those who are high in skepticism question whether the course of an action from the company is the best for them or not. Customers may not always believe companies' claims about service failure. They would also engage in reasoning and seek compelling evidence before believing (Fleming, 2005). For example, in a flight delay service failure situation, when consumers are provided the causes for the flight delay, for example, bad weather, air traffic conjunction or late arrival, when consumers are questioning these claims and explanations from the company, skepticism may 'heat' the attribution of causality. Customers who have acquired disbelief about the company claims form a hostile attribution of blame (Kramer, 1994), and this hostile attribution generates bias toward the company (Skarmeas and Leonidou, 2013), resulting in greater anger. Thus, the more skeptical the consumers are, the stronger the relationship between appraisal of blame attribution and customer anger.

Furthermore, skeptical consumers may also question company motives, over whether the company has made inferred gestures to solve their problems fairly (Joireman et al., 2013). For instance, this may relate to whether they receive fair outcome from the service company, whether the company provides fair procedures, and whether they receive polite or respectful treatment from the company or employees. When consumers distrust the company's motive, they may perceive that the service failure outcome and companies' efforts in dealing with the failure are not fair to them. They may even question employees' politeness as a way of only 'giving appearance' to listen to customers, instead of putting in efforts to solve the service failure. This lack of sincerity may trigger more negative emotion from customers (Lunardo, 2012). Therefore, when customers have greater skepticism, the stronger the positive relationship between their perceived justice and anger level.

In addition, skeptical consumers also question companies which use particular tactics or tools to persuade or pacify them. Sajtos, Brodie and Whittome (2010) introduce company distrust to the relationship between service severity and company value evaluation in the service failure context. They suggest that when customers question or distrust a service organization, their perception about failure severity would be higher, and they have a negative evaluation of brand value. Aaker, Fournier and Brasel (2004) suggest that a service failure is already a sign of a broken promise. If customers are skeptical that companies are merely using tactics to pacify them, instead of endeavouring to recover the service failure, this skepticism will cause a double deviation effect. Thus, appraisal of service severity and anger will be higher for consumers who have higher skepticism.

Thus, it is hypothesized:

Hypothesis 2:

H2a: The relationship between attribution of blame and customers' anger is stronger when consumers are more skeptical.

H2b: The relationship between perceived justice and customers' anger is weaker when consumers are more skeptical.

H2c: The relationship between consumers' perception of service failure severity and customers' anger is stronger when consumers are more skeptical.

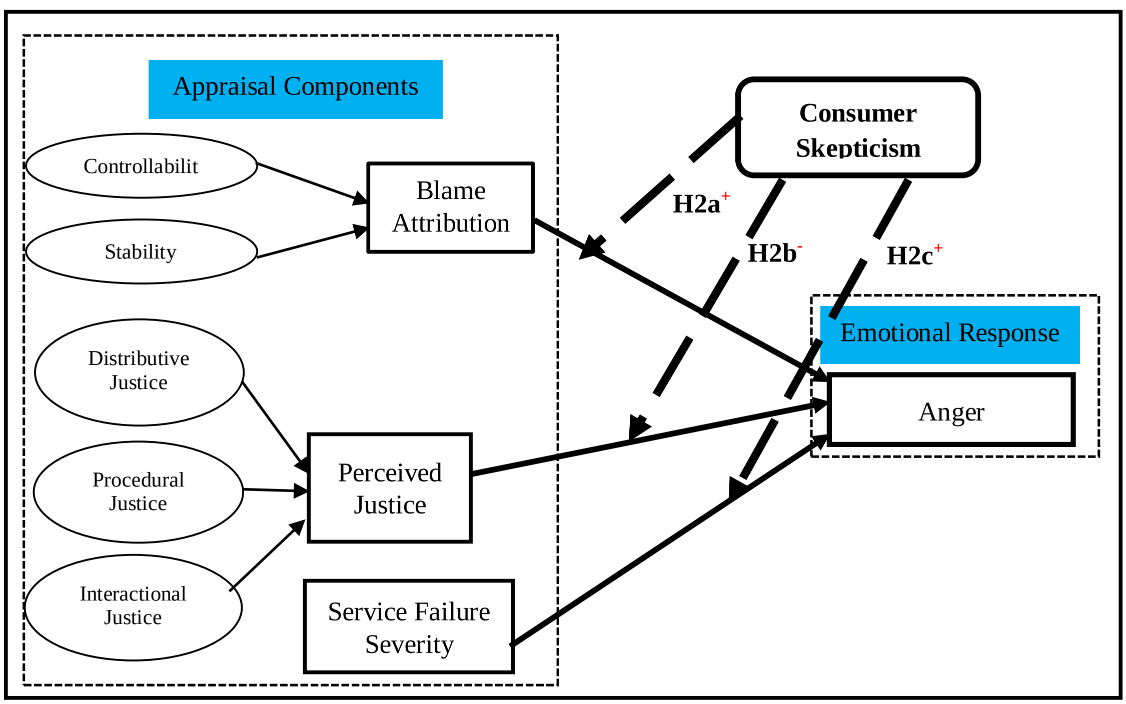

Figure 5 Hypothesis 2 (H2a, H2b, H2c)

3.4 The Moderating Effect of Group Empowerment on the Relationship between Customer Anger and Aggressive Behaviour

Le Bon (1895/1995) initiates the concept of popular mind or group psychology in understanding people's disinhibited behaviour in a group. He suggests that individuals in crowds and groups tend to demonstrate anti-normative and disinhibited behaviours because they feel that their behaviours are 'carried away by forces'. These perceived forces are carried out by the combination of psychological mechanisms like anonymity, suggestibility and contagion, which could change the individual to a 'psychological crowd' (Festinger, Pepitone and Newcomb, 1952). Furthermore, 'individuals are not seen or paid attention to as individuals' when they are in a group (Festinger, Pepitone and Newcomb, 1952). Thus, it is likely that there is a reduction of members' inner restraint in doing various things, since they are not perceived as individuals. Although these studies initiate the understanding of crowd behaviour, they mainly focus on people's 'irrational' behaviour (Drury and Reicher, 2005).

Recent social psychologists suggest that people in groups can act 'rationally' and that these collective actions are empowered (Berk, 1974; Gamson, 1975; Drury and Reicher, 2009). People feel empowered in a group because firstly, people in groups emerge to form a 'collective mind' which controls the mind of the individual. People act as one in crowd events because they share a common social identity (Reicher, 1982, 1984; Reicher and Potter, 1987). This social identity gives them a sense of empowerment psychologically, and thus, their behaviours are easily escalated (Drury et al., 2005). Secondly, people in a group feel that their behaviour is legitimized, especially when they are arguing with people outside the group (Drury and Reicher, 2000). Thirdly, the group efficacy is higher as people in the group feel that they have mutual goals and expectations, and thus mutual support (Drury and Reicher, 2005; Gilbert and Earley, 2007).

According to Drury and Reicher (2009), emotions should play a core role in the collective empowerment. Group members tend to have a higher level of negative emotions when they fight together (Anderson, Keltner and John, 2003). When consumers perceive that they have more power in group, their behaviour may be a way of expressing the group's anger (van Zomeren et al., 2004; Iyer et al., 2007). Therefore, the interaction between customer anger and group empowerment will lead to a higher possibility of customer aggressive behaviour.

Current research in examining group empowerment has only focused on the realm of social psychology (Drury et al., 2005; Drury and Reicher, 2009) using ethnographic and interview methods (Drury and Reicher, 2005). Group empowerment in the service failure context, where consumers may act or complain together to behave aggressively, remains under-researched. Thus, this research proposes that, when the group empowerment perceived by consumers is higher, the interaction between group empowerment and customer anger will lead to a higher likelihood of aggressive behaviour.

Hence, this research hypothesizes:

Hypothesis 3: The relationship between customers' anger and aggressive behaviours is stronger when customers feel empowered within groups than without groups.

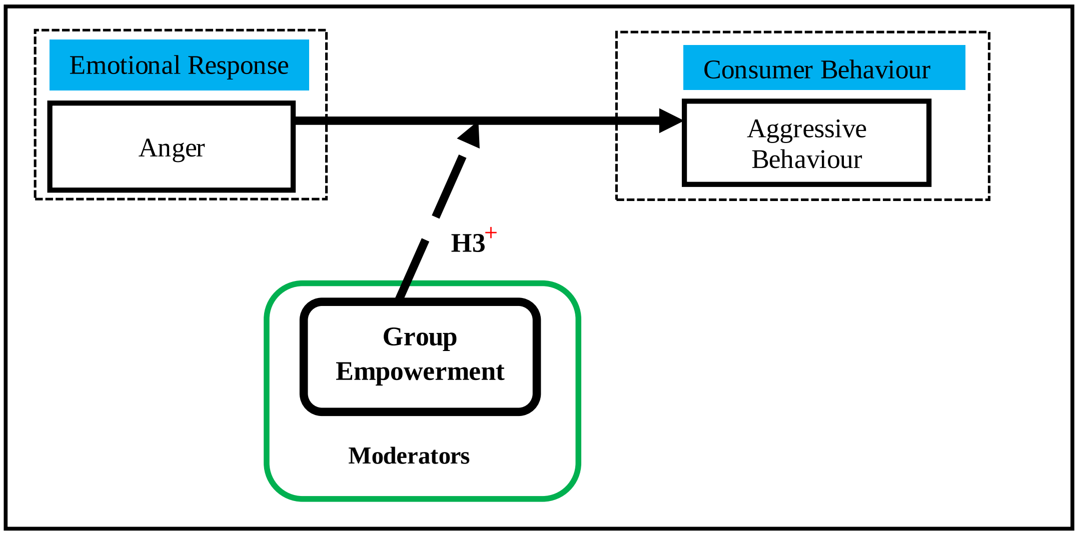

Figure 6 Hypothesis 3

3.5 The Moderating Effect of Face Loss on the Relationship between Customer Anger and Aggressive Behaviour

"Face" is the respect, pride, and prestige of an individual as a consequence of his or her social achievements and the practice of it; it can be gained by successfully performing one or more specific social roles that are well recognized by others (Goffman, 1972; King, 1993; Liao and Bond, 2011). Face is one of the primary concerns in people's social interactions (Oetzel et al., 2001). When people lose face, their self-esteem will be injured. Thus, they will have an emotional reaction of unease (Hwang, 1987). Past research has argued that face is not social value that an individual claims for himself or herself; rather, it is the image they wish to project (Leung and Chan, 2003). These projections include social status, social positions and credibility (Van Ginkel, 2004). Fombelle, Bone and Lemon (2014), Fombelle et al. (2015) in their seminal work (2014, 2015) suggest that consumers' perception of face can be greatly influenced by a firm's action.

Face loss, especially in the public setting, is of great significance (Du, Fan and Feng, 2010). Although face plays a significant role in cross-cultural studies, scant research has investigated face loss in marketing literature. In an exchange setting like the service context, how human beings interact with others, and whether that interaction will influence consumers' perception of losing face, is also worthy of investigation. The concept of face loss has been studied in the service failure literature, and the consequences of losing face have been studied in influencing consumers' complaint intention (Chiu, Tsang and Yang, 1988; Chan, Wan and Sin, 2009), complaint behaviour (Wan, 2013) and feeling of dissatisfaction (Chan, Wan and Sin, 2009). When consumers feel that their face has been threatened by the service employees, the feeling of losing face will elevate their anger level. Therefore, this research proposes that face loss will moderate the relationship between customer anger and aggressive behaviour. The more consumers perceive that their face has been damaged, the stronger the relationship between customer anger and aggressive behaviour. Therefore, this research hypothesizes that:

Hypothesis 4: The relationship between customers' anger and aggressive behaviours is stronger when customers experience greater face loss.

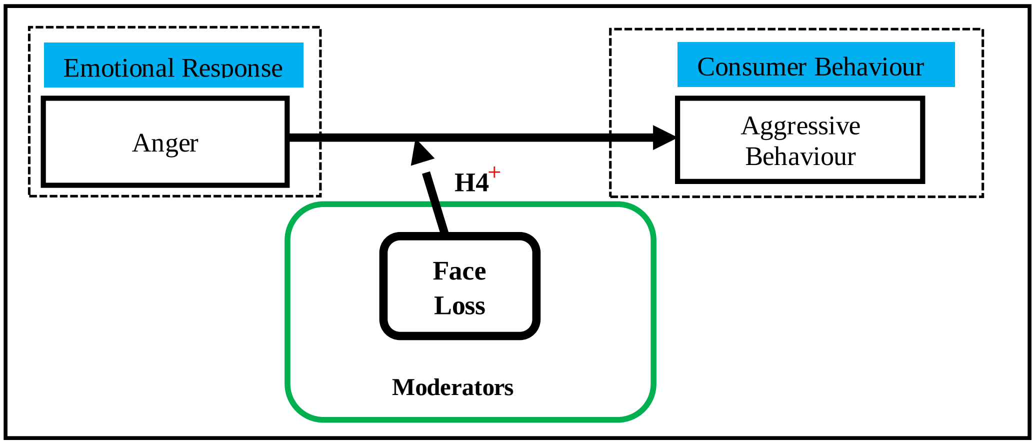

Figure 7 Hypothesis 4

3.6 The Moderating Effect of Emotional Contagion on the Relationship between Customer Anger and Aggressive Behaviour

Research on emotional contagion suggests that people are easily affected by socially transmitted emotion. People express their emotions, and they also automatically mimic others' emotion when they interact, and that leads them to experience similar emotions (Hatfield, Cacioppo and Rapson, 1994; Dimberg and Ohman, 1996; Barsade, 2001). People also often quickly and automatically interpret others' emotions (Dimberg and Ohman, 1996; Keltner, Kring and Bonanno, 1999). Hatfield, Cacioppo and Rapson (1994) suggest that when people are already having strong emotions, these emotions would stir up the ripples of emotional contagion. Furthermore, Barsade (2002) suggests that these shared and transmitted emotions can further change people's attitude, cognition and behaviour. Thus, when consumers feel angry about the service failure, their anger can be shared or transmitted to other customers who are also encountering the failure, and this sharing can also affect their attitude, cognition and behaviour.

Other than affective mood sharing, Festinger (1954) also suggests that people tend to confirm their perceptions with the others constantly. By sharing these emotions, they tend to seek consensus to legitimize their behaviours. People who share similar emotions would perceive others' intentions and motivations more accurately (Hatfield, Cacioppo and Rapson, 1994; Levenson, 1994; Keltne, Kring and Bonanno, 1999). In turn, they would reinforce their emotions. That is to say, when people share similar emotion, their own feelings and emotions are appraised and thus would strengthen the possibilities of validation of their behaviours (LaFrance and Ickes, 1981; Locke and Horowitz, 1990; Rosenblatt and Greenberg, 1991). When consumers feel angry about the service failure, with the function of the transmitted anger emotion from other customers, they are more likely to legitimize their behaviour, even when they behave aggressively.

Emotional contagion has been studied in the literature of organizational studies (Barsade, 2002). Only a few recent studies in the service literature employ emotional contagion (Hennig-Thurau et al. 2006; Dallimore, Sparks and Butcher, 2007), showing that consumers transmit their angry emotion to service employees when service fails. Du, Fan and Feng (2014) initiate the research on transmitted emotion among consumers but their study focuses on group familiarity. Thus, the transmitted emotion among customers and how this contagious emotion influences or escalates consumer behaviour in the service failure situation is still under-researched. Therefore, this study proposes that the transmitted emotion could work as a 'catalyst' moderating the relationship between customer anger and aggressive behaviour. That is to say, the more consumers are influenced by the contagious emotion from other customers, the stronger the relationship between their anger and aggressive behaviour.

Therefore, this research formulates the following hypothesis:

> *Hypothesis 5: The relationship between customers' anger and aggressive behaviours is stronger when customers are influenced by more contagious emotions spread by other consumers.*

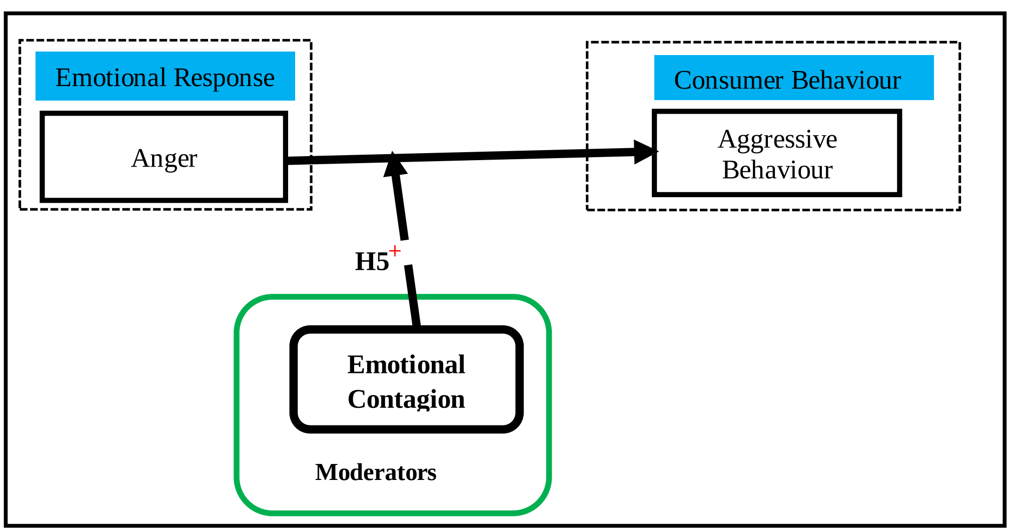

Figure 8 Hypothesis 5

3.7 The Moderating Effect of Consumer Expertise on the Relationship between Customer Anger and Aggressive Behaviour

Expert consumers who have more knowledge are able to "strip down" the various attributes of a product offering and base their decision on the product attributes that are most relevant to their situation (Brucks, 1985). Alba and Hutchinson (1987) suggest that expert consumers would process information differently. According to Miyake and Norman (1979), expert consumers in the service setting are more likely to value the service provider's manner, courtesy, empathy and the willingness to help. Thus, when customers have a higher level of expertise, they are more likely to evaluate the company's endeavours to solve the failure. Bell, Auh and Smalley (2005) suggest that expert consumers are more proactive in the relationship. Following this logic, if customers do not perceive that the company has been making effort to solve the service failure problem, they are more proactive. The more expertise consumers have, the interaction between this expertise and anger leads to a higher proactive behaviour.

Expert consumers may encounter service failure more than the novice consumers and they may witness how the repeated problem of the service failure has been handled. Therefore, these repeated problem-solving patterns may facilitate consumers to form the inappropriate inference, which then would lead to customers' biases (Wood and Lynch, 2002). Furthermore, expert consumers may have expectations around how the company handles failure. Once customers judge the current service failure based on their prior biased or inaccurate inferences, this prior knowledge and high expectation would elevate their anger level. Thus, consumers may demonstrate more aggressive behaviour.

Previous research on the consequences of consumer expertise is mainly focused on customer loyalty (Johnson and Russo, 1984; Wirtz and Mattila, 2003; Jamal and Anasasiadou, 2009). How consumer expertise influences customers' aggressive behaviour remains to be investigated. In the service context, expert consumers have the ability to see the functional layers, breadth and depth of the services offering, and so are more confident in evaluating the overall service quality. When there is a service failure, expert customers may not follow the 'excuses' provided by the service company. Thus, customers' knowledge, no matter gained from consumers' past experience or from other sources, makes them more likely to ask questions or to challenge employees' excuses. In such cases, their anger level will be intensified. Therefore, this study proposes that expert consumers are more likely to have a stronger anger and aggressive behaviour relationship.

Thus, this research hypothesizes:

> *Hypothesis 6: The relationship between customers' anger and aggressive behaviours is stronger for expert consumers.*

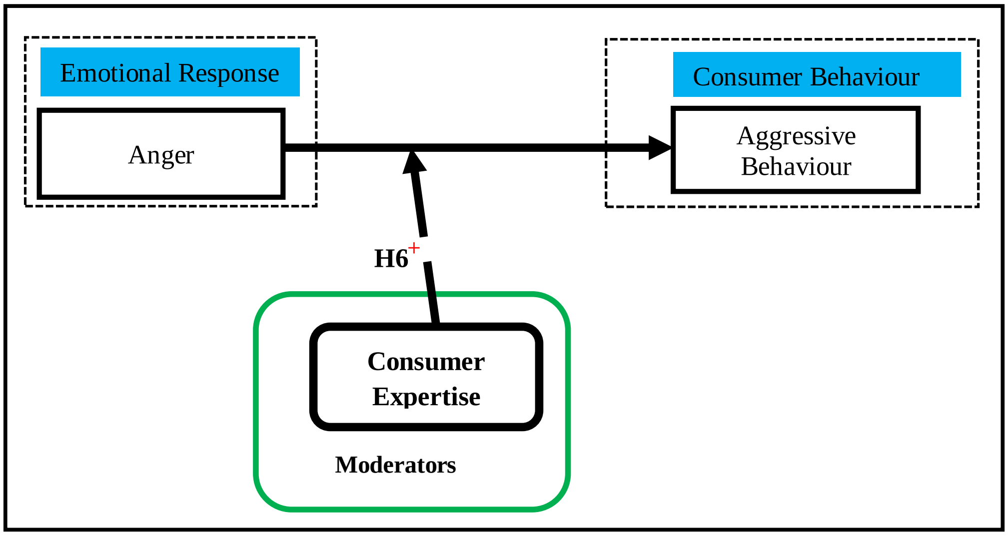

Figure 9 Hypothesis 6

3.8 The Moderating Effect of Customers' Education Level on the Relationship between Customer Anger and Aggressive Behaviour

Previous research demonstrate the relationship between customers' educational level and their behaviours in various research contexts. For example, the higher consumers' educational level, the more likely they are to purchase pirate CDs (Wee, Tan and Cheok, 1995), to complain (Liefeld, Edgecombe and Wolfe, 1975; Warland, Herrmann and Willits, 1975; Day and Landon, 1977; Morganosky and Buckley, 1987; Keng, Richmond and Han, 1995), to urge their relatives not to visit a company or spread negative word of mouth (Lam and Tang, 2003). Consumers' educational level has been frequently linked to customers' complaint behaviour in the event of product or service failure. According to studies conducted by Jacoby and Jaccard (1981) and Morganosky and Buckley (1986) in the consumer complaint context, well-educated consumers know where and how to file complaints, and so would complain more frequently. Customers who have higher educational level are more likely to know how to complain to service organizations, and they would have more access to information to judge whether companies are providing correct information about the service failure. Therefore, customers who have a higher educational background will have a stronger relationship between their anger and aggressive behaviour compared to consumers who have a lower educational background. The existing literature investigating how consumers' educational level would influence their behaviour mainly focuses on customers' complaining behaviour. The question of how customers' aggressive behaviour would be influenced by their educational level remains unanswered. Thus, this research proposes that the relationship between customer anger and aggressive behaviour is stronger for consumers who have a higher level of education.

Hypothesis 7: The relationship between customers' anger and aggressive behaviours is stronger when customers have a higher level of education.

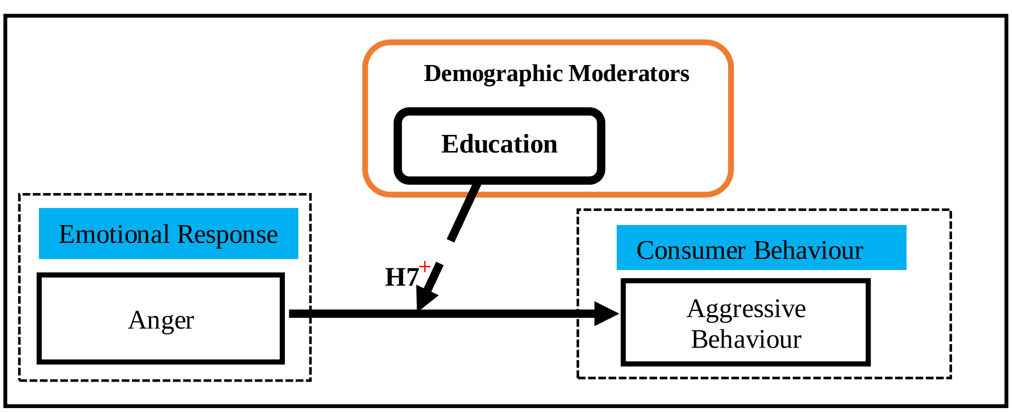

Figure 10 Hypothesis 7

3.9 The Moderating Effect of Customers' Consumption Frequency on the Relationship between Customer Anger and Aggressive Behaviour

'Frequent consumer' refers to consumers who have purchased the product at various times and who have a number of past experiences with the service organization (De Ruyter and Wetzels, 2000). How consumption frequency influences customer behaviour remains debatable in the literature. De Ruyter and Wetzels (2000) suggest that consumer dissatisfaction would have more negative effects on the new customers rather than the repeated customers, as the repeat customers would have more of a relationship with the company, based on previous experience and encounters. More frequent users would have a stronger commitment with suppliers when evaluating their satisfaction (Bloemer and De Ruyter, 1998; San Martin et al., 2008). Velazquez et al. (2010) suggest that consumers with no experience would have more complaint intention toward the service provider.

Although companies endeavour to increase consumers' engagement in the frequent flier program, as it will increase customer loyalty and potentially generate more profits to the company, a stream of literature also suggests that companies need to pay attention to frequent users. Sarel and Marmorstein (1998) suggest consumers who have frequent purchase experience with the organization would have more prior service failure experience, and this experience will shape their current expectations about service failure. These expectations would influence their perceptions about what ‘will happen’ this time, as they may ‘expect’ that they would have this service failure again. Therefore, those customers who had frequent service failure in the past are made even angrier by the current service failure.

Furthermore, consumers who have more frequent usage of services are more likely and able to develop sophisticated skills around accurately estimating what caused the poor service (Funches, 2011). Customers who use the service more frequently have more possibility of gaining service-related experience and they could gain more knowledge through learning from their peers or from their own experience. Zeithaml, Berry and Parasurman (1993) suggests that customers with frequent purchase experience would have in-depth knowledge to judge service failure. Therefore, this study proposes that the more service experience that consumers had before, the greater the likelihood that they could learn from their peers or from their own experience. Thus, they would gain sophisticated skills around knowing what caused the service failure.

Apart from gaining skills to assess service failure from frequent service experience, the complaining literature also suggests that consumers may be ‘motivated’ to complain for monetary gain (Reynolds and Harris, 2005), which they learned through frequent service experience. When service fails, frequent customers may know how to complain in order to get more. This stream of literature mainly focuses on customers’ complaint behaviour, while how customers’ aggressive behaviour is influenced by frequent users remains sparse. Therefore, this research proposes that frequent consumers are more likely to have a stronger anger-aggressive relationship, because they have higher expectations, more knowledge, and more bargaining experience compared to non-frequent users.

Thus, it is hypothesized that:

> *Hypothesis 8: The relationship between customers' anger and aggressive behaviours is stronger when customers consume more frequently.*

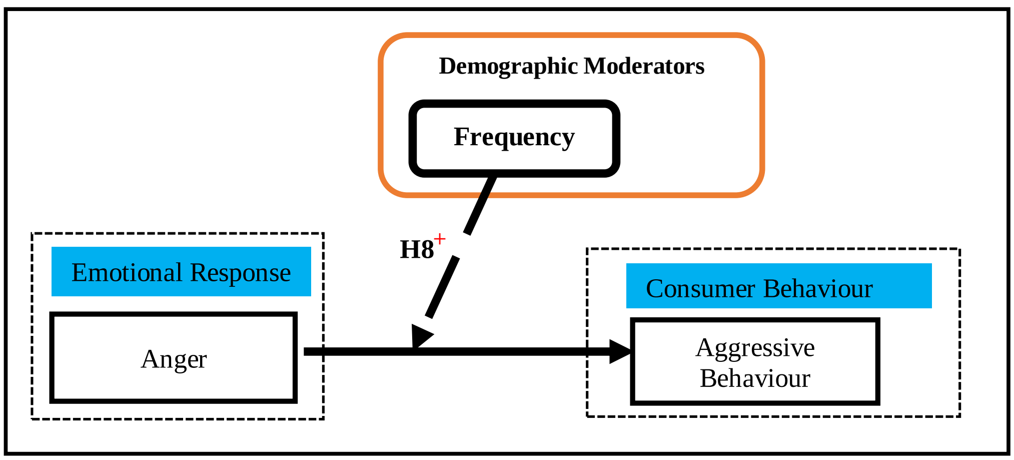

Figure 11 Hypothesis 8

3.10 Direct Effect between Aggressiveness Personality Trait and Customers' Aggressive Behaviour

Individuals' personality traits and predispositions will influence and shape how people interpret the world they are located in (Reynolds and Harris, 2009). Past research indicates that consumers' personality traits and predispositions could influence consumers' behaviour. For example, Fullerton and Punj (1993) suggest that consumers' personality traits and predispositions could influence consumers' misbehaviour. Criminologists also suggest the correlation between a person's inherited personality and criminal behaviour (Eysenck, 1964). Psychologists also pay attention to people's personality and individuals' misbehaviour, or the psychological obstructionism and deviance behaviour (Romero, Luengo, and Sobral 2001; Sutherland and Shepherd 2002). Harris and Ogbonna (2006), Fox and Spector (1999), in the organizational setting regarding employees' behaviour, reveal a correlation between personality variables and employees' workplace sabotage behaviour. Studies in marketing also signal the relationship between consumer's personality and dysfunctional behaviour, for instance, cheating (Wirtz and Kum, 2004), shoplifting (Kallis and Vanier, 1985), and disruption (Reynolds and Harris, 2009).

Past research in psychology and criminology suggest that people's aggressiveness would be a strong predictor for their deviant behaviours (Fullerton and Punj, 1993). Dill et al. (1997) specifically argue that aggressiveness is a long lasting personality trait that makes people prone to aggressive behaviour. Buss and Perry (1992) in their study on people's deviant behaviour questionnaire mention that aggressiveness as a personality trait can anticipate people's aggressive behaviour. Given this logic, Daunt and Harris (2011) illustrate a positive correlation between consumers' aggressiveness level and their past misbehaviour. Thus, the current study proposes that consumers' aggressiveness will increase their aggressive behaviours.

Hypothesis 9: Consumers' aggressiveness personality trait will increase the possibilities of behaving aggressively.

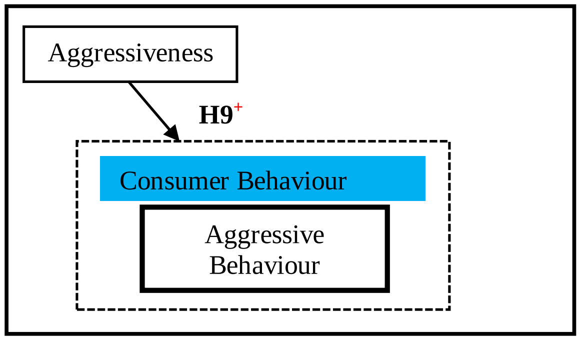

Figure 12 Hypothesis 9

3.11 Servicescape relates to Customers' Aggressive Behaviour

Past research has offered insights into the relationship between perceived servicescape design and consumers' behavioural responses. Phillips, Alexander, and Shaw (2005) suggest a significant relationship between the design of a self-service servicescape and customer theft. Homel and Clark (1994) also highlight that firms that are perceived to be ventilated poorly, overcrowded, noisy or unclean would experience higher possibility of physical violence, compared with those with good physical design. Graham et al. (1980) find that customers in a poorly maintained, dirty, and unattractive bar environment expressed a higher level of aggressive behaviour. Morin, Dubé and Chebat (2007) illustrate that the design of the retail environments could influence consumers' evaluation and buying behaviour (d'Astous, 2000). The relationship between environmental design and misbehaviour has mainly been studied in the psychology (Geen, 2001) and criminology literature

(Hopkins, 2002). The relationship between servicescape and customers' aggressive behaviour can be further investigated in the service failure context. Thus, this research proposes that:

Hypothesis 10: Servicescape is related to customers' aggressive behaviour.

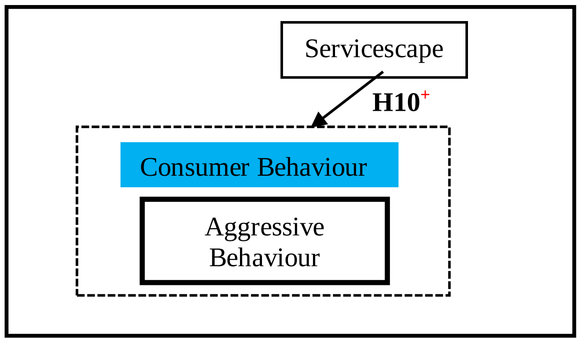

Figure 13 Hypothesis 10

The detailed concepts which are employed in the current thesis will be summarized and presented in Table 5

Table 5 Definitions and the Origin of Concepts in the Current Research Model

Concepts developed in the existing literature		
Blame	The degree to which customers perceive that a firm should be accountable for the causation of a service failure (Grégoire, Laufer and Tripp, 2010)	Maxham and Netemeyer (2002); Joire et al., (2013)
Controllability	The degree to which the cause of an event is under volitional control	Taylor (1994)
Stability	The degree to which a cause is viewed as relatively permanent and stable or, alternatively, temporary and fluctuating	(Folkes, 1988)
Perceived Justice		Smith, Bolton and Wagner (1999), Tax,
Distributive	The extent to which an individual believes he or she	

Justice	received a justified outcome from the firm.	Brown and Chandrashekaran (1998)
Procedural Justice	The extent to which an individual believes that the procedures he or she received is justified.	
Interactional Justice	The extent to which an individual believes a firm treated him or her politely and with respect.	
Service Failure Severity	The extent to which an individual believes that service failure is severe and causes inconvenience	Maxham and Netemeyer (2002); Smith, Bolton and Wagner (1999); Zourrig et al. (2009)
Anger	A strong emotion that involves an impulse to respond and react toward the source of anger.	Bougie, Pieters and Zeelenberg (2003); Bonfield and Cole (2007)
Aggressiveness	Persistent readiness to become aggressive	Berkowitz (1993)
Servicescape	The atmospherics, physical design and decor elements of service environment	Bitner (1992)
Customers' Aggressive Behaviour	Customers' direct behaviours that cause harm to front-line service employees or service companies.	Anderson and Bushman (2002); Geen (2001)
Education	Customers' educational background	Lam and Tang (2003)
Frequency	Customers' purchase frequency	Evanschitzky, Brock and Blut (2011)
Concepts contributing to the current model		
Consumer Skepticism	The extent to which consumers disbelieve company claims and company motives.	Skarmeas and Leonidou (2013)
Group Empowerment	The extent to which consumers perceive themselves as more powerful within groups.	Self-developed
Face Loss	The extent to which consumers perceive their face has been damaged.	Liao and Bond (2010)
Emotional Contagion	The extent to which consumers' own emotion has been influenced by others	Drury et al. (2005)
Consumer Expertise	The extent to which consumers have the ability to process product-related information smoothly and perform product-related tasks successfully	Bettman and Park (1980); Ala and Hutchinson (1987)

3.12 Control Variables

Past research investigating customers' complaint behaviour suggests a number of control variables, for instance, younger consumers (Warland, Hermann and Willits, 1975; Bearden and Mason, 1984), well educated (Jacoby and Jaccard, 1981; Heung and Lam, 2003), having average income and above (Day and Landon, 1977; Morganosky and Buckley, 1987), holding professional occupation (Moyer, 1984), are female (Heung and Lam, 2003), and having children (Moyer, 1984; Kolodinsky, 1993).

There are a number of variables which are not the primary instruments theoretically, nor the focus of this research. However, they might be influencing the research result. In order to eliminate the effect of confounding variables, this research will control a few variables. The control variables in the current study are consumer age, gender, and income level. Past research suggests that female customers are more likely to complain, while male customers are more likely to be hostile (Heung and Lam, 2003). Eagly and Steffen (1986) use meta-analysis to analyse the effect of gender and its influence towards consumers' aggressive behaviour. Their results suggest that although men are somehow more aggressive than women on average, people's aggression varies from the gender difference perspective. Younger customers are more engaged in verbal insults, yelling and verbally aggressive behaviour, and elder customers are more likely to take on physically aggressive behaviour (Warland, Hermann and Willits, 1975; Bearden and Mason, 1984). Past research has suggested that both high-income and low-income customers influence customers' anger level and the likelihood of their being aggressive (Day and Landon, 1977; Morganosky and Buckley, 1987). In order to investigate the hypothesized relationship in the research model, this research will control these factors and focus on the moderating effects and direct relationship, which has been explained and presented in the previous sections.

3.13 Summary of the Chapter

This chapter illustrates the underlying theoretical mechanisms for the conceptual framework and explanation of the research hypotheses. Cognitive appraisal theory is employed to understand customers' aggressive behaviour through the cognition-emotion-behaviour sequence. The research also introduces consumer skepticism as moderating the relationship between appraisal components and customer anger, contributing to cognitive appraisal theory. Furthermore, this chapter illustrates the moderators between the customer anger and aggressive behaviour relationship, advancing our understanding of the eliciting factors for customers' aggressive behaviour. The proposed research framework is presented in Figure 14. The rationale provides directions for designing the appropriate data collection technique in order to answer the research questions and meet the research objectives. The detailed methodology and method design will be presented in the next chapter.

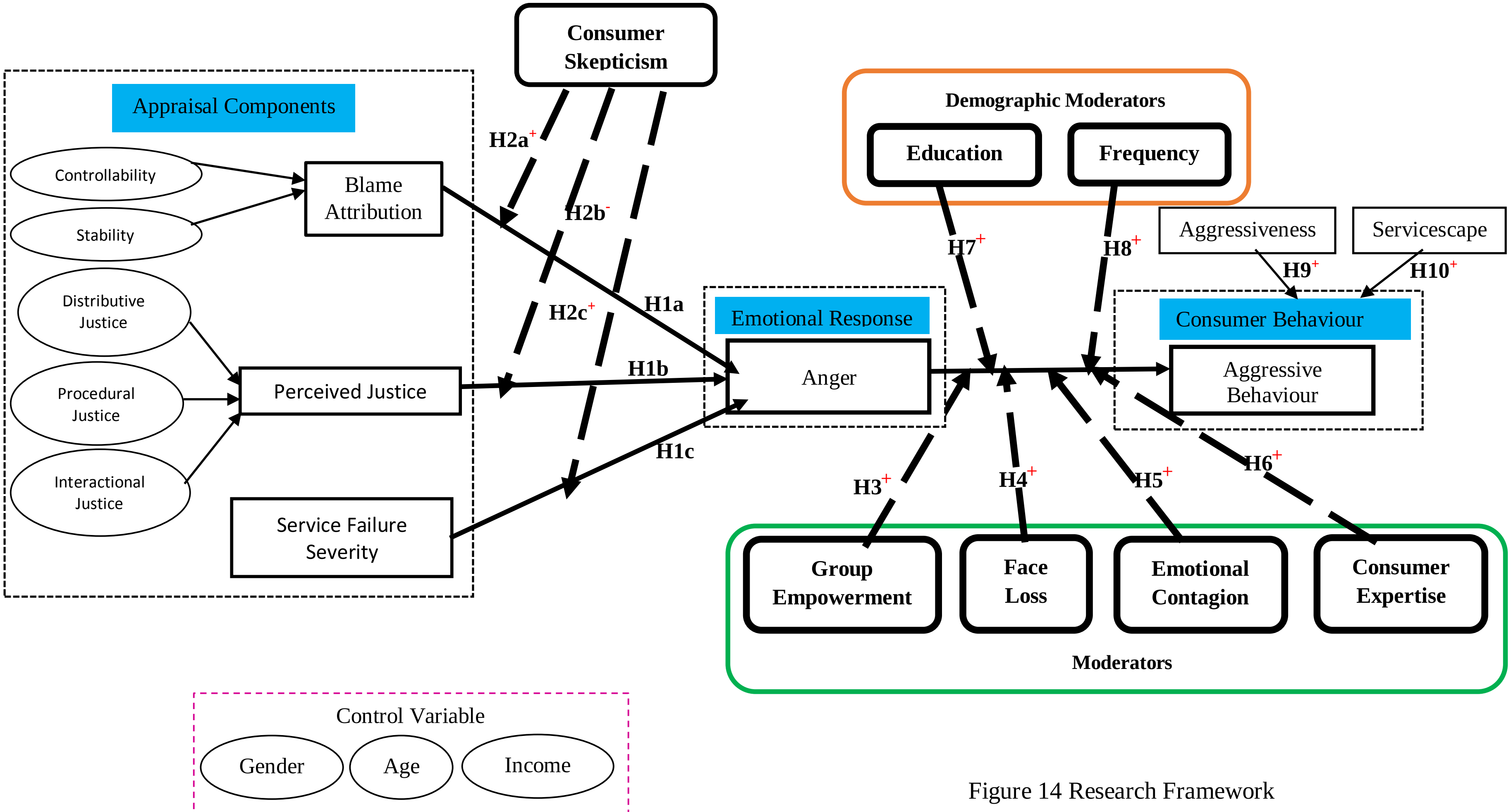

Figure 14 Research Framework

Chapter 4 Methodology

4.1 Introduction

The previous chapter proposed theoretical framework in examine customers' aggressive behaviour via cognitive appraisal theory. This chapter will focus on the methodology and method of this study through elaboration of the philosophical foundations of this research, followed by research design, data collection, and data analysis in order to achieve the research objectives of the current study.

This chapter consists of nine sections. The first section provides an overview of the chapter. The second section describes the philosophical foundations of this research in terms of ontology, epistemology, and methodology. Section three describes the research design, which includes qualitative critical incident technique, and quantitative survey method. Section four gives the unit analysis of the current study and research context. Sections five and six specify exploratory data collection and data results. Section seven illustrates the main study of this thesis, including measurement selection, scale development, questionnaire design, pilot study, construct validity and data collection. Section eight will address ethical issues of the present study, followed by a summary of the entire chapter in section thirteen.

4.2 Philosophical Foundations, Selection of Research Methodology and Method for the Current Research

Different philosophical assumptions determine the forms of knowledge and influence the researcher's choice of methodological approaches. The philosophical assumptions embedded in the theoretical perspective (epistemology) must be combined with the proper research approach and methods to implement the research study. The most common research paradigms or approaches are qualitative, quantitative, and mixed methods (Creswell et al., 2003).

Research studies in the natural settings are guided by "abstract principles" (Bateson, cited in Denzin and Lincoln, 2005, p. 22). These principles refer to "ontology, epistemology, and methodology", which are together conceived as a "research paradigm" (Guba and Lincoln, 2005, p.195).

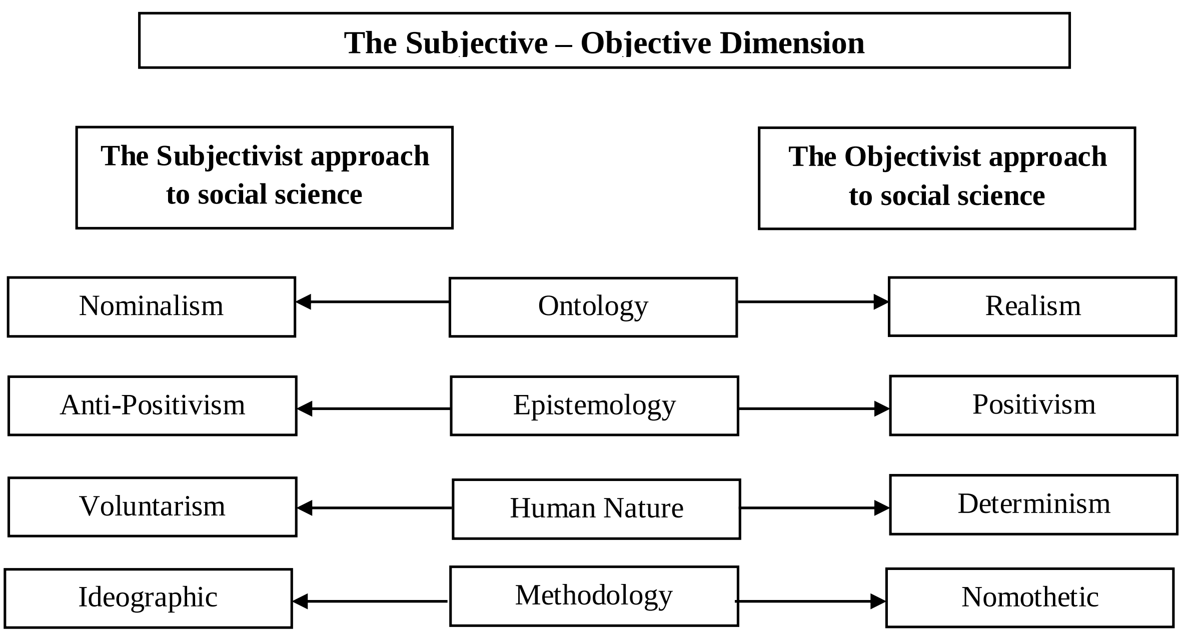

Figure 15 A Scheme for Analysing Assumption about the Nature of Social Science. (Burrell and Morgan, 1979, p.3)

Ontology – Ontology has been defined by Guba and Lincoln (2005, p. 83) as the investigation of 'what is there that can be known' or 'what is the nature of reality'. Crotty (1998, p. 10) further defines it as 'the study of being'. It concerns 'what kind of world we are investigating, with the nature of existence, with the structure of reality as such'.

Epistemology – Epistemological assumptions are a way of 'understanding and explaining how we know and what we know' (1998, p.3). They represent the grounds of knowledge where the researcher stands, as well as how the researcher knows things and understands the world.

Human Nature – This concerns the assumed relationship between human beings and their environment. The 'determinist' viewpoint is that human beings' activities are determined by the situation or environment in which they are located. Human actions are a response to the environmental stimuli.

Methodology – Methodology is 'the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of the methods to the desired outcomes' (Crotty, 1998, p. 3).

4.2.1 Philosophical Foundations of the Current Research

With the evolution of the research paradigm, apart from the two distinctive subjective and objective research approaches, there are more suitable and appropriate research paradigms which can be used in the social and behavioural sciences. Based on the updated paradigm elaborated and listed in Tashakkori and Teddlie's study (1998), this research follows a pragmatist paradigm. The comparisons among paradigms are presented in Table 6 below.

Table 6 Comparison between Four Important Paradigms

Paradigm	**Positivism**	**Post-positivism**	**Pragmatism**	**Constructivism**
Methods	Quantitative	Primarily Quantitative	Quantitative + Qualitative	Qualitative
Logic	Deductive	Primarily Deductive	Deductive + Inductive	Inductive
Epistemology	Objective point of view. Knower and known are a dualism.	Modified dualism. Findings probably objectively "true."	Both objective and subjective points of view.	Subjective point of view. Knower and known are inseparable.
Axiology	Inquiry is value-free.	Inquiry involves values, but they may be controlled.	Values play a large role in interpreting results.	Inquiry is value-bound.
Ontology	Naïve realism	Critical or transcendental realism	Accept external reality. Choose explanations that best produce desired outcomes.	Relativism
Causal linkages	Real causes temporally precedent to or simultaneous with effects.	There are some lawful, reasonably stable relationships among social phenomena. These may be known imperfectly. Causes are identifiable in a probabilistic sense that changes over time.	There may be causal relationships, but we will never be able to pin them down.	All entities simultaneously shaping each other. It's impossible to distinguish causes from effects.

(Source: Tashakkori and Teddlie, 1998, p. 23, Comparisons of Four Important Paradigms Used in the Social and Behavioural Sciences)

For the current study, ontologically speaking, this study will assess reality from the 'middle road' between reality and experience, as suggested by Morgan (2014). As Dewey (1986) suggested, even if there is a reality which exists apart from human experience, it can only be confronted through human experience. This means that knowledge in the world is socially constructed in reality, and can also be gained through experience.

Regarding epistemology, as ontology has indicated for the pragmatist paradigm, the world is real and socially constructed. Thus, all the knowledge of an individual is real and constructed from society (Morgan, 2014). Therefore, knowledge can be gained through both subjective and objective points of view (Tashakkori and Teddlie, 1998).

The methodology of the current study will be a combination of qualitative and quantitative methods. The qualitative method could help to explore the research, while a quantitative method could help to evaluate the hypotheses.

4.2.2 Selection of Research Methodology and Method

In order to achieve the research objectives and answer the research questions, appropriate research methods must be designed (Blaxter, Hughes and Tight, 2010). According to Punch (1998), research purpose, research questions, and how these questions are asked determine the usage of research method, whether qualitatively, quantitatively, or both. The quantitative approach conceptualizes reality through variables and the relationships among them. It relies on measurement to test the relationship among them; therefore, it pre-structures data, research questions and research framework. The qualitative approach deals with cases. It is sensitive to the research context and process, to lived experiences and local groundedness. The qualitative researcher strives to get closer to what is being studied. The research method aims for in-depth and holistic understanding in order to understand the complexity of the phenomena and social life. Detailed differences between the qualitative and quantitative approaches are shown in Table 7.

Table 7 Comparison between Qualitative and Quantitative Methods

Issues	**Quantitative**	**Qualitative**
Principle orientation to the role of theory in relation to the research	Deductive; Theory testing	Inductive; Theory generation
Ontology	Objective	Subjective
Epistemology	Positivism	Interpretivism
Object of the analysis	Variables (analyse by variables, impersonal)	Individual (analyse by subjects)
Aim of the analysis	Explain variation (variance) in the variables	Understand the subject
Samples	Samples are typically larger and generalization through sampling is usually important. It has well developed and codified methods for data analysis.	Sampling is usually small and is guided by theoretical rather than probabilistic considerations.
Methods	The methods are usually easy for replication, being more uni-dimensional and less variable than qualitative methods. Closed ended questions, predetermined approaches, numeric data.	The methods used have great flexibility, being more dimensional, more diverse and less replicable. Open ended questions, emerging approaches, texts, or image data.
Data	Quantitative data enables standardized, objective	Qualitative data have a holism and richness, and are well

	comparisons to be made, and the measurements of quantitative research permit overall descriptions of the situations or phenomena in a systematic and comparable way.	grounded to deal with the complexity of the social phenomena.
Techniques	Experiments, Quasi-experiments, Surveys	Case study, Participant observations, Interview, Focus Group, Documentary Data, Diary Study, Critical Incident Technique, Repertory Grid, Cognitive mapping, Life history and Narratives.

(Adapted from Bryman, 2004; Creswell et al., 2003; Deshpande, 1983; Punch, 1998)

4.3 Research Design

To better address the research questions, this research adopts mixed method approaches combining qualitative and quantitative methods (Creswell and Plano, 2007). Mixed method refers to the types of research involving both qualitative and quantitative research approaches, i.e. attempting to adopt both qualitative and quantitative viewpoints in data collection, data analysis, and so on, for the 'broad purpose of breadth and depth of understanding and corroboration' (Johnson, Anthony and Lisa, 2007, p. 123). Recent scholars have further examined the adoption of mixed research methods, Denzin and Lincoln (2005, p.722) referring to it as 'triangulation'. The 'triangulation' research method uses several methods in the study of the same phenomena. It can be formed to use both qualitative and quantitative methods, so that the weaknesses of one methodology can be complemented by the strengths of the other, and vice versa (Deshpande, 1983, p.107). Detailed considerations and rationales can be found in Table 8 below.

Table 8 Rationales for mixed methods research and design types

Rationale	Description	Design Type
Triangulation	Quantitative and qualitative combined to triangulate findings for mutual corroboration	Concurrent
Offset	Combining strands offsets their weaknesses to draw on the strengths of both	Concurrent
Completeness	Bringing together a more comprehensive account if both quantitative and qualitative research is employed	Exploratory, explanatory or concurrent
Process	Quantitative provides an account of structures in social life but qualitative provides sense of process	Exploratory or explanatory
Different research questions	Quantitative and qualitative each answers different research questions	Concurrent
Explanation	One is used to help explain findings generated by the other	Explanatory
Unexpected results	When one strand generates surprising results that can be understood by employing the other	Explanatory or embedded
Instrument development	Qualitative is employed to develop questionnaire and scale items	Exploratory
Sampling	One approach is used to facilitate the sampling of respondents or cases	Exploratory or explanatory
Credibility	Employing both approaches enhances the integrity of findings	Exploratory, explanatory, or concurrent
Context	Qualitative provides contextual understanding coupled with either generalizable, externally valid findings or broad relationships among variables uncovered through a survey	Exploratory or explanatory
Illustration	Qualitative to illustrate quantitative findings (putting "meat on the bones" of "dry" quantitative findings)	Explanatory
Utility	Among articles with an applied focus, combining the two approaches will be more useful to practitioners and others	Exploratory, explanatory, concurrent, or embedded
Confirm and discover	This entails using qualitative data to generate hypotheses and using quantitative research to test them within a single project	Exploratory
Diversity of view	Combining researchers' and participants' perspectives through quantitative and qualitative research while also revealing meanings among research participants through qualitative research	Concurrent or embedded
Utility	Among articles with an applied focus, combining the two approaches will be more useful to practitioners and others	Exploratory, explanatory, concurrent, or embedded
Confirm and discover	This entails using qualitative data to generate hypotheses and using quantitative research to test them within a single project	Exploratory
Diversity of view	Combining researchers' and participants' perspectives through quantitative and qualitative research while also revealing meanings among research participants through qualitative research	Concurrent or embedded

(Source: Harrison and Reilly, 2011, p. 10)

Mixed methodology approaches require mixed methods to interpret data in the formats of narratives and numerical (Teddlie and Tashakkori, 2009). It is more comprehensive (Teddlie and Tashakkori, 2009) comparing to adopt a single qualitative or quantitative research method, because a mixed method can explain and interpret the discrepancies between the qualitative and quantitative results better (Morgan, 2007). The qualitative method interprets data subjectively using an inductive approach, whereas, the quantitative method generalizes research results objectively adopting a deductive approach (Morgan, 2007). A qualitative methodology collects data in the format of words, whereas, a quantitative methodology examines data in the form of numbers. A mixed research method is an appropriate research approach to address research questions from a multi-dimensional perspective (Clark and Creswell, 2008; Teddlie and Tashakkori, 2009), which fits the research objectives of the current study.

The implementation of data collection in mixed methodology approach refers to the sequence the researcher uses for collecting qualitative and quantitative data (Creswell et al., 2003). The options for implementation of data collection can be varied, for instance, at the same time (concurrent), or one phase follows the other (sequential). And the method of converging different findings is termed as 'triangulation' (Morgan, 2014). The concurrent 'triangulation' means that data will be analysed after the data collection processes have been completed. When data are introduced sequentially, either qualitative or quantitative data can be gathered first, and the order depends on research objectives. When collecting the qualitative data prior to the quantitative data, the intention is to first explore the research problem, which has previously been under-researched. This is followed by a quantitative data collection phase to explain the phenomenon with a large sample size, so that the research results might be referred back to a population. For the current study, the qualitative data collection phase precedes the quantitative phase, because the research objective for this study is to explore the antecedents of customers' aggressive behaviours in the qualitative stage, and then to explain the case with a set of data.

The research strategy of the current study is sequential exploratory strategy. It is characterized by collecting and analysing qualitative data in the first phase in order to further explore the phenomena, followed by collection and analysis quantitative data in the second step. The sequence is visualized in Figure 16 (Creswell, 2009). The qualitative is done primarily to better understand the phenomena and to develop the measurement scales. Therefore, the research 'weight' will be addressed by the quantitative phase (Creswell, 2009, p. 211). The 'mixing' (Creswell, 2009, p.211) will occur when qualitative data analysis supports the quantitative data collection. The purpose of the quantitative phase is to assess the measurement and explain the model relationship (Morse, 1991). A sequential exploratory design with the focus of quantitative survey method will be employed by the current study.

qual Data Collection	→	qual Data Analysis	→	QUAN Data Collection	→	QUAL Data Analysis	→	Interpretation of Entire Analysis

Figure 16 Sequential Exploratory Design

This study will combine a qualitative interview using critical incident technique and quantitative survey method. The first phase will use semi-structured interviews. During the interviews, critical incident technique will be adopted. The second phase will be a survey method to verify the hypotheses and to deepen the analysis. The below sections will elaborate on the qualitative and quantitative phase respectively.

4.3.1 Qualitative Phase

This research will use qualitative interview method with the focus of using critical incident method for the exploratory stage. Interview research method can help researchers to understand experiences in a social context, which they may not be the participants in that setting (Rubin and Rubin, 2005). Interview method can also help to gain reliable data which relates to research objectives and research questions (Saunders, Lewis and Thornhill, 2003). Further, interview method can be used for explaining social phenomena for the purpose of analysing data deeply (Mason, 2002; Saunders, Lewis and Thornhill, 2003). Finally, qualitative interview method is a way of examining the researchers' self-reflexivity (Holstein and Gubrium, 2004).

This research employs critical incident technique (CIT) for the qualitative phase. Critical incident technique (CIT) is used to describe events that have been leading to failure or success for a specific task (Ronan and Latham, 1974). The description of that specific task is identified as a critical incident. The critical incident technique includes collecting observations of human behaviours as well as classifying these events in order to address practical issues (Flanagan, 1954). Viney cited in Bitner, Booms and Tetreault (1990) suggests that one of the major advantages of critical incident technique is that is enables the researcher to interpret the event more accurately and consistently from the respondents' accounts, rather than depriving the power the accounts (Viney, 1983). CIT can use both quantitative and qualitative research method, thus enabling the understanding of the event that combines accuracy and in-depth. Additionally, CIT is appropriate when a phenomenon is not clear or entirely understood by the society, because CIT method is particularly useful to explore the ambiguous concepts (Harris and Reynolds, 2004). CIT method has been used in studies on service quality (see for example Bitner, Booms and Tetreault, 1990; Bitner, Nyquist and Booms, 1985; Edvardsson, 1992). It has also been employed in exploring the negative incidents in service industries, such as, Grove and Fisk (1997), Hoffman et al. (1995) and Harris and Reynolds (2004), among others.

Critical incident technique (CIT) has been used in service research with a number of benefits. Firstly, according to Edvardsson (1992), data collected from this method is from the respondent's perspective, using his or her own words. Thus, CIT enables the respondents to determine the most relevant incidents from their own understanding. Thus, respondents may decide what is the most important or relevant to them in the investigated phenomenon. Furthermore, since CIT allows the respondents to determine by themselves, there will be no pre-conceptions for the phenomenon; thus, the context, as entirely developed by the respondents, will reflect the normal way service customers think and believe (Stauss, 1993). During the process of an interview, customers are not forced into any given framework; rather, they are simply asked to use their own words to describe the incidents, thus generating 'pure' consumer data. Therefore, using the critical incident technique allows marketers and managers to see what customers really think about (Nyquist and Booms, 1987). Secondly, since this research is inductive at the first stage, an exploratory method like CIT could help to explore under-researched or under-documented phenomena or less thoroughly examined contexts (Grove and Fisk, 1997; Bitner, Booms and Tetreault, 1990). The CIT method has proven particularly effective when used in developing conceptual frameworks and hypotheses. Thus, using the CIT method could help research issues such as the current one, which is under-explored and theoretically under-hypothesized, and in need of further development. Thirdly, the CIT method can be used to provide a rich set of data (Bitner, Booms and Mohr, 1994). The data generated from respondents' first-hand experience will not only provide vivid and powerful insights into the phenomenon, but also create clear and memorable impressions for management (Gremler, 2004), thus yielding "relevant data for practical purpose of actionable improvements and highlighting management implications" (Chell and Pittaway, 1998, p.24).

Therefore, CIT method is suitable and appropriate for the current study, because firstly, this study requires accurate, deep understanding and wider comprehension of aggressive behaviour from respondents. This can be achieved through the adoption of CIT method; secondly, as illustrated in previous literature review, the concept of customers' aggressive behaviour needs further elaboration. Thus, the use of CIT method will allow better understanding of customer aggressive behaviours in certain scenarios; thirdly, CIT method enables the researcher to understand and investigate negative events in service industries, which the method of CIT is often used.

Although the benefits of CIT are clear, the researcher is also aware of its drawbacks. First, CIT has been criticized as having a design vulnerable to recall bias (Michel, 2001). As the CIT method requires the respondents to recall the incidents, it depends on the respondents' memory, and the inaccurate and untruthful reporting may result in undesirable biases like inconsistency, memory lapses (Singh and Wilkes, 1996), and respondents using newer experiences to re-interpret the incident (Johnston, 1995). Second, according to Chell (1998), CIT has been criticized in terms of the reliability and validity matters, because the incidents can be misunderstood or misinterpreted by respondents, and may also be ambiguously labelled or coded in a study (Weber, 1985). Third, CIT requires the respondents to describe detailed incidents which may take a lot of participants' time and effort to say or write (Gremler, 2004). The participants may not adjust to these self-description methods and they may not wish to share the details of incidents or a sufficient description of a specific situation, resulting in a relatively low response rate (Johnston, 1995). Therefore, the drawbacks of CIT method will be resolved by the quantitative survey method, which is articulated in the section below.

4.3.2 Quantitative Phase

This study will employ survey method in the quantitative phase. A survey is helpful in, first, getting mass data from a large number of people; second, gathering relatively straightforward data and exploring un-complicated behaviours and meanings; and thirdly, identifying group patterns, such as ethnic background, gender, age group and social classes and so on (Denscombe, 2010). When survey method is used, the reliability and validity of the survey data needs to be assured by checking the content validity, construct validity and reliability. Content validity can be measured by literature review and expert judgment (Straub, Boudreau and Gefen, 2004). Construct validity requires checking the discriminant validity and convergent validity. Reliability can use Cronbach's α to test the stability or consistency of the data.

4.4 Research Context and Unit of Analysis

4.4.1 Research Context

The selection of research context is essential because it paves the way for the success of the research project (Baker, 1994). According to Churchill (1979), an appropriate research setting could facilitate a researcher to examine a social phenomenon effectively, propose research framework and research theories, and draw conclusions confidently.

The current research setting will be based on customers' behavioural responses to flight delay service failure. Previous studies have investigated customers' dysfunctional behaviour in restaurants, bars (Harris and Reynolds, 2003), retailing settings (Reynolds and Harris, 2009) and customers' revenge behaviour on websites (Gregoire, Laufer and Tripp, 2010). With increased severe incidents in the airport at times of flight delay service failure, customers' aggressive behaviour in relation to flight delay service failure remains under-researched. This study will use flight delay and customers' behaviour in the airport as a research context. Since the airline industry is in the tertiary sector, customer service management is of the greatest significance to airline companies. This research was conducted in China because the Chinese mainland's airports were ranked the world's worst in terms of punctuality in departures and arrivals in July 2013 (Liu, 2013). Flight delay service failure has become an important issue in China. Furthermore, Chinese passengers behave more and more aggressively toward the front-line service employees and organizations. Thus, conducting research in this setting enables the researcher to explore and examine consumers' aggressive behaviour better, and so contribute to the literature.

4.4.2 Unit of Analysis and Research Participants

The unit of analysis is the major entity to be analysed in a study. The unit of analysis can be in the form of individuals (e.g. boy, girl, man, woman, student), groups (e.g. teenagers, Generation X, schools), social interactions (e.g. marriage contracts, dyadic relations), geographical units (e.g. country, region, village, district), or artefacts (e.g. newspapers, books, photos) (Baker, 1994; Bernard, 2013). The appropriate unit of analysis is determined by the research objectives and research questions (Yin and Campbell, 2003). It will also influence how research data should be collected. Past research examining consumers' deviant behaviours focused on individual consumer level (Fullerton and Punj, 1993; Harris and Reynolds, 2003; Reynolds and Harris, 2009). In order to answer research questions and better understand the antecedents for consumers' aggressive behaviours, the unit of analysis for the current study is at the consumer level.

All participants are Chinese consumers. For the exploratory qualitative study, in order to explore customers' aggressive behaviours following service failure, the participants are people who state that they had encountered flight delay service failure in the past six months. The quantitative survey are also distributed both online and offline to people waiting while a flight is delayed. Detailed data collection methods for both qualitative study and quantitative studies are presented in Sections 4.5 and 4.7 below.

4.5 Qualitative Data Collection

At the exploratory stage of this study, this research used critical incident technique together with some open-ended questions to explore customers' perception of the aggressive incidents in the past six months. This could allow the elicitation of specific information about participants' experience in the past six months relating to the phenomenon of interest (Bitner, Booms and Mohr, 1994). Research interview advertisements with the researcher's contact information were posted in the chat rooms of the major travel websites, where consumers usually post their service experience online. The researcher also left detailed contact information to those who shared their negative service experience with others, with the intention of further interview opportunity. Then the researcher conducted interviews offline with those participants. The snowball sampling method was then adopted. Each interview started with collection of socio-demographic information. In order to increase the participants' involvement in this research, as well as encouraging free discussion of the information, complete assurance on confidentiality was offered by the researcher. Respondents were asked to recall the critical incident of their flight delay service experience and to 'tell that story'. Meanwhile, a few specific questions, like 'Could you please tell me in your own words what exactly happened and how do you respond to the failure?', were asked of the participants. The detailed questions can be found in Appendix 1. All interviews lasted 45 minutes to an hour. Data collection stopped at the point of 'theoretical saturation', which means that no new categories were disclosed (Strauss and Corbin, 1998). The participants' age ranged between 20 and 48 with a mean age of 30. Male respondents were 43.3% and female respondents were 56.6%. The exploratory study result is analysed in the following section.

4.6 Qualitative Results

The incidents used in data analysis were required to meet the following conditions. First, they must have sufficient detail to be described and thus visualized by the interviewer; second, the incidents should be triggered by flight delay as a service failure; and third, the incidents should involve employee-customer interaction, especially verbal or physical interaction. These coding processes follow the interactive transcript analysis outlined by Flanagan (1954) and Bitner, Booms and Tetreault (1990). A few rounds of analysis, which consist of careful examination of the data, were carried out by researchers. This meticulous examinations involved re-examination and re-interaction. These include category formation based on the similarities in narratives, saturation category, developing abstract labels, defining categories, explaining, interpreting and linking categories, and finally evaluating those linkages.

Three types of coding methods were adopted in this research, following Strauss and Corbin's study (1998). Firstly, 'open coding' was used to differentiate the properties and dimensions of the concept. Open coding involves reading the transcripts and breaking them down into different parts that then can be closely examined for the similarities and differences (Strauss and Corbin, 1998). During these processes, the researcher and the research assistant analysed data independently and grouped the incidents following the grouping requirement. The incidents have been classified into appraisals for the service failure and the on-going negative emotions to the aggressive behaviour. The research team then met and discussed the coding and interpretation of the data. The disagreements stimulated further discussion until agreement was reached. Secondly, 'axial coding' involves the reassembling of data into groups, categories and sub-categories. The concept in each group needs to be as similar as possible within each group, while as different as possible between different groups. During this process, theory started to emerge around some factors that enhance customers' anger level to aggressive behaviour. Thirdly, 'selective coding' was adopted as a process to merge theory and to refine the category label. In doing that, the researcher further consulted the literature, which guided the classification of these categories. The transcript was re-read with these classifications in mind. The core of selective coding is to integrate and refine theory (Strauss and Corbin, 1988).

In order to obtain the objective of this research, detailed and precise operational procedures and rules have been carried out, because they could facilitate a reduction in the researcher's subjective bias and enable the replication of the study (Kolbe and Burnett, 1991). The detailed categorization procedures are presented in Appendix 2. This CIT classification system provides definitions depending on how customers perceive the reasons for the service failure. The categories are presented below:

Group 1: Customers who ask for reasons for the failure and who appraise the causes of the service failure.

A. Customers who blame the company for the service failure.

B. Customers who perceive that they not been treated fairly.

C. Customers who perceive the service failure to be severe.

D. Customers who do not believe the company's claims:

Group 2. Customers who feel that their anger is elevated in social interactions.

A. The reason for customers to behave aggressively is that they perceive that their behaviours can be legitimized since they are complaining in a group.

   a. Customers believe that they have more power in a group.

   b. Customers believe that their behaviours have been legitimized if they take actions in a group.

   c. Customers believe that they could behave aggressively because they are anonymous in a group, and their behaviour is merely converging with the others' behaviour.

B. The reason for customers to behave aggressively is that they perceive that their face has been threatened during interaction with the service provider.

C. The reason for customers to behave aggressively is that they perceive that their emotions have been influenced/elevated by people who are around them.

D. The reason for customers to behave aggressively is that they perceive that they have sufficient knowledge to identify exact reasons why the service failed.

The group empowerment sub-group was mentioned by many participants, and this data will be further analysed using content analysis. The data analysis procedure for content analysis will follow suggestions from Kolbe and Burnett's (1991) study.

Content analysis is an observation technique that allows researchers to evaluate recorded communication systematically (Kolbe and Burnett, 1991). After saturation of the data is reached, the results of each interview are analysed and interpreted in an on-going manner until the patterns or classification occur (Edvardsson, 1992). Participants mentioned that they feel 'empowered' within a group, and being in a group enables them to behave aggressively. Selected quotations are presented below.

> "Normally I won't point fingers at others, but that time I was a bit over the line I have to say. I feel we have more power because we're complaining in a group. Even if the behaviours were not right, they would become less wrong since we're in a group. My belonging within that group enabled me to behave out of line."

> "If I'm complaining or even hitting others by myself, I won't do that alone, but if I'm doing that with a bunch of people, even whom I don't know … I feel that we have more power to oppose the company. We have an old Chinese saying that 'weak things united become strong'. Being in a group strengthened my argument power."

> "Nobody knows who I am, so even if I hit that employee, I'm just fighting together with the others who complain together with me. I won't be caught by others, nor be caught to be responsible for that hitting incident."

The measurements for this group behaviour will be further illustrated in the later section on scale development. Based on the exploratory critical incident technique and interviews with 30 customers who claimed that they had fight delay service failure within the past six months, 6 new concepts emerged from consumers' perceptions of their aggressive behaviours, namely, customer appraisal, consumer skepticism, group empowerment, face loss, emotional contagion and consumer knowledge. Group empowerment as a newly developed construct will be further illustrated in the following section.

4.7 Main Study: Quantitative Survey

4.7.1 Measurements

According to Diamantopoulos and Siguaw (2006), a reflective measurement item assumes that the latent constructs have measurable indicators, and that errors are a result of the inability of the latent constructs to fully explain all of the indicators. Formative measurement assumes that the measured indicators cause the construct and the error is the result of the inability of the measured indicators to fully explain the construct (Diamantopoulos and Siguaw, 2006). The selection of using formative or reflective constructs requires careful consideration. As suggested by Diamantopoulos (2005) and Finn and Kayande (2005), it is both important as well necessary to decide whether to use formative and reflective constructs, from both theoretical and empirical perspectives, as the empirical analysis could provide important foundation for content validity, especially to detect error, misspecification and wrongly perceived theory. Taking both theoretical and empirical perspectives, apart from perceived justice, all other measurements for the current study will be reflective measurements, and the selection considerations are presented in the below section.

4.7.1.1 Measurement Mode Selection

Following Coltman et al.'s (2008) study, this research will also decide whether the measurements are formative or reflective based on the theoretical and empirical perspectives. For theoretical consideration, there are three criteria (Coltman et al., 2008): (1) nature of the construct; (2) causal direction between indicators and latent variable; (3) the indicators' characteristics that could measure the construct. All the constructs in the current research use a reflective measurement model, with the exception of perceived justice as a second order formative construct, but with first order indicators which are still reflective. The measurement mode selections are based on the following reasons. Theoretically speaking, first, all of the latent constructs exist independently of the measures used. Second, in terms of the causality from construct to items, the fact that the variation in the construct causes variation in the measurements, while the variation in measurements does not cause variation in the construct, determines the reflective model of the measures in this research. Third, all the items are inter-changeable and share a common theme within a construct, and so adding or dropping an item does not change the dominating concept of the construct. Therefore, all the measures are reflective constructs from the theoretical perspective. Regarding to perceived justice, theoretically speaking, it is a combination of its indicators—procedural justice, distributive justice and interactional justice. The variance of these three justice will cause variation in perceived justice and these three indicators define the composition of perceived justice, therefore, it is a formative construct.

As for the empirical perspective, the three criteria are: (1) item inter-correlation; (2) item relationships with construct antecedents and consequences; and (3) measurement error and collinearity. After data collection and data analysis, this research will also test item correlation, item relationship with construct and measurement error and collinearity to further examine whether the measurements are formative or reflective.

Regarding perceived justice as a formative construct, this follows the studies of Colquitt and Shaw (2005), Xue, Liang and Wu (2011) and Ambrose, Hess and Ganesan (2007) theoretically. The formative measurement will also be empirically analysed in Chapter 5.

Table 9 Reflective vs. Formative Measurements

Considerations	Reflective measurement	Formative measurement	Literature
Theoretical			
1. Nature of the construct	Latent construct exists: ➢ Latent construct exists independent of the measures used	Latent construct is formed: ➢ Latent constructs are a combination of its indicators	Borsboom et al. (2003, 2004)
2. Direction of causality between items and latent construct	Causality from construct to items: ➢ Variation in the construct causes variation in the item measures ➢ Variation in items measures does not cause variation in the construct	Causality from items to construct: ➢ Variation in the construct does not cause variation in the item measures ➢ Variation in item measures causes variation in the construct	Bollen and Lennox (1991); Edwards and Bagozzi (2000); Rossiter (2002); Jarvis, Mackenzie and Podsakoff (2003)
3. Characteristics of items used to measure the construct	Items are manifested by the construct: ➢ Items share a common theme ➢ Items are interchangeable ➢ Adding or dropping an item does not change the conceptual domain of the construct	Items define the construct: ➢ Items need not share a common theme ➢ Items are not interchangeable ➢ Adding or dropping an item may change the conceptual domain of the construct	Rossiter (2002); Jarvis, Mackenzie and Podsakoff (2003)
Empirical			
1. Item inter-correlation	Items should have high positive inter-correlations	Items can have any pattern of inter-correlation but should possess the same directional relationship	Cronbach (1951); Nunnally and Bemstein (1994);

	➢ Empirical tests: assessing internal consistency and reliability by Cronbach alpha, average variance extracted and factor loadings (e.g. from common or confirmatory factor analysis)	➢ Empirical test: no empirical assessment of indicator reliability possible; various preliminary analyses are useful to check directionality between items and construct	Diamantopoulos and Siguaw (2006)
2. Item relationships with construct antecedents and consequences	Items have similar sign and significance of the relationships with the antecedents/consequences as the construct ➢ Empirical tests: establishing content validity by theoretical considerations, assessing convergent and discriminant validity empirically	Items may not have similar significance of relationship with the antecedents/consequences as the construct ➢ Empirical tests: assessing nomological validity by using a MIMIC model, and/or structural linkage with another criterion variable	Bollen and Lennox (1991); Diamantopoulos and Winklhofer (2001); Diamantopoulos and Siguaw (2006)
3. Measurement error and collinearity	Identifying the error term in items is possible ➢ Empirical test: identifying and extracting measurement error by common factor analysis	Identifying the error term is not possible if the formative measurement model is estimated in isolation ➢ Empirical test: using the vanishing tetrad test to determine if the formative items behave as predicted ➢ Collinearity should be ruled out by standard diagnostics such as the condition index	Bollen and Ting (2000); Diamantopoulos (2006)

(Source: Coltman et al., 2008, p. 1252)

4.7.1.2 Measurements for the Current Study

All of the measurements in the current study were adopted using a 7-point Likert scale. Three items for measuring controllability and stability were adopted from Vázquez-Casielles, del Río-Lanza and Díaz-Martín (2007). Blame was adopted from a study by Joireman et al., (2013), and anger was adopted from Bougie, Pieters and Zeelenerg (2003). Consumer skepticism was adopted from Skarmeas and Leonidou (2013); consumer expertise was adopted from Chiou, Droge and Hanvanich (2002); face loss measurement was adopted from the study by Liao and Bond (2010) and emotional contagion was a three-item measurement adopted from Du, Fan and Feng (2014). Aggressiveness personality trait and atmospheric servicescape factors were adopted from Reynolds and Harris (2009). Finally, the dependent variable –consumers' aggressive behaviour, was adopted from the research by McColl-Kennedy et al. (2009) which they adopted from Deffenbacher et al. (2002) on measuring aggression. Since group empowerment is a new construct, Devellis' scale development process (2012) was followed to develop the measurements. After item pool generation, measurement format determination, item pool reviewed by experts, item validation, item pilot-testing and item revaluation, 13 items were finally used for data collection.

As Peter (1979) suggests, there is a virtual consensus among researchers that for a measurement to be valid and practically utilized it should possess reliability. The measurements adopted from the existing study could enable the reliability of the research. The most widely reported indicator for measuring reliability is coefficient alpha (Cronbach, 1951; Peterson, 1994). Nunnally (1978) suggests that a reasonable coefficient alpha is a value of greater than 0.7. Thus, in choosing the measurement of this study, special attention has been made to ensure the reasonable and acceptable coefficient alpha for the measurement has been made. From the extant literature, the reliability values for each construct are as follows in Table 10.

Table 10 Reliability of Existing Measurement Scales

Construct	Source	Reported Reliability Coefficient Alpha
Controllability	Adapted from Vázquez-Casielles, R., del Río-Lanza and Díaz-Martín, A.M (2007) 1. Ability to control the cause of problem 2. Ability to predict the cause of problem 3. Ability to avoid the problem	Adapted from Vázquez-Casielles, R., del Río-Lanza & Díaz-Martín, A.M., (2007; p. 261) 0.772
Stability	Adapted from Vázquez-Casielles, R., del Río-Lanza & Díaz-Martín, A.M., (2007) 1. Problem repeatability 2. Cause eliminability 3. Cause solvability 4. Cause frequency	Adapted from Vázquez-Casielles, R., del Río-Lanza & Díaz-Martín, A.M., (2007; p. 261) 0.795
Blame	Adapted from Joireman et al (2013) 1. Responsibility attribution 2. Fault attribution 3. Degree of blame	Joireman et al (2013; p. 334) 0.87
Service failure severity	Adapted from Hess, Ganesan and Klein (2003) 1. Mild service problem 2. Major service problem 3. Insignificant service problem	Hess, Ganesan and Klein (2003; p.43) 0.96
Anger	Adapted from Bougie, Pieters and Zeelenberg (2003) 1. Enraged 2. Angry 3. Mad	Bougie, Pieters and Zeelenberg (2003, p. 386) 0.921
Perceived justice	Adapted from Maxham and Netemeyer (2002) The employee(s) who interacted with me ... ...treated me in a polite manner. ... gave me detailed explanations and relevant advice. ... treated me with respect. ... treated me with empathy Overall, the outcomes I received from the service firm were fair. Given the time, money and hassle, I got fair outcomes. I got what I deserved.	Grégoire, Laufer and Tripp (2010; p. 756) Study 1: .91; Study 2: .95 Study 1: .93; Study 2: .98 Study 1: .93; Study 2: .96

	Despite the hassle caused by the problem, the firm responded fairly and quickly. I feel the firm responded in a timely fashion to the problem. I believe the firm has fair policies and practices to handle problems. With respect to its policies and procedures, the firm handled the problem in a fair manner.	
Consumer skepticism	Adapted from Skarmeas and Leonidou (2013) 1. doubtless/doubtful about 2. certain/uncertain about 3. sure/unsure 4. unquestionable/questionable	Skarmeas and Leonidou (2013; p. 5) 0.92
Consumer expertise	Adapted from Chiou, Droge and Hanvanich (2002) 1. Compared to the average person, my knowledge about mutual funds is very extensive. 2. Compared to the average person, I know more about how to purchase mutual funds. 3. I have accessed different aspects of mutual fund information. 4. I completely understand mutual funds.	Chiou, Droge and Hanvanich (2002) Low – High
Emotional contagion	Adapted from Du, Fan and Feng (2014) 1. People around me are having a heated discussion with sharp words. 2. People around me look quite serious and angry. 3. People around me frequently shake their heads to complain about the hotel/cafeteria.	Du, Fan and Feng (2014; p. 330) Experiment 1: 0.88 Experiment 2: 0.73
Face Loss	Adapted from Liao and Bond (2011) 1. The person's actions made you look weak and unable to control what was happening. 2. The person's actions made you look intimidated to other people. 3. The person's actions made you feel intimidated. 4. What the person did damaged your reputation in the eyes of other people. 5. What the person did damaged your self-image. 6. The person's actions hurt your self-esteem.	Liao and Bond (2011; p. 32) Hong Kong: 0.87 US: 0.86
Servicescape	Adapted from Reynolds and Harris (2009) 1. The temperature inside of the outlet was pleasant. 2. The music inside of the outlet was too loud.	Reynolds and Harris (2009; p. 332-333)

	3. The air quality inside of the outlet was poor. 4. The outlet was very clean.	0.91
Aggressiveness	Adapted from Daunt and Harris (2011) 1. Given enough provocation, I may hit another person. 2. I rarely find myself disagreeing with other people. 3. When people annoy me, I tell them what I think. 4. When frustrated, I let my irritation show. 5. Some of my friends think that I am hot-headed. 6. When people are especially nice, I wonder what they want.	Daunt and Harris (2011) 0.92
Customer Aggression	Adapted from McColly-Kennedy et al (2009;230) Swore/cursed aloud during my interaction with the service employee(s) Made negative comments about the service employee(s) or organization aloud Made insulting remarks to the service employee(s) Yelled at the service employee(s) Raised my voice at the service employee(s) Made physical contact with a service employee in anger Tried to physically harm a service employee Threatened to do physical harm to the service employee(s) Tried to cause damage to the service organization's property Threatened to damage the service organization's property Shook my head at the service employee(s) Rolled my eyes at the service employee(s) Gave the service employee(s) dirty looks Glared at the service employee(s)	The measurement Customers' aggressive behaviour was adopted McColl-Kennedy et al. (2009) which they adopted from Deffenbacher et al. (2002) on measuring aggression McColly-Kennedy et al (2009; p. 229) sample 1 ; sample 2 0.85; 0.86

4.7.2 Scale Development

The systematic process of refining the observable measures into dimensions and constructs which are reliable and valid will help ensure the generalizability of the research findings, and lead to proper conclusions for the current study (Devellis, 2012). The constructs must have theoretical and observable meanings, while satisfying the analysis for reliability, convergent validity and discriminant validity (Steenkamp and Trijp, 1991; Netemeyer, Bearden and Sharma, 2003). Based on Devellis' (2012) and Churchill's guidance (1979), procedures for developing better measurements in marketing research are presented in the figure below.

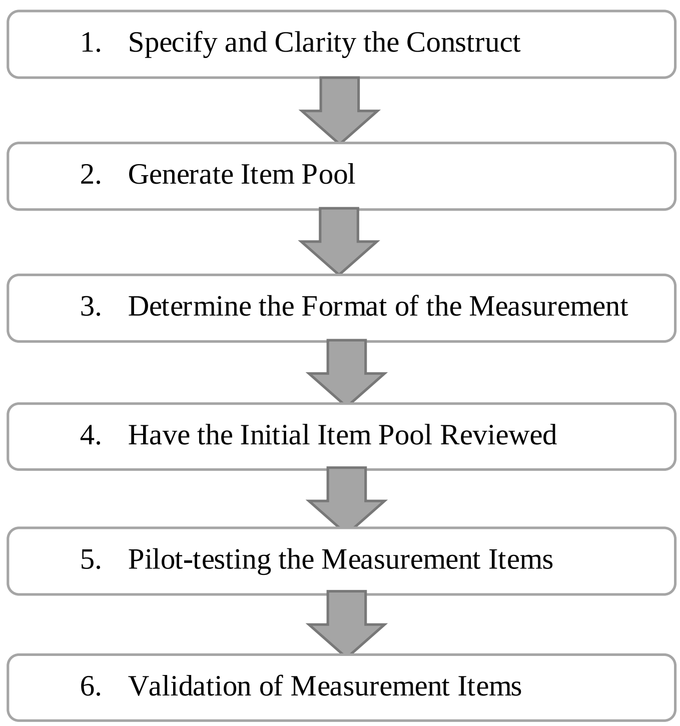

Figure 17 Procedures for Measurement Scale Development

Step one: specify and clarify the constructs

The first stage is to specify and clarify the operational definition of the construct and its relevant dimensions. It needs to have a clear understanding of what should be included in the conceptual specification and what should be excluded (Churchill, 1979; Devellis, 2012). This research reviewed relevant literature on group empowerment, namely popular mind (Le Bon, 1895/1995), deindividuation theory (Festinger, Pepitone and Newcomb (1952; Zimbardo, 1969; Postmes and Spears, 1998), social identity theory (Tajfel and Turner, 1979; Reicher, Spears and Postmes, 1995; Kugihara, 2001) and collective action in groups (Drury et al., 2005; Drury and Reicher, 2009), which facilitated the specificity and clarity of building the group empowerment construct. Group empowerment is defined as customers' perceived power when they take actions together in a group.

Step two: generate item pool

The second stage is to generate an item pool which is relevant to the context of the study. This is to ensure that the scale measure covers the entire meanings of the construct domain. The scale items should exhibit the content and face validity (Netemeyer, Bearden and Sharma, 2003). The initial content for the item started as "in a situation where I need to complain with others, I would/would not feel empowered within a group", which included both positive and negative wording following Develli's guidance (2012).

Step three: determine the format of the measurement

This research used a likert scale for the group empowerment construct because it is widely used in measuring constructs, e.g. opinion, attitude and behaviour. Further, the selection of a 7-point Likert scale is also consistent with other measurements adopted from the literature. As stage two illustrated, a Likert scale item is presented as a declarative sentence, followed with response options which indicate different degrees of agreement of the statement. The response options for the current study are worded ranging from "strongly disagree to strongly agree" with the options intended to represent equal intervals.

Step four: Have the initial item pool reviewed

The generated group empowerment items are reviewed by professors in marketing and a few PhD students in relevant fields to give comments to better improve the initial item pool, thus confirming and validating the definition of the construct.

Step five: Pilot testing the measurement items

A convenience-based sampling method was used for the pilot study. During this stage, the content and face validity were checked with the participants.

Step six: Validation of measurement items

All of the feedbacks from the pilot study were incorporated in the final questionnaire. Then Exploratory Factor Analysis (EFA) was performed. There are 13 items used in the following study. The mean of group empowerment is 4.38, and Standard Deviation is 1.27, with Cronbach's Alpha =.942. EFA= (.721—.911).

The newly developed group empowerment construct together with the other measurements will be designed in the questionnaire. The detailed questionnaire design is given in the following section.

4.7.3 Questionnaire Design

The questionnaire design for this study follows multiple stages, involving literature review of the existing measurement, exploratory interview to identify the key concepts and constructs for the study which have been illustrated in the previous section. This section will describe the questionnaire design.

This study design's questionnaire following Dillman (1991) Dillman, Sinclair and Clark (1993)'s guidance on the design of administration of the questionnaire, in order to increase the response rate. In order to generalize the survey results to the population, this research takes the non-response error and measurement error into consideration in designing the questionnaire (Groves, 1989). Non-response error refers to the fact that some of the members in the population do not respond to the survey. Measurement error refers to the discrepancy between the unobserved variables and the observed variables. Non-response errors stem from non-observation, while measurement errors result from respondents' characteristics (inability to provide accurate information or, for whatever reason, a motivation to provide inaccurate information), characteristics of questions (questions phrased which cannot be answered correctly) and those of the questionnaire (the order of the questions presented). For the current study, questions are selected and presented in ways such that respondents are given accurate information, followed be pilot studies to check for content and face validity. Thus, measurement error can be minimized. Further, according to Dillman (1991) a good sample is one in which all members have the opportunity to be surveyed and respondents who are surveyed are randomly supplied. This study distributes questionnaires both online and offline (detailed data collection can be referred to 4.7.6). The self-administered questionnaire and Total Design Method (TDM) are adopted to minimize measurement and non-response error. Finally, as suggested by Lindell and Whitney (2001) this study also put the marker variable before dependent variable in order to avoid common method variance. There are some advantages and disadvantages of self-administered questionnaires according to Bernard (2013, p. 220-223), as presented in Table 11.

Table 11 Advantages and Disadvantages of the Self-Administrated Questionnaire

	Advantages	**Disadvantages**
1.	It allows the single researcher to gather data from a large representative sample of respondents, at a relatively low cost per data set.	On a self-administered instrument, researchers have no control over how respondents interpret questions.
2.	All respondents get the same questions, unaffected by interviewer bias.	Low response rate, 20%-30% from mailed questionnaire.
3.	More complex questions can be asked with self-administered questionnaire than personal interview, as questions that require a long list of response categories or a lot of background data are hard to follow orally, but are often interesting if worded effectively.	Even if the internet questionnaire is returned, it cannot be sure that the person who received it is the person who filled it out.
4.	Researchers can ask long batteries of questions on self-administered questionnaires, which will be difficult and boring to ask through personal interview.	Self-administered questionnaires are often prone to sampling problems. The online survey may miss out respondents who are not the users of those websites. And the online survey is largely on a voluntary basis.
5.	In self-administered questionnaires, respondents are not trying to impress anyone, and anonymity provides respondents a sense of security.	In some cases, the researcher may want respondents to have no knowledge about the forthcoming questions, but it might be difficult in self-administered paper questionnaires.

6.	It can be programmed or designed to a computer-based or electronic-based questionnaire, which will be the method for the current study.	The self-administered questionnaire is not useful for non-literate or illiterate populations.

(Source: Bernard, 2000, p. 231-234)

The Total Design Method (TDM) is a good approach to obtain quality responses (Dillman, 1972, 1978). This approach posits that the questionnaire recipients are more likely to respond if they perceive that they would get more benefits by doing it. Thus, the questionnaire development and survey implementation process are conducted to increase recipients' perceived benefits through the following steps. First, perceived costs are reduced – making the questionnaire appear easier and less time-consuming. Second, perceived benefits are increased – making questions more interesting, so that filling out the questionnaire might be more enjoyable, and providing incentives for filling out the questionnaire. Third, trust is increased – using official stationery. Taking these procedures into consideration, this research designs a questionnaire more convenient for customers in order to increase the response rate (questionnaire can be referred in Appendix 3). A pre-test of the questionnaire will be carried out in the pilot study, which will be further elaborated in the following section.

4.7.4 Pilot study

As the previous section suggested, the questionnaire needs to be tested through a pilot study. In order to eliminate potential problems in the questionnaire and improve the quality of the survey, each question is reviewed in this process. This review includes making sure the questions are not confusing, ambiguous, offensive, or leading (Malhotra, 2004). The major advantage of conducting a pilot study is that it can help predict or foresee in which area the main study might fail, where the research protocol may not be followed, whether the research method or instruments are appropriate, and whether the research instruments or constructs are too complicated to follow, and so on (Baker, 1994).

The questionnaire was tested in terms of question content, wording, sequence, questionnaire layout, difficulties and instructions regarding how to fill in the questionnaire. Malhotra (2004) suggested that the survey pre-test is better if done using personal interview method, even if the actual survey data collection may be done through phone, mail or online means. In that case, the researcher could observe participants' reactions. Bernard (2013) further indicated that the observation should be made between 6 and 10 participants, in order to identify the un-anticipated questions in the survey. It can also enable the researcher to understand how respondents understand the questions and coments. The questionnaire in the current study was tested initially by a pilot study, which was conducted using students' sample as well as being carried out in the local airports. This research pre-tested 30 consumers about their last flight delay service failure experience in the airport and made some minor alterations to the questionnaire. The reliability of all of the items in the pilot study are above 0.7, suggesting the validation and assurance of these items. In addition, a few inadequate and ambiguous items which are caused by translation [e.g. "The cause of the flight delay is very likely to be solvable only temporarily (so it will reoccur)"; and "The employee'/s' actions made you feel weak and unable to control what was happening"] have been discovered. The researcher back translated these items in order to make them clearer to the reader. Moreover, the time, approximate cost and any challenges that might have in actual data collection have been estimated as well.

4.7.5 Construct Validity

Validity helps to confirm how well a measurement reflects its unobservable construct by establishing the relationship between the observed variables and the unobservable variables and the observed variables with the other observed variables (Ping, 2004). Validity is critical because it concerns the relationship between a concept and its indicator (Venkatraman and Grant, 1986). Ensuring the validity of the construct is crucial in theory development and testing; thus, it is the foundation of research development, and it can also help to make sure that the findings of the research can be shared or generalized with confidence in future studies (Steenkamp and Trijp, 1991; Mentzer and Flint, 1997).Construct validity requires confirmation of a measure's ability to measure a construct it is actually intended to measure (Netemeyer, 2001). Construct validity consists of a number of sub-dimensions, such as content and face validity, reliability, convergent validity, and discriminant validity (Venkatraman and Grant, 1986; Garver and Mentzer, 1999).

4.7.5.1 Content and face validity

Content validity is defined (Hardesty and Bearden, 2004) as "the degree to which a measure's items represent a proper sample of the theoretical content domain of a construct" (p. 99), while face validity is defined as the extent to which a measurement *appears to* reflect what it intends to measure, through a cursory evaluation.

Content and face validity reflect the extent to which a construct is translated into the operationalization of measuring a construct. Churchill (1979, p. 69) suggested that when the sample size is appropriate and the items look appropriate, the measurement has content and face validity. According to Netemeyer, Bearden and Sharma (2003), face validity assesses the adequacy of the items of a scale in measuring the construct of interest; while the content validity assesses whether the elements of the measuring items are relevant to or can represent the construct. High face validity would enhance cooperation from respondents because it ensures the ease of use, clarity, and clear and consistent instruction and response format.

To gain assurance over the content and face validity, the researcher asked a few questions: "What is the nature and domain of the construct and do the specific items intended to measure this construct match the conceptual definition, and tap the domain of the construct?" and "Is the construct adequately represented by the scale items?" Assessing the content and face validity is mostly subjective and will largely depend on the researcher's experience and knowledge in the research field. The significance of content and face validity cannot be overestimated, since a measurement cannot obtain construct validity without content or face validity, no matter what statistical evaluation it has (Gerbing and Anderson, 1988).

4.7.5.2 Reliability

Reliability refers to the internal consistency of a scale to measure a latent variable (Cronbach and Meehl, 1955; Churchill and Peter, 1984). It assesses the degree of consistency between multiple measurements of a variable (Churchill, 1979). Hair et al. (1998) define reliability as the extent to which a variable or a set of variables is consistent in what it intends to measure. Coefficient alpha α is the most commonly used index for measuring reliability. Coefficient alpha at a value of 0.7 or above is considered to be reliable (Churchill, 1979). Furthermore, there are a few additional SEM reliability measures, such as (1) composite reliability (Bagazzi and Yi, 1988; Baumgartner and Homburg, 1996; Netemeyer, Bearden and Sharma, 2003; Ping, 2004); (2) average variance extracted (AVE) (Fornell and Larcker, 1981; Hair et al., 1998; Baumgartner and Homburg, 1996; Netemeyer, Bearden and Sharma 2003; Ping, 2004) and (3) items reliability R^2 measure (Bollen 1989; Joreskog and Sorbom, 1993; Byrne, 1998; Diamantopoulos and Siguaw, 2000).

Composite reliability indicates that each item does not have equal reliability, and the reliability value greater than 0.6 is recommended (Bagozzi and Yi, 1988; Bagozzi and Baumgartner, 1994), Hair et al. (1998) suggest that the threshold value for the composite reliability is 0.7. A reasonable and rigorous level of average variance extracted is above 0.5 according to Fornell and Larcker (1981). That is to say, the variance accounted for by each construct is greater than the variance accounted for by measurement error (Fornell and Larcker, 1981). Netemeyer, Bearden and Sharma (2003) further suggest that for a newly developed construct, the threshold value near 0.5 (0.45) could also be reasonable. The R^2 measures the linear relationship between the scale item and the latent variable. The higher the R^2 value the greater the explanatory power from the hypothesized relationship (Diamantopoulos and Siguaw, 2000), and the R^2 value should be ranging from 0 to 1 (Bollen, 1989; Byrne, 1998). The α, composite reliability, AVE and R^2 will be analysed in the next chapter.

4.7.5.3 Convergent Validity and Discriminant Validity

Convergent validity assesses the degree to which the measures of the same concept are correlated. The higher the correlation signifies whether the scale is measuring its intended concept. Discriminant validity is the degree to which the measures of one construct are not correlated with other measures of other constructs (Straub, Boudreau and Gefen, 2004; Hair et al., 2006). Churchill (1979, p. 70) suggests that the discriminant validity is the 'extent to which the measure is indeed novel and not simply a reflection of some other variables'. It requires that a measurement does not correlate too much with other measurements that are intended to be distinct (Netemeyer, Bearden and Sharma, 2003). Items from one construct should not converge too closely with items from different constructs. Different constructs correlating too high may suggest that the same construct is being measured rather than different ones. Thus, low correlations between constructs indicate discriminant validity (Dabholkar, Thorpe and Rentz, 1996). The results for the convergent and discriminant validity are presented in the data analysis chapter.

4.7.6 Quantitative Data Collection

All the questionnaire items were translated by the researcher, who is proficient in English and Chinese. The translation then was given to two professional staff members in the English studies department to verify the ambiguous parts and to amend the inaccuracy. The accuracy of the survey are achieved by re-translation and back-translation procedure (Brislin, 1980).

This study will use both online questionnaire and paper version questionnaire. The paper questionnaire was enclosed with an official cover letter from the university explaining the purpose of the survey. The researcher adopted drop off and collect method to distribute paper questionnaires in major Chinese airports where customers were waiting for their flights. Participants who answered the questionnaire would get RMB 20 cash as a reward to participate in this study. A total of 800 questionnaires were distributed, and a total of 220 questionnaires returned, yielding a response rate of 27.5%.

The questionnaire was also posted on major travel websites. An online questionnaire was used because some of the questions may be perceived as sensitive by the respondents, and thus the online-based self-administered questionnaire may be more appropriate when some questions involve violent interpersonal behaviours

(Bernard, 2013). Since customers' aggressive behaviour might be deemed sensitive by some customers, this study will also post the questionnaire online. A voucher ranging from RMB 20 to RMB 100, generated by the automated selection of the system, will be provided as an incentive to consumers participating in this project. Finally, there are 195 questionnaires collected from the online websites. The detailed research results will be presented in the next chapter.

4.8 Ethical Issues

All respondents participating in this research, no matter in the interview or survey session, have been informed that their identities were totally anonymous (Bryman, 2012) and that the results of this study would be used in this thesis and in publication in academic journal articles only. They were also told that their participation in this research was on a voluntary basis and that they have the right to withdraw from this research at any time (Kvale, 2007). It has also been ensured that only the researcher has the access right to data. Regarding the release of the research to airline company, it would only be done via a summary of this research (Saunders, Lewis and Thornhill, 2003; Kvale, 2007; Flick, 2007). If the participants' responses are to be shown in the content of the released report, some codes or pseudonyms are to be used (Kvale, 2007).

4.9 Summary of the Chapter

This chapter gives an insight into the philosophical foundations on which the research paradigm is based, and shows how it guides the entire research for this thesis. The rationale for the research setting was given both in terms of approach in developing the research instrument design and the processes involved during data collection and analysis. This research has used both qualitative interviews adopting critical incident technique and quantitative survey methods for data collection. The exploratory interview was adopted to seek better and deeper understanding of the consumers in relation to the flight delay service failure. The exploratory results suggested two groups of incidents, and the group empowerment construct has been developed following Churchill’s (1979) and Devellis’ (2012) scale development procedure. The measurements of the current study have been discussed and presented. The preliminary questionnaire was pre-tested in a pilot study using convenience sampling method in order to refine this survey for future main study. After careful design of the research, this study will follow rigorous data analysis methods and procedures. The data results will be provided in the next section.

Chapter 5 Data Analysis

5.1 Introduction

The previous chapter analysed the philosophical foundation, research paradigm, ontology, epistemology and methodology in the current study. It also illustrated the philosophical foundation for the mixed research methods. The previous chapter presented the data collection procedures in the exploratory study. After the data analysis in the exploratory section, the measurement selection and scale development and validation were further illustrated. Followed by the pilot test for face, content validity and reliability, last chapter also finalized the questionnaire and collected the survey data. This chapter presents the research findings via rigorous data analysis to provide suggestions to academics and practitioners. This chapter consists of four sections. Section one gives an introduction of the chapter. Section two will provide a summary of the research findings from the qualitative exploratory study. Section three will illustrate the survey findings from the perspectives of (1) data screening; (2) non-response bias; (3) common method bias; (4) exploratory factor analysis (EFA); (5) structural equation modelling elaboration; (6) reflective measurement model assessment; (7) formative measurement model assessment; (8) structural model assessment; and (9) overall model fit. The final section summarizes the research result.

5.2 Summary of Results from the Qualitative Study

In the interview session using critical incident technique (CIT), the previous chapter illustrated the exploratory research finding, which further confirmed the research hypotheses as well as developing the group empowerment construct, which provides an opportunity for use of the survey method. This section will summarize the result of the exploratory study before moving to the detailed data presentation in the survey study. After analysing data using grouping and coding methods, this study reveals two groups of incidents which elicited customers' aggressive behaviours. Specifically, first, customers would appraise the service failure situation and seek reasons for the service failure – what caused the service failure and who should be blamed for the service failure, the severity of the service failure, whether they perceive that they have been treated fairly, and whether they trust the company's claims and motives. The second category is more related to customers' elevated anger which is generated in the interactions with service environment and social encounters. For example, customers indicated that they behave aggressively because their anger, which is triggered by appraisal, is strengthened when (i) they perceive they are in a group; or (ii) their face is damaged; or (iii) their anger is transmitted and spread out; or (iv) they obtain more knowledge. The two groups of incidents are summarized in table 12.

Table 12 Incidents which may lead to customers' aggressive behaviour

Group 1 Appraise the causes of the service failure (13 incidents) ■ Company or employee should be blamed/attributed responsibility for the failure (3) ■ Process and treatment from the service interaction (2) ■ Severity of service failure (3) ■ Customers who do not believe company's claims (5)
Group 2 Elicited anger in service interaction (17 incidents) ■ More power or solidarity among group members (6) ■ Feeling of losing face when interacting with front-line service staff (4) ■ Transmitted anger among consumers (4) ■ Previous knowledge and expert consumer (3)

5.3 Results of the Survey Study

5.3.1 Data Screening

This section will discuss the data screening process, as the quality of the statistical results depends on careful work in the data preparation phase. Inadequate attention to data preparation can jeopardize the statistical results, which might lead to biased findings and incorrect data interpretation (Malhotra, 2004).

5.3.1.1 Data Cleaning

All the returned questionnaires were checked, decoded and recorded on the database using SPSS 22. This research used the frequency function to check whether there are extreme values which might be caused by data entry error. The box plot and stem and leaf options were used to identify outliers (Bryman and Cramer, 1997). According to the preliminary data check, 16 questionnaires were eliminated because there were more than 30% missing items in the total response (Hair et al., 1998). A total of 399 questionnaires were used for data analysis.

5.3.1.2 Demographics

The respondents' demographic factors were measured by their gender, age and income level. 43.40% respondents were male and 56.60% of them were female. Customers' annual income level range from less than 100,000 (40.10%), 100,000-200,000 (30.83%) and more than 200,000 (29.07%). 70.90% of the consumers had a bachelor's degree, 20.60% a master's degree or above, and 8.50% a high school education or below. The detailed participant profiles both online and offline are in the table below.

Table 13 Demographic Data Characteristics

Profiles	**Offline (209)**		**Online (190)**		**Total**	
Gender						
F	119	56.94%	107	56.32%	226	56.60%
M	90	43.06%	83	43.68%	173	43.40%
Age						
18-24	43	20.57%	34	17.89%	77	19.30%
25-29	72	34.45%	74	38.95%	146	36.60%
30-39	63	30.14%	61	32.11%	124	31.10%
40-49	22	10.53%	18	9.47%	40	10.00%
>49	9	4.31%	3	1.58%	12	3%
Income						
<100K	85	40.67%	75	39.47%	160	40.10%
100K—200K	64	30.65%	59	31.05%	123	30.83%
>200K	60	28.71%	56	29.47%	116	29.07%
Frequency						
Never	3	1.44%	10	5.26%	13	3.30%
≤6	161	77.03%	135	71.05%	296	74.20%
>6	45	21.53%	45	23.68%	90	22.60%

Education						
High school education and below	25	11.96%	9	4.74%	34	8.50%
Bachelor's	139	66.51%	144	75.79%	283	70.90%
Master's and above	45	21.53%	37	19.47%	82	20.60%

5.3.2 Non-responses Bias Assessment

The non-response bias was assessed by the early and late respondents. The early and the late respondents refer to the first 75% and the remaining 25% of the data respectively (Armstrong and Overton 1977). This research tested the non-responses bias for the online survey. The results showed no significant differences between the early and the late variables (see Appendix 4), nor the differences between demographic variables (Diamantopoulos and Winklhofer 2001), suggesting that the response bias is not an issue in this study.

5.3.3 Assessment of Common Method Bias

Since data for the model variables were collected from single respondent and in a one-time survey, therefore, common method variance (CMV) requires researcher's attention, because CMV might cause the inflation or deflation of the relationship among constructs (Sattler et al., 2010). Harman's one-factor test (Podsakoff and Organ, 1986) was conducted to examine common method bias for the current study. The results suggested that the first factor accounted for only 25.41% of the variance, indicating that there is no common method bias problem, since no single factor accounted for most of the variance in the current study (Cheng, 2011). Apart from Harman's single factor test, marker variable technique was also adopted for assessing the common method bias (Lindell and Whitney 2001). A marker variable is theoretically unrelated with any variables in the research model (Malhotra, Kim, and Patil, 2006). The marker variable included in this study is green value, and is represented by the item: “Green products’ environmental functions provide very good value for me.” (Chen and Chang, 2012). Firstly, green value has not been hypothesized to be related to any variables in the current model theoretically. Secondly, results showed that the marker variable did not relate to any of the variables of interest. Finally, the marker variable was included in a structural equation model (SEM) and the structural parameters of both models – with and without the marker variable – were compared (Podsakoff et al., 2003). The findings suggest no notable differences and the theorized paths remain stable and significant, suggesting that CMV cannot account for the results. To sum up, the adoption of procedural methods followed with two statistical tests suggest that common method bias does not significantly influence the parameters estimates of this study.

5.3.4 Exploratory Factor Analysis (EFA)

Since most of the items are adopted from reliable measurements from existing studies, the EFA method was used to check the factorability of the data and to reduce items that are not complying with the requirements (Medsker, Willians and Holahan, 1994). The exploratory factor analysis (EFA) was conducted using SPSS 22. Factor loadings which are greater than ±0.4 were used in the interpretation of the results in principal component analysis. The detailed EFA result is presented in Appendix 5

After EFA analysis, the results suggest that all of the factors' KMO are greater than 0.6 and the results from Bartlett's Test of Sphericity are very significant ($p<0.000$). The percentages of Total Variance Explained by the factor solution are greater than 60%. Eight items were deleted, included three for cross loading.

5.3.5 Structural Equation Modelling

This research will use Partial Least Squares Structural Equation Modelling (PLS-SEM) method to assess the structural model of this research. The reasons for choosing (PLS-SEM) are, firstly, PLS-SEM can achieve a high level of statistical power even with a relatively small sample size (Hair et al., 2014). Secondly, PLS-SEM can handle both formative and reflective measurement models even when models have high complexity (Hair et al., 2014). PLS is particularly suitable for research which focuses on predicting the latent variables within a model and identifying relationships among them. Thirdly, PLS-SEM solves the hold-out sample issue, and the resampling bootstrapping technique enables researchers to guarantee the estimation robustness of the data. Therefore, PLS-SEM is more suitable than Covariance-based SEM (CB-SEM), which focuses more on confirming a theoretical relationship (Reinartz, Haenlein and Henseler, 2009). This study examines complex structural model relationships among cognitive appraisals – blame, perceived justice (formative construct), service failure severity, anger and customer aggressive behaviour, with consumer skepticism, group empowerment, face loss, emotional contagion and consumer expertise as moderators. Based on the complexity of the model as well as the impact of the formative construct, PLS-SEM method seems to be more appropriate. The current study used SmartPLS 2.0 (Ringle, Wende and Will, 2005) for structural equation model estimation.

5.3.6 Assessment of Reflective Measurement Model

As mentioned in section 4.7.1, most of the measurements are reflective measurements based on the theoretical foundation, with the exception of perceived justice, which is formed by a reflective-formative hierarchical latent variable. The detailed data analysis method for this reflective-formative hierarchical construct will be presented in the next paragraph. In order to further test whether these measurements measuring reflectively, this research will also test the internal consistency, indicator reliability, convergent validity and discriminant validity for the model's performance. The internal consistency and indicator reliability are tested via composite reliability and outer loading. The current research results suggest that the composite reliability and outer loadings are higher than 0.708. The detailed results are presented in Appendix 6. The convergent validity was assessed by average variance extracted (AVE). All of the constructs meet the criteria AVE greater than 0.50 (Hair et al, 2012) (see Appendix 6). Regarding the discriminant validity, two approaches are adopted by this study. First, this research examines the indicators' cross loadings. It suggests that all of the indicator loadings are less than the opposing endogenous constructs (Hair et al., 2012). Secondly, according to Fornell and Larcke (1981), the square root of the constructs' AVE was calculated to compare to the correlations of the construct, which shows that each construct shares more variance with its own instead of the other construct. The detailed results are presented in Appendix 6. As indicated in Appendix 6, the square root of all constructs' AVEs on the diagonal are higher than the correlations with other constructs, which indicates that each construct shares more variance with itself rather than other constructs, suggesting discriminant validity.

5.3.7 Assessment of Formative Measurement Model

Regarding the perceived justice, which is a second order hierarchical latent variable (reflective-formative), this study conducted a repeated indicator approach followed by Becker, Klein and Wetzels (2012), Lohmöller (1989), and Wold (1982). A repeated indicator approach means a higher-order latent variable is constructed by all the manifest variables of the lower-order latent variable (Lohmöller, 1989). The repeated indicator is suitable for the current study because the lower order constructs have an equal number of indicators (Chin, Marcolin and Newsted, 2003; Becker, Klein and Wetzels, 2012; Ringle, Sarstedt and Straub, 2012). As in the current study, procedural justice, distributive justice and interactional justice all have four indicators. Furthermore, the repeated indicator approach enables the estimation of all constructs simultaneously, instead of estimating lower and higher order dimensions separately. This takes all of the nomological network into account, instead of being limited to lower level or higher level, thus avoiding a confounded interpretation (Becker, Klein and Wetzels, 2012).

In the current study, all the reflective first order facets demonstrate satisfactory convergent validity and reliability – AVE above .50 and composite reliability above .70. Regarding discriminant validity, both indicators' cross loadings and Fornell and Larcke's method (1981) were adopted. The results suggest that all indicators' outer loadings are greater than cross loadings. The square root of each construct is higher than its highest correlation with any other construct. The detailed results are presented in Table 14. For the formative construct, the multi-collinearity is also accessed by SPSS 22. The Tolerance level ranged from 0.276-0.338 above 0.2 and VIF ranged from 2.958-4.676, which is below 5 threshold (Hair et al., 2014), suggesting no multi-collinearity issue. Regarding the significance and relevance of the formative perceived justice, this study follows Hair et al. (2014)'s instruction and checks the formation of a formative indicator through outer weight, R^2 and outer loading. Since there are three indicators, therefore, the maximum outer weight is $1/\sqrt{3}=0.57735$ (Hair et al., 2014). By utilizing SmartPLS 2.0, the outer weight for the formative indicators are all lower than 0.57735, and results are presented in Table 14. The R^2 for perceived justice is 1.0, which suggests that all the indicators (i.e. procedural justice, distributive justice and interactional justice) truly contribute to forming the construct of perceived justice (Hair et al., 2014). The outer loading for these indicators are also presented in Table 14.

Table 14 Significance and Relevance of the Formative Perceived Justice

	Outer Loading	Outer Weight (<0.57735)	AVE	CR
Procedural Justice	0.8536-0.8977	0.0681-0.0739	0.8924	0.7303
Distributive Justice	0.7311-0.8785	0.2427-0.321	0.6759	0.929
Interactional Justice	0.813-0.8817	0.2775-0.3048	0.7658	0.9154

5.3.8 Assessment of the Structural Model

In order to assess the model structure, firstly, this study examined the multi-collinearity in SPSS for the predicting constructs. All of the constructs in the current study follow the tolerance level above 0.2 and VIF below 5 threshold (Hair et al., 2014). The tolerance level ranged from 0.383-0.823 and VIF ranged from 1.215-2.609 for the current study, indicating non-collinearity.

This study also assesses Coefficient of Determination R^2, since R^2 is the most commonly used measurement to evaluate the structural model's predictive accuracy. R^2 is the key criterion for assessing the quality of the model structure as it illustrates the percentage of the variance of the constructs that explains. The results suggest that R^2 for aggressive behaviour is 58.7%, which demonstrates an above moderate explanatory power (Hair, Ringle and Sarstedt, 2011).

The mediation effect has been examined through two procedures. Firstly, this study followed Baron and Kenny (1986)'s approach for examining whether anger mediates the relationship between blame attribution, perceived justice, service failure severity and aggressive behaviour. Then the Sobel Test Calculator was also used for testing the mediation effect (Sobel, 2015). The results suggested that anger mediates the relationship between blame attribution (p=0.014), perceived justice (p=0.033) and service severity (p=0.004) and aggressive behaviour. This study further tested the Variance Accounted For (VAF) in order to examine how much the variance of the dependent variable is explained directly by the independent variable and the extent to which the variance of the dependent variable is explained by the independent variable through the mediator variable, as suggested by Hair et al. (2014). The VAFs for the current study – blame attribution-anger-aggressive behaviour, perceived justice-anger-aggressive behaviour, and service severity-anger-aggressive behavior – are 41.24 %, 37.70% and 38.13% respectively, suggesting a partial mediation. That is to say, customer anger partially mediates cognitive appraisals and aggressive behaviour, which indicates a support for H1a-H1c. It suggests that, Anger mediates the relationship between appraisal components (i.e. blame, perceived justice and failure severity) and aggressive behaviour. Also, appraisal components can lead directly to aggressive behaviour, although the effect is weaker.

Table 15 Mediation Test Results

Mediation Effect	Variables	Path Coefficient	P Value	T Value	Sobel Test P Value for Mediation	VAF	Hypotheses
BL->ANG-> AB	BL ->ANG	0.4419	*	2.3171	0.014**	41.24%, partial mediation	H1a: Accepted
	ANG-> AB	0.3733	*	2.4478			
	BL -> AB	0.2730	*	2.2579			
PJ -> ANG -> AB	PJ -> ANG	-0.1431	*	1.9893	0.033**	37.70%, partial mediation	H1b: Accepted
	ANG -> AB	0.4070	*	2.1200			
	PJ -> AGG	-0.2114	**	2.0530			
SFS -> ANG -> AB	SFS -> ANG	0.5735	***	4.5458	0.004***		H1c: Accepted
	ANG -> AB	0.444	*	2.0248			

	SFS -> AB	0.1844	*	1.9656		38.13%, partial mediation	
Note: P<0.001 ***; P<0.01 **; P<0.05 *; P> 0.05=N.S. BL: Blame; ANG: Anger; PJ: perceived justice; SFS: Service failure severity; AB: aggressive behaviour							

Further, this study performed a bootstrapping procedure to test the coefficients for the significances (Hair et al., 2014). Since there are 399 survey respondents, this research sets the bootstrap cases as 399, while using 5,000 as the bootstrap samples. Bootstrap means that "a number of subsamples are drawn from the original sample with replacement mean" (Hair et al., 2014, p. 132). The bootstrapping distribution can be viewed as a reasonable estimation of a predicted coefficient's distribution in the population. The critical t values above 1.96 indicate significance. The bootstrapped results suggest that most of the hypotheses are significantly supported (see Appendix 7). When consumers are skeptical towards company claims about the failure, stronger skepticism elevates the relationships that consumers' blame attribution, perceived justice and service failure severity have with anger level, suggesting a moderating effect which supports H2a-H2c. Furthermore, the results suggest the interactions of anger*group empowerment, anger*face loss, anger*emotional contagion and anger*consumer expertise are significantly and positively associated with customer aggressive behaviour (T=3.2296, P<0.001; T=2.4746, P<0.01; T=2.8126, P<0.01; T=2.7882, P<0.001), which supported H3-H6 (see Appendix 7). The educational demographic moderator, concerning the role of educational level, is rejected (H7). That is, the lower the educational level, the more aggressive the consumers are going to behave. The detailed explanation will be provided in Chapter 6. On the other hand, frequency moderator (H8) is supported, which means the higher the consumption frequency, the stronger the relationship between anger and aggressive behaviour will be. The direct relationship that aggressiveness has with aggressive behaviour is also supported (H9). The relation of servicescape with aggressive behaviour is supported (H10) as well. The research results are presented in Figure 18 below.

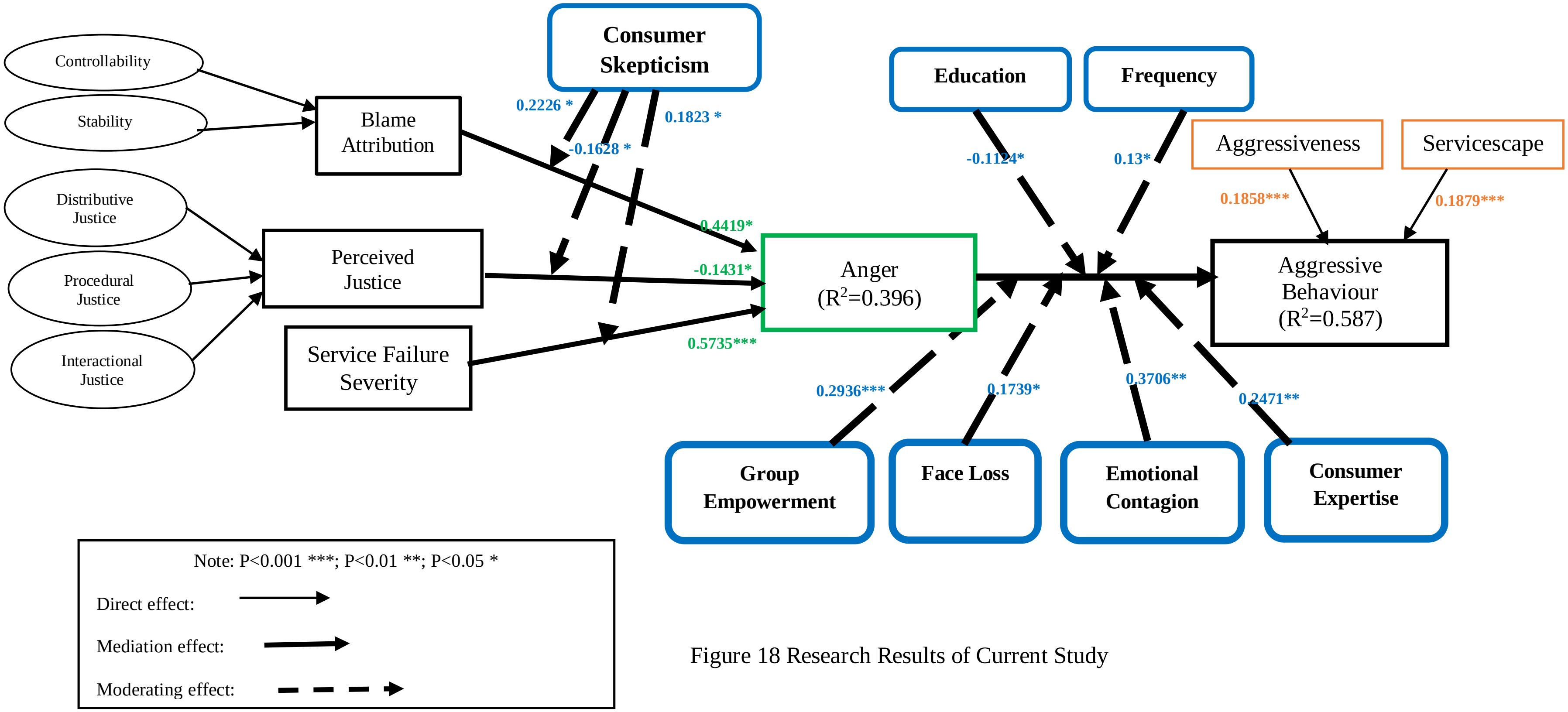

Figure 18 Research Results of Current Study

5.3.9 Overall Model Fit

One of the criticisms of using PLS-SEM is the lack of evaluation for goodness-of-fit index, although it is advised that this should not be measured, for conceptual and empirical reasons (Henseler and Sarstedt, 2013). This study uses CB-SEM model fit indices to confirm the model fit of this study.

The goodness-of-fit measures the correspondence of the actual or observed matrix with that predicted from the proposed model (Hair et al., 1998). There are a number of goodness-of-fit indices that have been developed in the past years to test the overall model fit (Diamantopoulos and Siguaw, 2000). None of the indices are unequivocally superior to the others, based on various circumstances. For example, the indices might be used or operated variously based on different sample size, estimation procedure, model complexity, violations of the underlying assumptions of multivariate normality and variable independence, or a combination thereof (Byrne, 1998; p. 118). Chi-square (X^2) is used to compare the results from observed data to the data which could be obtained to test hypotheses or to reject a hypothesis. The Tucker-Lewis-Index (TLI), comparing a proposed model fit to a nested null model, is highly recommended because it is resilient against variations in sample size (Marsh, Balla and Mcdonald, 1988). The reasonable threshold for TLI is 0.9 and above (Hulland, Chow and Lam 1996; Baumgartner and Homburg, 1996). The Incremental Fit Index (IFI) like TLI also compares the lack of fit of a target model to the lack of fit of a baseline model. ILI should also be at 0.9 and above (Baumgartner and Homburg, 1996). The Comparative Fit Index (CFI) was developed by Bentler (1990) as a non-centrality parameter-based index to solve the limitation of the sample size. CFI is recommended to test the comparison of hypothesized model (Byrne, 1995). CFI index should be ranging from 0 to 1, and a number at 0.9 or above should be an acceptable fit index (Bagozzi and Baumgartner, 1994; Medsker, Williams and Holahan, 1994; Hulland et al., 1996). The Root Mean Square Error of Approximation (RMSEA) helps to measure how good the research model approximates the population covariance matrix per degree of freedom (Steiger, 1990; Joreskog, 1993; Baumgartner and Homburg, 1996). It also measures the discrepancy in terms of population and to the sample (Hair et al., 1998). According to Brown and Cudeck (1993, p. 137-138), the value for RMSEA below 0.05 indicates a good model fit, and the value between 0.05 and 0.08 is reasonable. MacCallum, MacCallum, Browne and Sugawara (1996) further suggests that the cutting point for RMSEA ranging from 0.08 to 0.1 is acceptable for a model fit. Furthermore, the value over 0.1 should be rejected (Brown and Cudeck, 1993). The goodness of fit in the current study is assessed by SPSS Amos 22. The X^2=2924.398 (P<. 000); comparative fit index [CFI] = .916; goodness-of-fit [GFI] = .92; root mean square error of approximation [RMSRA] =. 052; incremental fit index [IFI] =. 917; Tucker-Lewis-index [TLI] =. 907; chi-square divided by its degrees of freedom [CMIN/DF] =2.093. Based on the thresholds suggested by previous studies, CFI and GFI are greater than .9 (Bagozzi and Yi, 1988); TLI and IFI are greater than .9 (Baumgartner and Homburg, 1996); RMSRA is lower than .08 (Bagozzi and Yi, 1988) and CMIN/DF is lower than 3 (Hu and Bentler, 1999). Thus, this study suggests a satisfactory model fit.

5.4 Summary of the Chapter

This chapter has gauged the research findings based on the rigorous analysis. The qualitative data was analysed by using grouping method and content analysis. There are two groups that were generated from the qualitative data analysis. The quantitative data was analyzed using Smart-PLS 2.0. EFA was adopted to validate measurements. This research used Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis. This research gauged the non-response bias, common method bias. The reflective and formative measurement models' performance was examined through outer loading, composite reliability, average variance extracted (AVE) and outer weight respectively. The structural model was assessed by examining the multi-collinearity issue, significance of path coefficients and coefficient of determination. The results suggest most of the hypotheses are accepted and the coefficient of determination (R^2 value) is above moderate.

The results provide useful insights for both academics and practitioners. As the theory suggested and as was empirically tested, when the service failure occurs, customers appraise the service failure situation through blame, perceived injustice and evaluation of service failure severity and then generate anger emotion followed by aggressive behaviour. Furthermore, the relationship between customers' appraisal process and anger level is strengthened by higher skepticism. Additionally, the relationship between customers' anger and aggressive behaviour is strengthened by higher group empowerment, loss of face, contagious emotion among customers, and consumer expertise, as well as lower educational level and higher consumption frequency The detailed discussions on the hypotheses and how they will provide academic and practical implications will be provided in the next chapter.

Chapter 6 Discussion

6.1 Introduction

In the last chapter, the qualitative data results were summarized and rigorous research methods were used to analyse the quantitative data. The quantitative data was analysed using Structural Equation Modelling Partial Least Squares with 399 questionnaires. Detailed research results were provided in the previous chapter.

This chapter will further illustrate both findings and discussions of the research. This chapter will unravel the roles of appraisal processes in influencing customers' aggressive behaviour via anger. This chapter will also elaborate upon the role of consumer skepticism in influencing appraisal components. The moderating effects on the relationship between anger and customers' aggressive behaviour will be discussed in this chapter as well.

This chapter is divided into twelve sections. Section one gives an introduction of the chapter. Section two shows the appraisal-emotional-behavioural relationship, suggesting the mediating role of anger on customer appraisal components and aggressive behaviour. Section three will discuss the role of consumer skepticism in influencing the relationship between customers' appraisals and anger. Sections four to seven address the moderating effects of group empowerment, face loss, emotional contagion, and consumer expertise on the relationship between consumer anger and aggressive behaviours. Section eight and nine explain the moderating effects of educational level and consumption frequency on the relationship between customer anger and aggressive behaviours. Sections ten and eleven illustrate the direct effects of aggressiveness personality trait and servicescape on customers' aggressive behaviours. The final section summarizes the whole chapter.

6.2 Discussion on the Mediating Effect of Anger on Cognitive Appraisals and Customers' Aggressive Behaviours

The results of the present study confirm customers' aggressive behaviour through a cognitive appraisal process. This study has examined customers' aggressive behaviour as the consequence of service failure. Cognitive appraisal theory has been used to understand the appraisal-emotional-behavioural sequential relationship. This is consistent with Lazarus's (1991) study, which asserts that emotions are elicited as a result of the cognitive appraisal of the person and environmental situation. This study suggests that, after the occurrence of service failure, customers appraise service failure through seeking who should be blamed, pursuing justice and evaluating failure severity, which then lead to angry emotion. As cognitive appraisal theory suggests, the appraisal is both necessary and sufficient for the formation of emotions (Watson and Spence, 2007). Further, when customers are angry, they are very likely to demonstrate aggressive behaviour. Thus, this research result suggests that anger mediates the relationship between appraisals and aggressive behaviour.

In doing so, this study has achieved the first research objective and contributed to understanding the triggers for customers' aggressive behaviour.

Regarding the role of emotion in mediating appraisals and behaviour, there is debate in the literature over the types of mediating effect, whether it is full mediation or partial mediation. Nyer (1997) shows that emotions fully mediate the relationship between appraisals and consumer behaviours; whereas Soscia (2007), Karande, Magnini and Tam (2007), and Shoefer and Diamantopoulos (2008) suggest a partial mediation effect. This study's results also reveal partial mediation effects of anger in the relation between appraisals and aggressive behaviour. This means that, when there is a service failure, blame, perceived injustice and failure severity each have direct effects on aggressive behaviour. Additionally, the indirect relationship with anger being as a mediator also exists. The reason why both direct and indirect relationships work is because, as psychologists Anderson and Bushman (2002) suggest, aggressive behaviour is a combination of cognition and emotion. Thus, both appraisals and angry emotion can elicit aggressive behaviour. This has also been revealed by the results of the qualitative study. One group of customers highlighted seeking the reasons of service failure; and the other group of customers recalled that their anger has been elevated in the service failure social encounters. Therefore, customers behaving aggressively can be a result of cognitive appraisal as well as the effect of emotion. The following sections specify different types of appraisal, namely attribution of blame, perceived justice, and service failure severity, all of which lead to both anger and aggressive behaviours.

Firstly, this study suggests a direct relationship between blame and aggressive behaviour. This is consist with Geen (2001), who suggests that attribution would lead to people's aggressive behaviour, as their attributions of intentionality, motive and foreseeability lead to aggressive behaviour. The current study suggests that when customers perceive service organizations should be blamed for the service failure, they are more likely to behave aggressively. Furthermore, this direct relationship has been influenced by the partial mediator of anger. The results have shown that when customers perceive that a company should be blamed for a service failure, they are more likely to experience anger. Past research uses attribution theory to explain customers' perceptions about accountability of service failure (Folks, Koletsky and Graham, 1987). When customers judge that organizations have control over a service failure incident but do not prevent the occurrence of service failure, customers make an attribution of blame. This is consistent with Weiner's study (2000). Blame attribution representing cognition is the degree to which customers perceive an organization to be accountable for the causation of a failed service. McGraw (1987) and Wood and Newton (2003) also use attribution of blame to reckon anger. The significance of anger is highlighted in Chebat and Slusarcsyk's study (2005), and it is recognised that the combination of attribution and anger may influence customers' behaviour (Weiner, 2000). This study indicates that attribution of blame triggers customers' aggressive behaviour, and this relationship is also influenced by customer anger in the service context.

Secondly, the current study's results suggest that perceived justice is one of the cognitive appraisal dimensions possessing a direct relationship with customers' aggressive behaviour, and this relationship is also influenced by customer anger. When there is a service failure, customers appraise the justice/injustice in the service interaction, which is consistent with Surachartkumtonkun, Patterson and McColl-Kennedy's (2013) study indicating that most consumers reported a loss of justice as a result of service failure, since a service failure is perceived as a threat to justice. When customers perceive a threat to justice, they are more likely to demonstrate aggressive behaviour. Furthermore, customers do not typically engage in aggressive behaviour unless they have been wrongly treated or they feel their treatment is unjustified. This aligns with aggressive behaviour research (Berkowitz, 1993). Furthermore, this research also suggests that, since aggressive behaviour is influenced by cognition and emotion, threats to justice and anger elicited by perceived injustice both influence aggressive behaviour. During the service process, when customers perceive that the service delivery process, the organization's regulations and policies regarding service failure and how employees interact with customers do not make them feel justified, they are more likely to be angry. This point is also indicated in Surachartkumtonkun, McColl-Kennedy and Patterson (2015) and in Surachartkumtonkun, Patterson and McColl-Kennedy (2013), suggesting that customers tend to seek justice in the service context. When companies fail to provide a sense of fairness to customers, this will lead to an increase in anger and behavioural responses. This shares the same logic with Batson et al. (2007), investigating moral outrage where anger is provoked by a situation where perceived justice or fairness has been violated. As in the present study, when customers are angry because of injustice, they tend to behave aggressively. Overall, this study has demonstrated that, when there is a flight delay service failure, customers may determine whether they have been treated fairly, thus inciting anger and aggressive behaviour.

Thirdly, previous literature investigating the role of service failure severity has two realms. One school examines service failure severity as a moderating effect. A number of studies investigate the interaction between service failure severity and service recovery expectation and its relation to customer satisfaction in post-service recovery (Hess, Ganesan and Klein, 2003), the effect of service failure severity and satisfaction on customer trust (Weun, Beatty and Jones, 2004) and the interaction between perceived justice and failure severity on customer loyalty (Wang et al., 2011). Meanwhile, the other stream focuses on the direct relationship between perceived service failure severity and customer behaviour in terms of customer satisfaction (Bell and Zemke, 1987; Berry and Parasuraman, 1991), commitment (Moorman, Deshpande and Zaltman, 1993) and negative word-of-mouth (Richins, 1987). The current study results suggest a direct as well as an indirect relationship between customers' evaluation of service failure severity and aggressive behaviour. This relationship is mediated by customer anger. The direct relationship is in line with Joireman et al. (2013), positing that, when a service fails, customers appraise the severity of service failure. When customers appraise the service to be very severe, they tend to behave aggressively, as the aggression literature suggests that the provoking event leads to people's aggressive behaviour (Geen, 2001). And as the literature further mentions, the provocation and aggressive behaviour relationship would also be influenced by angry emotion. The results of this study suggest that when customers appraise service failure to be very severe, they tend to behave aggressively. This severity and aggressive behaviour relationship is also influenced by customer anger.

To sum up, the results suggest that, when a service failure occurs, customers appraise this failure through blame, perceived justice and service failure severity, and these appraisals lead to customers' aggressive behaviour. Furthermore, the direct appraisal and behaviour relationship is influenced by customer anger. Thus, anger mediates cognitive appraisal and aggressive behaviour, addressing the first research question in order to understand the triggers for customers' aggressive behaviour through appraisal theory.

6.3 Discussion on the Moderating Effect of Consumer Skepticism on the Relationship between Consumers' Appraisals and Customer Anger

In the previous section, it was stated that customers appraise service failures through blame attribution, perceived justice, and service failure severity. These appraisals lead to customers' anger and aggressive behaviours. Typical appraisal components are limited to situations in which customers make inferences based on the information presented. However, when consumers are skeptical about the provided information, appraisal routes alter. This section will discuss the role of consumer skepticism in influencing customers' appraisal processes. The research results suggest that consumer skepticism moderates the relationships between blame-anger, perceived injustice-anger and service failure severity-anger. Specifically, higher skepticism strengthens the relationship between blame, perceived injustice, service failure severity and anger respectively. The below sections will discuss the moderating effects of consumer skepticism moderates appraisal (i.e. blame, perceived justice and service failure severity) and anger emotion accordingly.

When there is a service failure, customers are eager to get explanations for the failure from companies. When customers are skeptical about the explanations companies provide, this skepticism intensifies consumers' perception of attribution of blame and anger. This is consistent with Forehand and Grier's (2003) study, in which consumers were shown to have negative reactions toward a company's corporate societal marketing (CSM) when they disbelieve or are skeptical about company claims, and more importantly, how the company may benefit from deception. When consumers are likely to engage in causal attribution, they are also more likely to engage in questioning the company motives. When consumers attribute a company's actions to their motives, negative responses follow, and attributions of firm motivation are formed in two ways. First, consumers use their previous or existing knowledge on company motives as a cue – when the cue is activated, their anger ensues. Second, even if consumers do not process existing cues, if they perceive that companies have motives or carry out some strategies which are perceived to be deceptive or manipulative, anger also results.

The results of this research also show that skeptical customers would perceive that they have not been treated fairly, and they may become even angrier about a service failure. Surachartkumtonkun, Patterson and McColl-Kennedy (2013) indicate that, when customers perceive employees to be irresponsive, they would then perceive that they did not get justice through the service experience. These irresponsible behaviours include taking advantage of customers or cheating customers and lacking accountability. This research further articulates this point and suggests that employees' behaviours, especially these behaviours that have been perceived by customers as deceptive and cheating, will evoke customers' skepticism. Once customers are skeptical about employees' explanation or behaviours (e.g. hidden agenda, deception about recovery time and denying the accountability of service failure), they are likely to elicit more anger through the perceived injustice. Customers' perceived injustice would be elevated by their skepticism, thus generating more anger and aggressive behavioural responses.

This research result also indicates that the relationship between service failure severity and anger could be strengthened if customers do not believe in companies' claims or company motives. This is in line with Joireman et al.'s (2013) study examining customers' inferred motives. In their study the negative inferred motive could lead customers to question company intentions, even if the company is trying to provide recovery methods regarding service failure. Dutta et al. (2007) indicate that Indian customers' perceptions of the severity of service failure is higher than that of US customers, because Indian customers generally do not believe that their interests are the service providers' main intent or priority. This disbelief worsens consumers' perception in understanding service failure severity, leading to a higher anger level. Furthermore, employees may try to use some tactics or tools to appease them, or on the other hand be defensive or try to find possible reasons to explain the service failure, which might lead to a further delay in responding to customers. This might be based on the understandable wish to avoid confrontations with customers. However, it can be considered 'adding fuel to the fire'.

When customers are questioning company claims, motives, tactics and intentions, their appraisal perceptions regarding service failure severity might be elevated, leading to a higher level of anger. In that way, consumer skepticism strengthens the relationship between customers' appraisals and anger. To sum up, customer skepticism intensifies blame attribution toward the service organizations, perceived injustice, and appraisal of service failure severity, leading to higher anger. These results fulfilled the second research objective and answered the second research question.

6.4 Discussion on the Moderating Effect of Group Empowerment on the Relationship between Customer Anger and Aggressive Behaviours

This research has suggested that consumers' aggressive behaviours may be elevated by consumers' perception of being empowered by their group. As suggested by the qualitative CIT interview as well as survey results, when consumers complain or argue as a group, they perceive that their complaining power is stronger from ‘being in a group’. This study follows Devellis’ (2012) and Churchill’s (1979) scale development procedures to develop the measurement scale of group empowerment. The research results demonstrate that the anger and aggressive behaviour relationship can be intensified through a stronger group empowerment.

One of the reasons that customers behave aggressively is based on the interaction between group empowerment and angry emotion as emphasized by this study. This is consistent with Drury’s recent studies suggesting that people feel empowerment through crowd experience (Drury et al., 2005; Drury and Reicher, 2009). The source of this empowerment comes from, firstly, within-group people perceiving that their behaviour can be legitimized, especially when they are arguing with people outside of the group whose behaviours have been perceived as ‘illegitimate’. When customers are in a group faced with service failure, they would perceive that the company’s position is ‘illegitimate’ because it causes failure to them. Therefore, being in a group to behave aggressively is legitimized as their counterpart is ill-managed. This is similar to Drury et al.’s (2009) study in which people perceive that they have more power in a group protest session, and this power stems from their perceived legitimacy. Secondly, when customers are in a group, even if they are more likely to be strangers, still they do not see each other as ‘others’. They believe that they obtain mutual goals to bargain or complain with the service company. Based on the mutual goals, they share mutual support among themselves. In that way, they are more ‘solidary’. This is in line with studies in Drury and Reicher (1999), Andrews (1991), and Fox-Cardamone, Hinkle and hogue (2000). Thirdly, when customers argue and act in a group against the service organization, they perceive that they have achieved 'empowerment' when they act in a group. This is in alignment with Drury et al. (2005)'s study suggesting that people feel 'solid' and 'empowered' when they act together in a group. This research contributes to the literature by investigating the group empowerment in a service failure context.

Another possible explanation for why customers in a group might strengthen the relationship between their anger level and aggressive behaviour is that customers in this group might perceive themselves as 'anonymous'. This anonymity gives them the perception that even though they behave 'out of line', their identity may still not be revealed. This hidden identity may boost their aggressive behaviour, as they are not afraid that they might be revealed by others. This is in line with Zimbardo's article (1969). According to Zimbardo (1969), people are more likely to behave inappropriately if they believe that no matter how they behave, their identity would be anonymous. Furthermore, apart from anonymity, people's behaving aggressively may be triggered by the perception of no individual responsibility. Postmes and Spears (1998) and Zimbardo (1969) support this statement indicating that, because of the loss of individual responsibility, people may behave anti-socially, which violates social norms. These behaviours will be difficult to control, as they are self-reinforcing and basically emotional, impulsive, irrational, regressive and intensive. This research would also agree that, apart from anonymity, diffusion of responsibility could also elevate customers' anger level and lead to aggressive behaviours. Customers might believe that even if they behave aggressively in a team against service organizations, which causes severe problems, they should not be blamed, as their responsibility has been diffused among a group.

The current study has explored and further tested whether the relationship between consumers' anger and aggressive behaviour is strengthened when customers perceive that they have more powers when in a group. This perceived collective or group behaviour might be enhanced when the density of the group is high and the amount of stimulus from others is greater. This is in line with Kugihara's (2001) study, which also suggests that when the members are in a larger group or have more stimuli, they are likely to engage in more aggressive behaviour. As there might be a higher aggressive norm in a bigger group, the effect of the aggressive norm can be generated more easily and spontaneously in a bigger group. Although the current research does not quantitatively measure how the size of a group could influence customers' aggressive behaviour, this could be further tested in future research.

The present study shows that customers who face service failure are not only very angry at the situation, but also perceive that being in a group gives them more power to complain, argue or even fight with service employees and companies. Thus, the interaction between group empowerment and anger strengthens customers' aggressive behaviour.

6.5 Discussion on the Moderating Effect of Face Loss on the Relationship between Customer Anger and Aggressive Behaviours

The research results suggest that face loss perception strengthens the relationship between customers' anger and aggressive behaviours. This is consistent with Hui and Triandis's (1989) study indicating that collectivist consumers are more sensitive to face-related issues than individualists when their face has been damaged. As a result they will take more serious offense to service failure which is perceived as face-threatening. Thus, collectivist consumers tend to choose more proactive and confrontational responses than individualists. Furthermore, losing face is an indicator of damaged self-worth, especially in the customer-employee interaction situation. This is aligned with Surachartkumtonkun, Patterson and McColl-Kennedy's (2013) study suggesting that employees' inappropriate behaviour, especially their rudeness and impoliteness, will damage customers' self-esteem. This self-esteem damage is one of the most important components of face loss. Since face is primarily based on a person's social status (Yang, 1945; Ho, 1976), loss of face leading to damaged self-esteem and social status triggers customers to intensify their anger level, and thus to behave more aggressively.

Additionally, the more face loss perceptions consumers have, the more they will elevate their anger level and behave aggressively because there is a loss of one's legitimacy. This aligns with Kim and Nam's study (1998), showing that face loss would jeopardize a person's legitimacy. Once people's social legitimacy has been threatened, they would endeavour to gain it back through their interaction with others. Customers' aggressive behaviour may not be mainly led by their anger level. Rather, a stronger relationship between customers' anger and aggressive behaviour should be caused by a stronger face loss perception. The results of this research suggest that face loss moderates the relationship between anger and aggressive behaviour, because customers perceive that their social legitimacy has been damaged by face loss.

Apart from the threat of lost social status and damage to one's legitimacy, customers' aggressive behaviour related to the interaction between face loss and anger arises because customers feel embarrassed. Although prior cultural research suggests that Asian consumers are less likely to engage in complaint behaviour, especially in public because they perceive that as a loss of face, recent studies demonstrate differently, e.g. Wan (2013). Wan's research (2013) believes that the difference lies in whether the situation is embarrassing or not. If a service failure is non-embarrassing, Eastern consumers are less likely to complain to the service organization and service employee. However, if the service failure is embarrassing, collectivist consumers are more likely to complain. Patterson, Cowley and Prasongsukarn (2006) share a similar perspective, suggesting that Asian consumers are less likely to complain for fear of losing face. However, if there is an external source to blame, this may trigger hostile feelings and generate conflicts among people in such a face-threatening situation. Customers might behave aggressively when they perceive that they lost face in public, because the consequence of losing face is severe. Ho's (1976) study supports this argument, suggesting that face should be protected from loss, because the consequence of losing face is more severe than the consequence of not gaining face. Hence, this study suggests that, if consumers perceive that their face has been damaged, either because the failure is embarrassing or the service employees might be an 'external source' to blame, they would be more hostile and may be more likely to engage in aggressive behaviours in a face loss situation.

Furthermore, this research claims that the consequences of losing face endanger interpersonal relationships. Saving face in Asian culture is a dominant force which shapes human interactions. Losing face, on the other hand, may have a devastating consequence, and thus needs to be avoided by all means. Zane and Yeh (2002) suggest since face loss concerns are paramount among East Asian people, service organizations or employees need to do 'face work' in dealing with customers. Service companies should train their employees concerning how to interact with customers, especially in special circumstances in which consumers are angry about a service failure. Service organizations need to determine ways to repatriate consumers' perception of losing face in the event of service failure, and detailed methods will be provided in the next chapter's section on managerial implications. In that case, face loss' strengthening of the relationship between customer and aggressive behaviour – as indicated by the current study – can be avoided.

6.6 Discussion on the Moderating Effect of Emotional Contagion on the Relationship between Customer Anger and Aggressive Behaviours

This research suggests that customers' anger level can be elevated to an enhanced aggressive behaviour when they have higher emotional contagion. Emotion can be transferred to others and can influence the emotions of others. This is consistent with studies in organizational behaviour and psychology (Totterdell et al., 1998; Totterdell, 2000; Bartel and Saavedra, 2000), as when people work together, they may transfer emotions among themselves. This group affective mechanism may help people to achieve efficiency in an organization. Most studies in past service research only focused on the contagious emotion among customers and employees, while suggesting that emotion can be shared among customers and employees (Pugh, 2001; Hennig-Thurau et al., 2006). Du, Fan and Feng (2014) initially introduced emotional contagion in a service context, implying that emotion can also be transmitted between customers, but their focus is mainly on a group level, where consumers' complaint behaviour is largely determined by group familiarity. The present research further contributes to the literature by investigating the contagious anger displayed among customers and transmitted to other customers, and shows that this transmitted anger could lead to a higher possibility to behave aggressively, even among customers who do not know each other. Once customers encounter service failures such as flight delay, their anger may be shared with other customers, while their emotional states are also very easily influenced by the other customers.

Further, this study shows that individual customers perceive surrounding customers' anger, which serves as a catalyst, in turn influencing their own anger, and vice versa. As a result, this leads to a spiralling escalation of anger. This escalated anger would induce a negative emotional atmosphere among a group of customers. Thus, they are more likely to behave aggressively with the interaction effect of anger and emotional contagion.

Apart from the sharing of emotions, the reason why emotional contagion could strengthen anger and aggressive behaviour relationship is that emotional contagion could also change people's attitude, cognition and behaviour. This is in accordance with the psychology literature (George and Brief, 1992; Forgas, 1995; Walter and Bruch, 2008) suggesting that emotional contagion could serve as a method to infuse individuals or groups with more positive or negative moods, which then can influence people's cognition, attitude and behaviour (Lazarus, 1991; Damasio, 1994). Barsade (2002) also suggests that emotional contagion occurring in groups can further change people's moods, and continuously influence their attitudes, judgments and behaviours. Past research mainly focuses on emotional contagion in on-going work groups, such as in employees' and students' task performance and organizational performance, and emotional contagion outside of already familiar groups is under-researched. Thus, this research contributes to the literature suggesting that emotional contagion among a group of customers who are more likely to be strangers strengthens people's aggressive behaviour intention. The relationship between anger and aggressive behaviour would be stronger if there is a higher emotional contagion among a group of customers.

In addition to changing people's attitude, cognition and behaviour, it is also believed that customers' transmitted emotions after service failure enable them to legitimize their behaviour. This is in accordance with Rimé's (2007) study. According to Rimé (2007), people share their emotions after certain events in order to legitimize or validate their emotions, seek advice or guidance for solutions of some problems which are created by the event, and to express or alleviate the suppressed emotion. As in the current study, customers get angry about service failure, and the transmitted emotion enables them to legitimize this anger. Thus, their aggressive behaviour is also legitimized, under the effect of anger and contagious emotion.

Furthermore, the reason why transmitted emotion among customers would elevate the anger and aggressive behaviour relationship is because this could refresh customers' memory about their service failure experience in the past. Recalled memory as a refreshed mental image could elicit further emotions. In that case, the perception of anger could be strengthened. This is similar to Rimé et al.'s (1998) study. The transmitted emotion is accompanied by mental images, bodily sensations, and eliciting emotions embedded in subjective experience. These mental images and bodily sensations may enable people involved in the same event to form similar emotions and these emotions could elicit further emotions which are associated with people's expectations, assumptions, and beliefs. Thus, they are more likely to have elicited emotions. Ultimately, this research suggests that the emotional contagion could elevate the relationship between consumers' anger level and aggressive behaviour.

6.7 Discussion on the Moderating Effect of Consumer Expertise on the Relationship between Customer Anger and Aggressive Behaviours

This research suggests that the higher the level of consumers' expertise, the stronger the effect of customer anger on aggressive behaviour. Previous research on understanding the consequences of consumer expertise is mainly focused on customer loyalty (Johnson and Russo, 1984; Wirtz and Mattila, 2003; Jamal and Anasasiadou, 2009). The present research suggests the interaction effect between consumer expertise and anger in influencing customers' aggressive behaviours. This study illustrates that expert consumers have the ability to see the underlying and functional layers of the service offerings. Thus, they have the ability and confidence to evaluate and assess overall service offerings. This is consistent with Eisingerich and Bell's research (2008a), which demonstrates that expert consumers have competence in evaluating company performance, and they could also map companies' performance compared with their competitor organizations. Thus, expert consumers have a greater ability to assess an organization's service attributes. They have more knowledge about the service which enables them to analyse and process information more, and their anger level might be strengthened and lead to aggressive behaviour in service failure contexts.

This thesis also indicates that expert consumers may have higher expectations of service organizations and their performance. This is aligned with past studies like Garry (2008) and Yik-Chee, Meredith and Marchant (2010). These studies suggest that expert consumers have higher expectations, so delighting them might be potentially difficult, because expert consumers raise the bar for customer expectations (Jamal and Anastasiadou, 2009). Expert consumers are not just difficult to satisfy, but also might easily elevate their anger level. Furthermore, consumers would then evaluate the service failure situation more proactively. Therefore, expert consumers are likely to behave aggressively, which is elicited by their anger.

Further, expert consumers are more likely to recall problem solution patterns instead of accepting or re-computing based on new information, which in the current study means that, when customers encounter service failure, they may recall the company's service failure solving pattern from their past experience rather than getting new information. This is consistent with Gursoy's research (2003) in the travel context, suggesting that expert consumers perceive that they have sufficient knowledge of the routine plan, and thus extra and external searching decreased. Wood and Lynch (2002) suggest that repeated problem solving may enable customers' inappropriate inferences. For the current study, expert consumers witness more delay service failure solving issues, and they are familiar with companies' comforting skills. When the service failure happens again, customers only rely on their self-generated inferences instead of elaborating on new information, and this enables them to form inappropriate inferences, leading to formation of bias. This is consistent with studies conducted by Tversky, Kahneman and Moser (1990) and Shanteau (1992). Thus, this research demonstrates that consumer expertise moderates the relationship between customer anger and aggressive behaviour.

Expert consumers could also learn from their past experience or from other customers. One stream of literature, e.g. Reynolds and Harris (2005), O'Learn-Kelly et al. (1996), Fullerton and Punj (1993), suggests that customers might learn from other customers' complaining behaviour, and using these complaint 'techniques' launches the fabricated aggressive behaviour. Customers observe the illegitimate complaint behaviour from others, and learn from them how to voice the unjustified complaint behaviour. These consumers may even carry out the complaint behaviours on a regular basis. Although this is not the focus of the current study, future research can further expand on how consumers pretend to be extremely angry and behave aggressively merely in order to get some benefits or financial compensation.

This research, over and above, suggests that there are different functions of consumer expertise. Firstly, expert consumers possess domain-specific knowledge, and so know the causes of the failure and how companies deal with this type of issue. This expertise elevates the relationship between consumers' anger and aggressive behaviour. Secondly, higher-expertise consumers have higher expectations, and are difficult to satisfy. Thus, their anger level can be more elevated to lead to aggressive behaviour. Thirdly, expert consumers may directly make inferences without processing information, and these direct inferences can lead to hostile attribution or bias. And so, the more expert consumers are, the stronger the relationship between anger and aggressive behaviour, indicating a moderating effect of consumer expertise on the relationship between customer anger and aggressive behaviour.

To sum up, the previous four sections discuss the moderating effects of group empowerment, face loss, emotional contagion and consumer expertise on the relationship between customer anger and aggressive behaviour, which addresses the third research question.

6.8 Discussion on the Moderating Effect of Customers' Education Level on the Relationship between Customer Anger and Aggressive Behaviours

The result of this research suggests that the lower the customers' educational level, the stronger the relationship between customer anger and aggressive behaviour, which rejects the hypothesis. How educational level influences customers' behaviour remains debated in the extant literature. Past research like Day and Landon (1977), Liefeld, Edgecombe and Wolfe (1975), Keng, Richmond and Han (1995), Warland, Herrmann and Willits (1975), and Morganosky and Buckley (1987) suggest that well-educated people know where and how to file complaints, and therefore they complain more frequently. However, the findings of the present research suggest that the lower the educational level of customers, the more they are going to be aggressive under the effect of the angry emotion. That is, the lower the educational level of customers, the stronger the effect of anger on aggressive behaviour. This is consistent with Keaveney and Parthasarathy's study (2001) that less educated consumers are more ambiguous or uncertain about their service failure, and so their perception about service failure evaluation leads to more dissatisfaction. Nayyar (1990) shares a similar view, suggesting that higher educational level in consumers could reduce the information asymmetry between companies and customers, so well-educated consumers are less likely to be uncertain about service. Román and Riquelme's (2014) study, although investigating customer behaviour in the online shopping context, also suggest that less educated customers more easily experience frustration and generate negative word of mouth.

Additionally, well-educated customers have greater skills in processing information and forming hypotheses, and so tend to take more factors into consideration regarding service performance. As a result, they are less likely to behave aggressively in service failure contexts. Thus, this study suggests that the lower the consumers' educational level, the stronger the relationship between customer anger and aggressive behaviours.

6.9 Discussion on the Moderating Effect of Customers' Consumption Frequency on the Relationship between Customer Anger and Aggressive Behaviours

This thesis result reveals that for customers who fly more frequently, the relationship between their anger and aggressive behaviour is stronger. Consumers who have more frequent usage of services are more likely and capable of developing sophisticated and probably accurate estimation of what is to be expected from services. Therefore, they are more likely to behave aggressively. This accords with the consumer expertise literature suggesting that more consumption frequency indicates more familiarity with the product or service (Alba and Hutchinson, 1987). The current study suggests that customers who fly more frequently have more flight delay experience and are more knowledgeable about the standard operating procedure, and are thus more likely to become aggressive when they do not believe that companies operate properly.

Furthermore, another reason for frequent users to be more aggressive is because customers who consume more frequently may develop more service failure experience, and this experience shapes their expectations about current service. Thus, when there is a service failure, frequent consumers or users are more likely to have certain expectations about the failure. These expectations elevate their anger level. This is consistent with Sarel and Marmorstein's (1999) study suggesting that customers who have more frequent consumption experience are more likely to be made angrier by current service failure. Therefore, this study indicates that customer anger's relationship with aggressive behaviour is made stronger by a higher consumption frequency.

Many companies have endeavoured to develop loyalty programs, because it helps to maintain customers' consumption frequency and increase customer loyalty. However, there are some potential dangers of having frequent customers, which companies must bear in mind. Relevant managerial implications will be articulated in detail in the next chapter. Firstly, companies can pay attention to consumers who consume frequently and complain regularly, as consumers in this demographic group may compare what they have lost to what they can get. Secondly, consumers who have more frequent consumption experience may witness service failure more often. Such consumers might have absorbed more knowledge on the situation, and this accumulated knowledge enables them to know more about what can be expected from a service. Thus, these expectations lead them to higher dissatisfaction anger about the service failure. In that case, their anger level may be magnified by their consumption experience, leading to a higher chance to be aggressive. Thirdly, frequent customers recall previous failure experience. These accumulated negative memories will elevate their anger level, and so the customers are more likely to be aggressive.

6.10 Discussion on the Direct Effect of Aggressiveness on Customers’ Aggressive Behaviour

This research suggests that consumers’ personality could influence their aggressive level, that is, a direct relationship between customers’ aggressiveness personality and aggressive behaviour. This result is in line with previous studies which indicate that people’s personality trait could increase their misbehaviour, for instance, in psychology (Romero, Luengo and Sobral, 2001; Sutherland and Shepherd, 2002) and criminology (Eysenck, 1964; Gottfredson and Hirschi, 1990). A range of marketing literature also indicates that customers’ personality dimension could induce their misbehaviours, for example, customers’ dysfunctional behaviour (Fullerton and Punj, 1993; Reynolds and Harris, 2009; Daunt and Harris, 2011), shoplifting (Kallis and Vanier, 1985) and cheating behaviour (Wirtz and Kum, 2004). This research suggests that the aggressiveness personality trait makes a person prone to behaving aggressively. Customers’ personality traits, generally, are largely dependent on customers’ enduring characteristics, and are not easy to control or manipulate. Service companies may benefit from the current study by striving to ‘profile’ customers, in order to prevent customers’ aggressive behaviour from happening. This profiling can be derived from better training for service employees. A training programme can be provided to the front-line customer contact employees, because well-designed interpersonal techniques may ease customers’ behaviour, even for an innately aggressive customer.

6.11 Discussion on the Relationship between Servicescape and Customers' Aggressive Behaviour

This research result suggests that an uncomfortable servicescape atmosphere relates to customers' aggressive behaviours, which means that when the noise of the service context is too loud and the air quality is not pleasant, customers are more likely to behave aggressively. Past studies suggest relationship between service environment and customer behavior (Bitner, 1992; Baker and Cameron, 1996; Barnes, King, and Breen, 2004; Harris and Ezeh, 2008), this study also presents a relationship between unpleasant servicescape and customers' aggressive behaviour. This is consistent with psychologists in human aggression literature, who suggest that external environment, for instance, cleanness, temperature, noise and odour influence people's aggressive behaviour (Geen, 2001; Anderson and Bushman, 2002). This research also suggests that, when customers perceive that the servicescape in the service setting – such as in the temperature, cleanness, music, or design – is not up to standard, they are more likely to behave aggressively.

6.12 Summary of the Chapter

This chapter provides detailed discussion for the present study. The findings support an argument in line with the existing literature. The research findings have achieved three research objectives. First, this thesis has investigated the triggers of customers' aggressive behaviour following service failure via the appraisal theory. Second, this research examined the moderating effect of consumer skepticism in influencing consumers' appraisal process, therefore consumer skepticism strengthens the appraisals and anger relationship. Third, in terms of anger-aggressive behavioural response sequence, this research analysed group empowerment, emotional contagions, face loss, and consumer expertise as moderators, thus contributing to the literature with an in-depth and comprehensive model. This chapter also discussed how customers' educational level and consumption frequency moderate the relationship between customer anger and aggressive behaviour, as well as illustrating the direct relationship between aggressiveness and customers' aggressive behaviour. The relationship between unpleasant servicescape and aggressive behaviour was also illustrated in this chapter. Detailed contributions will be described in the following chapter.

Chapter 7 Conclusion

7.1 Introduction

The previous chapter gave a detailed discussion on the hypotheses and their implications. The purpose of this chapter is to conclude the thesis through consideration of the research objectives, research questions, a summary of research findings, theoretical contributions, managerial implications, research limitations, and future directions. The overall objective of the current research is to explore and examine the antecedents of customers' aggressive behaviour in the service failure context and what triggers them to behave aggressively. This chapter is organized as follows: section one is a summary of the structure of this chapter; section two describes a summary of research aims, objectives and research findings; section three presents the theoretical contributions of this research; and section four demonstrates managerial implications of this study. A few research limitations will be listed in section five; the future research direction will be provided in section six; and section seven will be the summary of this chapter.

7.2 Research Objectives, Research Questions and Summary of Research Findings

7.2.1 Research Objectives and Research Questions

This section will summarize research objectives, research questions and findings. This research aims to: (1) investigate the triggers for customers' aggressive behaviour in the service failure context; (2) analyse the role of consumer skepticism in influencing consumers' appraisal processes; (3) examine the moderating effects on the relationship between customers' anger and their aggressive behaviour, that is, the factors which elevate the relationship between consumers' anger and aggressive behaviour.

This research adopted a mixed research method combining qualitative interviews using critical incident technique (CIT) and a quantitative survey method. The CIT method enabled this research to explore the causes of customers' aggressive behaviour, while the quantitative survey method further tested the hypothesized research model indicating the reasons for consumers' aggressive behaviour. This research achieved the research objectives. Through these mixed research methods, this thesis addressed the following research questions.

1. How do customers appraise service failure and how do customers' appraisal processes influence their aggressive behaviour?
2. How does consumer skepticism influence their appraisal processes?

3. What eliciting factors elevate customers' anger to aggressive behaviour? How do they influence customers' anger level to lead to aggressive behaviour?

7.2.2 Summary of Research Findings

The following sections will provide a summary of the current research findings in answering each research question.

1. How do customers appraise service failure and how do customers' appraisal processes influence their aggressive behaviour?

Following empirical exploration using qualitative CIT method and further validation using quantitative survey method, this thesis demonstrates that when there is a service failure, customers appraise the causes of the service failure. Specifically in facing a service failure situation, customers assess who should be blamed for the service failure, whether they have been treated fairly, and how severe the service failure is. The appraisal process then stimulates anger and aggressive behaviour. Anger partially mediates the relationship between appraisal process and aggressive behaviour.

2. How does consumer skepticism influence their appraisal processes?

The typical application of appraisal theory has been limited to the situation where consumers make causal inferences based on the information presented. However, the route of appraisal processes would be influenced when consumers are skeptical about the information presented to them. This research asserts that when consumers are more skeptical about company claims and company motives, they have a higher appraisals - anger relationship. To be more specific, when customers are skeptical, the interaction effects between higher skepticism and blame, perceived injustice and failure severity evaluation lead to a higher anger level. Consumer skepticism positively moderates the relationship between appraisal processes and anger.

3. What eliciting factors elevate customers' anger into aggressive behaviour? How do they influence customers' anger level to lead to aggressive behaviour?

Even if customers are angry about service failure, they may not always engage in aggressive behaviours. The link between customers' anger and aggressive behaviour is investigated in this thesis. This thesis suggests that group empowerment, face loss, emotional contagion, and consumer expertise are moderators which strengthen the relationship between customers' anger and aggressive behaviours. That is, this research suggests that consumers perceive that they have more power when they are in a group, and this group empowerment thus moderates and strengthens the relationship between customers' anger and aggressive behaviour. It also suggests that, when consumers perceive that their face has been damaged in the service exchange interaction, the relationship between their anger and aggressive behaviour is stronger when customers have higher face loss perception. Furthermore, this research shows that customers' anger can be spread out to the other customers when they encounter service failure together. Thus, emotional contagion intensifies the anger-aggressive behaviour relationship. In addition, this research indicates that the expert consumers who have more knowledge about service failure are more likely to behave aggressively, which was simulated by the interaction between customer anger and consumer expertise. Additionally, this research suggests that customers are more likely to have a strong anger-aggressive behaviour relationship when they have lower educational background and when they consume more frequently. The findings of this research offer valuable insights to both academics and practitioners. The following sections will elaborate on the research contributions in terms of the theoretical contribution and potential managerial implementations.

7.3 Theoretical Contribution

This research conceptually and empirically examines the antecedents of customers' aggressive behaviour in the service failure context. It advances theory with empirical evidence regarding cognitive appraisal theory and the roles of consumer skepticism, group empowerment, face loss, emotional contagion and consumer expertise in moderating the cognitive, affective and behavioural relationships respectively. It yields three theoretical contributions as below.

First, the current study contributes to the service marketing literature by utilizing cognitive appraisal to investigate customers' aggressive behaviour. Past research has mainly employed appraisal theory in understanding customers' consumption emotion (Ruth, Brunel and Otnes, 2002), revenge behaviour (Zourrig, Chebat and Toffoli, 2009), customer satisfaction (del Bosque and San Martin, 2008) and customer loyalty (Dick and Basu, 1994). The present research contributes to the literature by empirically testing the influence of cognitive appraisal theory on customers' aggressive behaviour. With the provoking effect of service failure, customers engage in appraisal inferences processes (i.e. looking for who should be blamed, pursuing justice and evaluating service failure severity), and these appraisals will evoke their anger emotion. Since anger can prompt aggressive behaviour (Geen, 2001), this study suggests that anger mediates the appraisal and aggressive behaviour. Furthermore, the thesis results suggest that the relationships of blame, perceived justice and failure severity respectively with aggressive behaviour are partially mediated by anger. That is, customers behave aggressively when they perceive that companies should be blamed for the wrongdoing, that they have been treated unfairly, or that severity is significant as well as being influenced by the presence of angry emotion. However, the possibility of their being aggressive is also influenced by the mediating effect of customer anger. Hence, this study advances customers' aggressive behaviour literature through cognitive appraisal theory.

Second, just as the first theoretical contribution demonstrates the importance of cognitive appraisal in influencing customers' aggressive behaviour, this research examines the role of consumer skepticism in influencing appraisal components. Smith and Kirby (2009) suggest that a person's predisposition and situational characteristics would change appraisal routes. Consumer skepticism – questioning the situation and company's claims (Skarmeas and Leonidou, 2013; Skarmeas, Leonidou, Saridakis, 2014) – changes how people make cognitive appraisal inferences (i.e. blame, perceived justice and failure severity). The research results reveal that, when the service failure occurs, consumers are prone to seek explanations from service companies, and they are skeptical about company claims, motives and tactics. This higher skepticism urges consumers to question and appraise the accountability of service failure to the service organization, and the relationships between their appraisals and anger are strengthened. Thus, this research contributes to cognitive appraisal theory by analysing customer skepticism as a moderator in strengthening the relationship between customers' appraisal process and their anger.

Third, as presented in the first contribution, anger plays an important role in inciting aggressive behaviour, but the necessary link between anger and aggression can be further extended (Averill, 1982; Geen, 2001). This thesis addresses the insufficient investigation of customer anger and aggressive behaviour. Four moderators enhancing the relationship between customer anger and aggressive behaviour were examined – group empowerment, face loss, emotional contagion and consumer expertise. The four moderating effects and the corresponding contribution to the literature are presented below.

The Moderating Effect of Group Empowerment on the Relationship between Customer Anger and Aggressive Behaviour

As explored by the qualitative CIT method and tested by the quantitative survey, this research suggests that group empowerment moderates the relationship between anger and aggressive behaviour. In addition to anonymity, lost individuality and evasion of responsibility in a group

(Postmes and Spears, 1998), enable people to demonstrate group behaviour. This research advances the comprehension of group empowerment in service settings. Drury and Richer (2009) and Drury et al. (2005), using ethnography and interview methods, suggest ‘collective action’ in the protest context. The present study advances this concept by developing a group empowerment scale and empirically testing the model. The results suggest that customers perceive they have more power when they complain or behave aggressively in a group. Consumers believe that their behaviours are legitimized when they are in a group. As a group, even a heterogeneous group, they share common and mutual goals and expectations (Drury et al., 2005), and they work together towards the outside group. Thus, when customers behave aggressively, enabled by belonging to a group, it is because they perceive their behaviour as legitimized by being in a team. Thus, this thesis contributes to the literature by empirically testing group empowerment and investigating the moderating role of group empowerment in the anger-aggressive behaviour relationship. To be more specific, encountering a service failure situation, the stronger the group empowerment, the stronger the relationship between customer anger and aggressive behaviour.

The Moderating Effect of Face Loss on the Relationship between Customer Anger and Aggressive Behaviour

By examining the face loss effect, this research illuminates the anger-aggressive behaviour relationship by suggesting face loss as a moderator. The more that customers perceive their face has been lost or threatened in the service failure situation, the stronger is the relationship between anger and aggressive behaviour. Face loss is a reflection of damage to one's self-image, pride, prestige and being respected (Yang, 1945; Ho, 1976; Pang, Roberts and Sutton, 1998). When customers perceive that their self-image, respect and pride have been threatened in a service interaction, the loss of face interacts with anger, leading to a higher level of aggressive behaviour. Furthermore, customers behave aggressively under the impact of face loss because this loss is an embarrassment for them. Past literature investigating the influence of losing face in service interactions mainly focuses on customers' complaint behaviour or complaint intention (Chan, Wan and Sin, 2009; Wan, 2013). The research gap around investigating face loss as it influences customers' aggressive behaviour is addressed by the current thesis.

The Moderating Effect of Emotional Contagion on the Relationship between Customer Anger and Aggressive Behaviour

This research contributes to the anger-aggressive behaviour literature by examining the role of emotional contagion. The study result suggests that, in facing service failure, customers are likely to have anger emotion, and this anger serves as a catalyst, in turn increasing other customers' anger emotion, and vice versa. As a result, this leads to a spiralling escalation of anger. This escalated and contagious emotion strengthens the relationship between customers' anger and their aggressive behaviour. Furthermore, apart from the transmitted emotion, emotional contagion can influence customers' aggressive behaviour because by sharing emotion after a certain event, people can legitimize or validate their emotions (Rimé, 2007), which can further influence their own behaviour. Encountering service failure, customers' anger can be validated by other customers' anger which is transmitted to them, thus strengthening customers' aggressive behaviour. The emotional contagion which has mainly been studied in the literature of organizational studies (Barsade, 2002) and recently been investigated in service literature (Hennig-Thurau et al. 2006; Du, Fan and Feng, 2014) has now been further extended to the examination of customers' aggressive behaviour. Hence, this research contributes to the literature by demonstrating that emotional contagion moderates the relationship between anger and aggressive behaviour.

The Moderating Effect of Consumer Expertise on the Relationship between Anger and Aggressive Behaviour

This research advances the understanding of the anger-aggressive behaviour relationship by investigating the role of consumer expertise. The result of the thesis suggests that the more expert the consumers are, the stronger the relationship between anger and aggressive behaviour. As previous studies Garry (2008) and Yik-Chee, Meredith and Marchant (2010) suggest, expert consumers may have higher expectations. Thus, delighting them might be potentially difficult, and further, their anger level might easily become elevated as they raise their expectations of service organizations' provision.

Furthermore, expert consumers have a greater ability to assess a company's service attributes, and they have more knowledge about the service, which enables them to analyse and process information more when they encounter service failure. Thus, they are able to identify the causes of the service failure, and this expertise interacts with the anger which has been triggered by service failure, giving these consumers a stronger possibility of demonstrating aggressive behaviour. Examining the role of consumer expertise in the service failure context, this thesis indicates that consumer expertise moderates the relationship between customer anger and aggressive behaviour.

In sum, this thesis yields three substantial contributions to the literature. The causes of customers' aggressive behaviour are investigated in three ways. First, this thesis advances the investigation of customers' aggressive behaviour through adopting cognitive appraisal theory. It indicates that, after service failure, consumers' anger mediates customers' appraisals (i.e. blame, perceived justice and service severity evaluation) and aggressive behaviour. Second, this thesis contributes with regard to the cognitive appraisal components, suggesting that consumer skepticism moderates the relationship between appraisals and customer anger. Third, this thesis develops the examination of the relationship between customers' anger and aggressive behaviour by assessing the moderating effects of group empowerment, loss of face, emotional contagion and consumer expertise on that relationship.

In addition to the theoretical contributions of the current study, this thesis also provides substantive managerial implications for service organizations, which will be presented in the next section.

7.4 Managerial Implication

Customers' aggressive behaviour causes a growing number of problems for front-line service employees and service organizations. This study provides several important insights to understand various interactions among customers' appraisal-emotional-behavioural relationship, which pinpoints important directions for organizations to prevent customers' aggressive behaviour from happening. Companies and employees can try different approaches to deal with various factors regarding customers' aggressive behaviours.

Firstly, based on the cognitive appraisal theory of the cognition-emotion-behaviour relationship, this study helps service organizations to, on the one hand, identify how customers perceive the service failure on the one hand, and, on the other, to minimize customer anger and thus reduce customers' aggressive behaviour towards front-line service staff and service organizations. Although how customers appraise service failure is not easily observed, this study could assist service organizations and front-line service employees in understanding customers' perception and what they are angry about, through their interaction with front-line service staff. For example, when customers are looking for justice, employees should try to offer justification and explanation, as this could enhance customers' perceived sense of justice; when companies should be blamed for the service failure, they need to apologize and let customers know that certain actions have been taken to recover the failure. Companies and employees should be aware that, even if in some cases customers verbally insult and physically abuse employees, their fundamental causal inferences and reasoning may make sense. Thus, in making efforts to understand customers' appraisals, companies can prevent customers' anger from escalating to the 'boiling point' at which they behave aggressively.

Secondly, this research suggests that consumer skepticism could strengthen consumers' appraisal level leading to anger. When a service failure is not due to the firm's wrongdoing, companies should make sure customers know the exact causes of the failure. Moreover, companies should let customers know when action has been taken to prevent failures, to alleviate customers' anger as well as their aggressive behaviours. Additionally, to further reduce customers' anger, service companies should inhibit the development of skepticism by adopting appropriate marketing communication strategies, which will enhance the credibility of their claims. Apart from the trait skepticism, consumers' situational skepticism is usually formed by previous experience and asymmetric information. Therefore, service organizations should make the communication channels and information transparent to consumers, so that they would not easily become skeptical about service organizations.

Thirdly, in decreasing the effect of customers' anger and aggressive behaviour, this research suggests that (i) service companies should pay special attention to consumers' group behaviours. Actions can be taken to tackle the individual consumer's needs instead of letting them carry out collective actions. During busy hours or seasons, customers may experience a longer wait, be under-served or face a long delay due to service failure. Managers can try to separate customers into different rooms or venues, reducing the number of customers present during a service failure encounter. By doing this, the effects of group empowerment could be weakened. (ii) Employees in the service exchange settings should bear in mind customers' norms of not losing face in public. For example, staff should talk to customers with courtesy and a sincere manner, recognise the importance of customers, and even restore customer face and dignity by providing public apologies. In that, the face loss effect could be reduced. (iii) Front-line service employees should try to identify customers who display stronger anger, via their facial, vocal, verbal and postural gestures. Service providers should also strive to comfort those customers in order to avoid their spreading out their anger to other customers, which might escalate the situation as a whole. In order to achieve this, service organizations can provide special training to their employees, so that they could act and respond quickly to customers' enquiries in order to mitigate the contagious anger being spread out to other customers. Thus, the effect of emotional contagion can be lessened. (iv) Service organizations should also bear in mind that, although it is valuable to have frequent customers, expert customers will gain knowledge through regular flying experience and may obtain the ability and knowledge to assess service failure. Thus, service employees should not make up excuses when dealing with expert consumers. In this way the impact of consumer expertise can be reduced.

Finally, this research suggests that although customers' enduring personality characteristics and demographic characteristics are not easy to control, companies can try to profile customers. For instance, companies can categorize customers who have lower educational background or who travel frequently, this profiling can help companies to predict or identify difficult customers relatively earlier, so service recoveries can be carried out in time to avoid customers behaving aggressively. Companies should also manage their service atmosphere, for instance, managing cleanness, noise, air quality and temperature, because customers are already under certain pressure when they are traveling, as they are concerned about catching the plane or train. In such circumstances, the uncomfortable service environments are likely to relate to their aggressive behaviour. Thus, companies need to design and manage the service environment, so that even customers who have higher aggressiveness would not be easily trigged by the unpleasant or uncomfortable service setting.

This research yields substantial managerial implications which can provide valuable insights for service organizations and service employees to minimize the consequences of customers' aggressive behaviours.

7.5 Limitations

This study has several limitations, which also serve as recommendations for future study. Firstly, the research findings are only derived from one service industry – airline industry. Further research is needed to expand and generalize the research results to other service industries. The generalizability of the study can be further enhanced by replicating the study in other service industries, especially for those industries which share significant characteristics with the airline service industry, such as hotels, restaurants, and bars. In these industries, employees interact frequently with consumers. Additionally, various types of service failure occur regularly and consumers also regularly behave aggressively in these industries, making these industries suitable contexts for further research on customer aggressive behaviour.

Secondly, since this study collected interview and survey data, the causality of the linkage between constructs cannot be fully proven. This research is limited to identifying the key influencing factors triggering customers' aggressive behaviour, rather than the causal antecedents. Future research can extend the current research findings through a causal experimental design, to gain insights into the causal relationships between variables.

Thirdly, this research used critical incident technique to collect qualitative data. Although allowing the participants to provide detailed information, the CIT method has the major pitfall of letting participants recall an incident. Due to the time differences and need for memory recall, consumers may not reveal or recall their real feelings and behaviours from the service failure situation. For the quantitative survey data, consumers also needed to recall the last flight delay service failure from over the past six months, in order to complete the questionnaire. This may not reflect consumers' real feeling and behaviour from the service failure situation either.

7.6 Future Directions

There are several potential future directions for this thesis. As mentioned in the limitation section, the research framework can be further generalized and tested in other service settings. The replication of this study across various research settings is suggested in order to advance the body of knowledge on the triggers for consumers' aggressive behaviour, e.g. examining consumer skepticism, face loss, emotional contagion and consumer expertise in other research context. In addition, since group empowerment is a newly generated construct, it also needs to be examined and validated further. Future research could also incorporate the influence of group size in examining the effect of group empowerment.

Furthermore, the current study has focused on examining the role of anger in influencing aggressive behaviour. Although this fits the current research framework, as anger is the most predominant emotion after the three cognitive appraisals and an important predictor for understanding customers' aggressive behaviour, future study can examine the roles of other emotions, like frustration or dissatisfaction, in influencing customers' aggressive behaviour.

In addition, this research only surveyed consumers to understand the triggers for consumers' aggressive behaviour from their perspective. In order to provide more valuable managerial suggestions to the service managers, future research could collect data from the service organization's or employee's perspective. As the current research suggests, the service interactions between customers and employees are extremely important, and so providing data from employees' perspective could help to understand service quality, service expectation and service recovery strategies.

Finally, considering the importance of this study in understanding consumers' aggressive behaviour, future research could alter the methods used. For example, with a larger sample size, customers could be segmented into more specific customer groups or into groups of customers with specific experience or interest. In that, the further research may generate relatively more accurate analysis and results to understand the insights of customers' aggressive behaviours.

7.7 Summary of the Chapter

This chapter summarized the conclusion section of the thesis in terms of research objectives, research questions, research findings, theoretical contribution, managerial implications, research limitations and future research directions.

This research aimed to understand the triggers for customers' aggressive behaviour. The research objectives were:

(1) Investigate the triggers for customers' aggressive behaviour in the service failure context;

(2) Analyse the role of consumer skepticism in influencing consumers' appraisal processes;

(3) Examine the moderating effects on the relationship between customers' anger and their aggressive behaviour.

The thesis addressed the following research questions.

1. How do customers appraise service failure and how do customers' appraisal processes influence their aggressive behaviour?
2. How does consumer skepticism influence their appraisal processes?
3. What eliciting factors elevate customers' anger to aggressive behaviour? How do they influence customers' anger level to lead to aggressive behaviour?

The research results suggests that, when encountering service failure, customers engage in appraisal processes to appraise who should be blamed, whether they have been treated fairly, and how to evaluate the severity of the service failure. These appraisals provoke customers' aggressive behaviour. The research findings further indicate that, if they do not believe what companies have been claimed, this skepticism elevates their appraisal process, thus leading to more negative emotions. Furthermore, this research explores a few influencing factors and, through empirical testing, demonstrated that group empowerment, face loss mentality, emotional contagion, consumer expertise, and consumer education and frequency moderate the relationship between customer anger and their aggressive behaviour.

This research provides valuable insights for both academics and service managers. This study contributes to theory by:

(1) Adopting cognitive appraisal theory to investigate customers' aggressive behaviour via the appraisal-emotional-behavioural sequence. This study suggests that, encountering service failure, customers behave aggressively

when they appraise who should be blamed, whether they get justice, or whether service failure is severe, and when they have angry emotion which mediates cognitive appraisals and aggressive behaviour.

(2) Examining consumer skepticism as a moderator influencing the effect of consumers' appraisal on their angry emotion. This thesis suggests that the stronger that consumers' skepticism is, the stronger the relationships between the appraisal components and anger level will be.

(3) Investigating the moderating effects of customers' group empowerment, loss of face, emotional contagion and consumer expertise on the relationship between anger and aggressive behaviour, suggesting that the moderators strengthen the relationship between customers' anger level and their aggressive behaviour.

It is hoped that this research could provide insightful suggestions to managers and employees in service organizations. This study could firstly assist service organizations and front-line service employees in understanding customers' perception in service failure contexts. With this information, they can prevent customers' emotion from escalating beyond to the 'boiling point' at which they behave aggressively. Secondly, this research could help service companies to understand the role of consumer skepticism. Since the more skeptical the consumers are, the stronger anger level they obtain, companies should enhance consumer trust to mitigate their skepticism. Thirdly, even though not all angry customers will behave aggressively, there are a few moderators which strengthen the relationship between consumers' anger level and their aggressive behaviour. For example, companies can take actions to prevent the group aggressive behaviour from happening; service employees can also be given more training in order to know the relevant protocols or to pay special attention when communicating with customers, especially when there is a service failure.

These contributions and implications should be further articulated and tested to inform future academic research into service marketing, and to help service practitioners enhance their marketing and communication strategies for dealing with consumers, as well as in clarifying operational matters of particular importance to service companies and their employees.

Appendices

Appendix 1 Sample Interview Questions

Project: The Antecedents of Customers' Aggressive Behaviors Following Service Failure

Dear Participant,

Thank you for agreeing to participate in this interview in connection with my PhD dissertation at the University of Nottingham Ningbo. The PhD dissertation is a study of The Antecedents of Customers' Aggressive Behaviors.

Your participation in the interview is voluntary. You are able to withdraw from the interview at any time and to request that the information you have provided is not used in the project. The data collected will be used for academic research and will be published in research journals. Your information provided will be confidential. Your identity will not be disclosed in any use of the information you have supplied during the interview.

The research project has been reviewed according to the ethical review processes in place in the University of Nottingham Ningbo. These processes are governed by the University's Code of Research Conduct and Research Ethics. Should you have any question now or in the future, please contact me or my supervisor. Should you have concerns related to my conduct of the interview or research ethics, please contact us or the University's Ethics Committee.

Yours truly,

Jun Luo

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University Research Ethics Committee Coordinator, Ms Joanna Huang

(Joanna.huang@nottingham.edu.cn)

声明

论文题目：顾客在服务失败情况下过激行为的原因。

尊敬的参与者：

谢谢您参与这次的采访。这次采访是我在宁波英国诺丁汉大学的研究。论文题目是顾客在服务失败情况下过激行为的原因。

您是自愿参与此次采访的。您可以在任何时候选择放弃这次的采访，并要求您提供的信息不被使用在此次调查中。采访的结果将被纯粹应用于学术研究及学术论文发表。您的名字及所有信息都是保密的。在使用您提供的信息时不会涉及您的其它信息。

宁波诺丁汉大学已根据研究道德检查程序对这项研究项目进行检查。这一程序是在学校关于研究行为和研究道德的行为标准的指导下进行的。如果您现在或将来有任何疑问，请联系本人或我的导师。如果您对我在采访中的研究行为或研究道德有任何质疑，请联系我们或者英国诺丁汉大学的道德委员会。

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诺丁汉大学研究道德委员会秘书：Ms Joanna Huang
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Interview Questions

1. Have you encountered a service failure in the past six months in the transportation sector (e.g. flight delay)?
2. When did the service failure happen?
3. Could you please tell me in your own words what exactly happened?
4. How do you respond to the failure?

1. 您在最近6个月中有没有在公共交通业中遭遇过服务失败呢 （比如说航空延误）？
2. 是什么时候发生的呢？
3. 您能不能用自己的话描述下到底发生了什么？
4. 您是怎么回应服务失败的呢？

Appendix 2 Categorization Procedures

Each incident will be categorized within only one category. Once you have read the incident, you need to ask the following questions in order to classify the incident into the appropriate category.

1. Are the aggressive behaivours caused by customers' service failure evaluation and appraisals?

   If yes, then group this incident into Group 1.

   Then further ask how consumers appraise/judge the service failure incident?

   - If customers blame the company or to the employees should be blamed, then further classify it into 1 (A);
   - If customers feel injustice from company and employees, then classify the incident into 1 (B);
   - If customers feel that the failure is very severe which causes a lot of trouble to them, then classify it into 1 (C);
   - If customers feel that they do not trust company's claims about the service failure, and they question company's motivations and tactics, then classify it into 1 (D).

If it is a no, group this into Group 2.

2. Then ask are customers' aggressive behavior caused by elevated anger? How customers' anger has been elevated?

- If customers believe they have more power in a group, then classify this incident into 2 (A);
- If customers believe they lost face and felt embarrassed, then classify it into 2 (B);
- If customers believe the anger has been elevated by the transmitted anger among customers, then classify it into 2 (C);
- If customers believe that companies just do not take their well-fare into consideration as they do know how companies deal with this type of situation, then classify into 2 (D).

If it is a no, put the incident aside.

Appendix 3 Sample Questionnaire

Project: The Antecedents of Customers' Aggressive Behaviors Following Service Failure

Dear Participant,

Thank you for agreeing to participate in this questionnaire survey in connection with my PhD dissertation at the University of Nottingham Ningbo. The PhD dissertation is a study of The Antecedents of Customers' Aggressive Behaviors.

Your participation in the survey is voluntary. You are able to withdraw from the survey at any time and to request that the information you have provided is not used in the project. The data collected will be used for academic research and will be published in research journals. Your information provided will be confidential. Your identify will not be disclosed in any use of the information you have supplied during the survey.

The research project has been reviewed according to the ethical review processes in place in the University of Nottingham Ningbo. These processes are governed by the University's Code of Research Conduct and Research Ethics. Should you have any question now or in the future, please contact me or my supervisor. Should you have concerns related to my conduct of the survey or research ethics, please contact us or the University's Ethics Committee.

Yours truly,

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Dr. Martin Liu, martin.liu@nottingham.edu.cn

University Research Ethics Committee Coordinator, Ms Theresa Zhang

(Theresa.zhang@nottingham.edu.cn)

声明

论文题目：顾客在服务失败情况下过激行为的原因。

尊敬的参与者：

谢谢您参与这次问卷调查。这次问卷调查是我在宁波英国诺丁汉大学的研究。论文题目是顾客在服务失败情况下过激行为的原因。

您是自愿参与此次问卷调查的。您可以在任何时候选择放弃这次的问卷调查，并要求您提供的信息不被使用在此次调查中。问卷的结果将被纯粹应用于学术研究及学术论文发表。您的名字及所有信息都是保密的。在使用您提供的信息时不会涉及您的其它信息。

宁波诺丁汉大学已根据研究道德检查程序对这项研究项目进行检查。这一程序是在学校关于研究行为和研究道德的行为标准的指导下进行的。如果您现在或将来有任何疑问，请联系本人或我的导师。如果您对我在问卷中的研究行为或研究道德有任何质疑，请联系我们或者英国诺丁汉大学的道德委员会。

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诺丁汉大学研究道德委员会秘书：Ms Theresa Zhang (Theresa.zhang@nottingham.edu.cn)

The purpose of this survey is pertaining to your last service failure experience. There are TWO (2) sections in this questionnaire. Please answer ALL questions to the best of your knowledge. Completion of this form will take you approximately 10 to 15 minutes. The contents of this questionnaire and your personal identity or information will be kept strictly confidential. The results will be presented in aggregate only. Thank you for your participation.

1. **Have you encountered a flight delay recently? 1. Yes 2. No**
2. **If yes, which airline company did you experience the flight delay with? _________ (please specify).**

SECTION I: YOUR VIEWS as a Customer

This first section presents a series of statements that represent possible views you might have about the *flight delay* you experience recently. Please answer the following questions with regard to that flight delay experience.

Please indicate your response by circling the appropriate number on the following scale (1 = Strongly disagree to 7 = Strongly agree).

1- Strongly Disagree	2- Disagree	3-Slightly Disagree	4- Neither Disagree nor Agree	5- Slightly Agree	6-Agree	7- Strongly Agree

Assessment of the flight delay (cont.)	**Strongly Disagree Agree**			**Neither Disagree nor Agree**		**Strongly**	
▪ The cause of the flight delay is controlled by the airline company.	1	2	3	4	5	6	7
▪ The cause of the flight delay can be predicted by the airline company.	1	2	3	4	5	6	7
▪ The airline company could have done something to avoid the flight delay.	1	2	3	4	5	6	7
▪ The same flight delay is very likely to occur again in the future.	1	2	3	4	5	6	7
▪ The cause of the flight delay is very likely to be permanent (it cannot be eliminated).	1	2	3	4	5	6	7
▪ The cause of the flight delay is very likely to be solvable only temporarily (so it will be reoccur).	1	2	3	4	5	6	7
▪ The cause of the flight delay is very likely to appear very frequently.	1	2	3	4	5	6	7

Please indicate your response with regard to *your perceptions* of the flight delay by circling the appropriate number on the following scale.

Perceptions of the flight delay

- Overall, the airline company was

Not at all responsible for the failure	1	2	3	4	5	6	7	Totally responsible for the failure

- Overall, the flight delay was

In no way the airline's fault	1	2	3	4	5	6	7	Completely the airline's fault

- To what extent do you blame the airline company for what happened?

Not at all	1	2	3	4	5	6	7	Completely

Listed below are statements about *your perception* towards the service failure. Please indicate your response by circling the appropriate number on the following scale.

Your perception about the flight delay

- **The flight delay caused me**

Minor problems	1	2	3	4	5	6	7	Major problems

- **The response of this airline company towards the flight delay is:**

Small inconveniences	1	2	3	4	5	6	7	Big inconveni ences

- **My overall perception of this airline company is:**

Worse than expected	1	2	3	4	5	6	7	Better than expected

Please indicate your response by circling the appropriate number on the following scale (1 = Not at all to 7 = Very much).

F. After the flight delay, how do you feel about your service experience with this airline on this occasion in the airport?	**Not at all**		**Somewhat**			**Very Much**	
▪ Enraged	1	2	3	4	5	6	7
▪ Angry	1	2	3	4	5	6	7
▪ Mad	1	2	3	4	5	6	7

SECTION II: EXPERIENCE & BEHAVIORS AFTER THE FLIGHT DELAY

This section presents a series of statements that represent possible experiences and opinions people might have after *flight delay*.

Listed below are statements about *your perceptions* towards the airline company. Please indicate your response by circling the appropriate number on the following scale (1 = Strongly disagree to 7 = Strongly agree).

Perceptions towards the company after the flight delay	**Strongly Disagree**		**Neither Disagree Nor Agree**				**Strongly Agree**
▪ In dealing with my problem, the airline company employee(s) treated me in a courteous manner.	1	2	3	4	5	6	7
▪ Given the inconvenience caused by the flight delay, the outcome I received from the airline company was fair.	1	2	3	4	5	6	7
▪ During their effort to fix the flight delay, the airline company employee(s) showed a real interest in trying to be fair.	1	2	3	4	5	6	7
▪ The airline company employee(s) were honest and ethical in dealing with me during their fixing the flight delay.	1	2	3	4	5	6	7
▪ With respect to its policies and procedures, the airline company handled the problem in a fair manner.	1	2	3	4	5	6	7
▪ I feel the airline company responded in a timely fashion to the problem.	1	2	3	4	5	6	7
▪ I believe the airline company has fair policies and practices to handle problems.	1	2	3	4	5	6	7
▪ Despite the hassle caused by flight delay, the airline company responded fairly and quickly.	1	2	3	4	5	6	7
▪ Although the flight delay caused me problems, the airline company's effort to fix it resulted in a very positive outcome for me.	1	2	3	4	5	6	7
▪ The final outcome I received from the airline company was fair, given the time and hassle.	1	2	3	4	5	6	7
▪ The airline company employee(s) worked as hard as possible for me during the recovery effort.	1	2	3	4	5	6	7
▪ The service recovery outcome that I received in response to the flight delay was more than fair.	1	2	3	4	5	6	7

Listed below are statements about *your attitude* towards the airline company claims with regard to the flight delay. Please indicate your response by circling the appropriate number on the following scale.

In your opinion……

- I am doubtful towards this airline company's claim regarding the flight delay.

  Disagree 1 2 3 4 5 6 7 Agree

- I am uncertain that this airline company is telling the truth about the flight delay.

Disagree	1	2	3	4	5	6	7	Agree

- I am unsure that this airline company is telling the truth about the flight delay.

Disagree	1	2	3	4	5	6	7	Agree

- I am questionable towards the airline company's claim regarding the flight delay.

Disagree	1	2	3	4	5	6	7	Agree

In your opinion……

- Compared to the average person, your knowledge about why flight delays is very extensive.

Disagree	1	2	3	4	5	6	7	Agree

- Compared to the average passenger, you know more about why flight delays occurs.

Disagree	1	2	3	4	5	6	7	Agree

- I have accessed different aspects of flight delays' information.

Disagree	1	2	3	4	5	6	7	Agree

- I completely understand flight delays.

Disagree	1	2	3	4	5	6	7	Agree

Listed below are statements about *your perceptions or behaviors within a group*. Please indicate your response by circling the appropriate number on the following scale (1 = Strongly disagree to 7 = Strongly agree).

Perceptions or Behaviors within a group	**Strongly Disagree**		**Neither Disagree Nor Agree**			**Strongly Agree**	
▪ In a situation where I need to complain with others, I feel empowered within a group.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I feel capacitated within a group.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I feel I'm stronger within a group.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become forcible.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become effectual.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become omnipotent.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become vehement.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become cogent.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become insistent.	1	2	3	4	5	6	7

▪ In a situation where I need to complain with others, I find myself become dashing.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become headlong.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become strenuous.	1	2	3	4	5	6	7
▪ In a situation where I need to complain with others, I find myself become bold.	1	2	3	4	5	6	7

Listed below are statements about *other people's behaviors (people who also suffered the flight delay)*. Please indicate your response by circling the appropriate number on the following scale (1 = Strongly disagree to 7 = Strongly agree).

Other people's behaviors	**Strongly Disagree**		**Neither Disagree Nor Agree**			**Strongly Agree**	
▪ People around me are having a heated discussion with sharp words	1	2	3	4	5	6	7
▪ People around me look quite serious and angry	1	2	3	4	5	6	7
▪ People around me frequently shake their heads to complain about the airline company	1	2	3	4	5	6	7

Listed below are statements about *your feelings when you complain to airline employees*. Please indicate your response by circling the appropriate number on the following scale (1 = Strongly disagree to 7 = Strongly agree).

When you complaining to service employee (s),	**Strongly Disagree**		**Neither Disagree Nor Agree**			**Strongly Agree**	
▪ The employee'(s)' actions made you feel weak and unable to control what was happening.	1	2	3	4	5	6	7
▪ The employee'(s)' actions made you look weak and unable to control what was happening.	1	2	3	4	5	6	7
▪ The employee'(s)' actions made you look intimidated to other people.	1	2	3	4	5	6	7
▪ The employee'(s)' actions made you feel intimidated	1	2	3	4	5	6	7
▪ What the employee (s) did damaged your reputation in the eyes of other people	1	2	3	4	5	6	7
▪ What the employee (s) did damaged your self-image	1	2	3	4	5	6	7
▪ The employee'(s)' actions hurt your self-esteem	1	2	3	4	5	6	7

Your Views on green product	**Strongly Disagree**			**Neither Disagree Nor Agree**			**Strongly Agree**
▪ Green product's environmental functions provide very good value for me.	1	2	3	4	5	6	7
▪ Green product's environmental performance meets my expectations.	1	2	3	4	5	6	7
▪ I purchase green product because it has more environmental concern than other products.	1	2	3	4	5	6	7
▪ The airport was very clean. I purchase green product because it is environmental friendly.	1	2	3	4	5	6	7
▪ I purchase green product because it has more environmental benefit than other products.	1	2	3	4	5	6	7

Please indicate your response by circling the appropriate number on the following scale (1 = Not at all likely to 7 = Extremely Likely) regarding YOUR behaviour when you experience a flight delay.

How likely are you to ...	**Not At All Likely**			**Moderately Likely**			**Extremely Likely**
▪ Swear/curse aloud during your interaction with the airline company employee(s).	1	2	3	4	5	6	7
▪ Make negative comments about the airline company employee(s) or organization aloud.	1	2	3	4	5	6	7
▪ Make insulting remarks to the airline company employee(s).	1	2	3	4	5	6	7
▪ Raise your voice at the airline company employee(s).	1	2	3	4	5	6	7
▪ Make physical contact with the airline company employee(s) in anger.	1	2	3	4	5	6	7
▪ Threaten to do physical harm to the airline company employee(s).	1	2	3	4	5	6	7
▪ Try to cause damage to the airline company's property.	1	2	3	4	5	6	7
▪ Shake your head at the airline company employee(s).	1	2	3	4	5	6	7
▪ Roll your eyes at the airline company employee(s).	1	2	3	4	5	6	7
▪ Give the airline company employee(s) dirty looks.	1	2	3	4	5	6	7
▪ Glare at the airline company employee(s).	1	2	3	4	5	6	7

SECTION III: YOUR GENERAL ATTITUDE and POTENTIAL BEHAVIOR

Please NOTE that section L is about your knowledge about flight delay. Section M & N is about your general perceptions about yourself. Please tick the appropriate response for each question.

Please indicate your response by circling the appropriate number on the following scale (1 =

Strongly disagree to 7 = Strongly agree).

Your Views	**Strongly Disagree**		**Neither Disagree Nor Agree**				**Strongly Agree**
▪ The temperature inside of the airport was pleasant.	1	2	3	4	5	6	7
▪ The music inside of the airport was too loud.	1	2	3	4	5	6	7
▪ The air quality inside of the airport was poor.	1	2	3	4	5	6	7
▪ The airport was very clean.	1	2	3	4	5	6	7

Your Views	**Strongly Disagree**		**Neither Disagree Nor Agree**				**Strongly Agree**
▪ Given enough provocation, I may hit another person.	1	2	3	4	5	6	7
▪ I rarely find myself disagreeing with other people.	1	2	3	4	5	6	7
▪ When people annoy me, I tell them what I think.	1	2	3	4	5	6	7
▪ A white lie is often a good thing.	1	2	3	4	5	6	7
▪ When frustrated, I let me irritation show.	1	2	3	4	5	6	7
▪ Some of my friends think that I am hot-headed.	1	2	3	4	5	6	7
▪ When people are especially nice, I wonder what they want.	1	2	3	4	5	6	7

SECTION IV: BACKGROUND INFORMATION

This last section has questions that will only be used to group your responses with others of similar backgrounds. Please tick the appropriate response for each question.

1. What is your gender? ❑ Female ❑ Male	**2.** What was your age on your last birthday? ❑ up to 17 ❑ 18-24 ❑ 25-29 ❑ 30-39 ❑40-49 ❑ over 49
3. What is the **highest** level of education you have **completed**? ❑ No Qualification ❑ High School ❑Undergraduate ❑ Postgraduate	**4.** What is your annual personal income? ❑ Below100,000 ❑ 100,000—200,000 ❑ More than 200,000

5. How frequently do you fly *in a year*?

❑ None ❑ Less than 6 times ❑ More than 6 times

THANK YOU FOR TAKING THE TIME OUT OF YOUR BUSY DAY TO COMPLETE THIS SURVEY. YOUR COOPERATION IS GREATLY APPRECIATED

3. **您最近是否遇到过航班延误？** 1. 是 2. 否

4. **若是，请写出该航空公司的名字______________。 (请注明).**

你的看法

.请根据您最近飞机延误的经历选择以下答案。

请通过圈出如下选项中合适的数字表明您对航班延误问题的态度。(1=非常不赞同 到 7=非常赞同).

1-非常不赞同	2- 不赞同	3-部分不赞同	4- 中立	5- 部分赞同	6-赞同	7-非常赞同

A. 对航班延误的评定	非常不赞同			中立			非常赞同
▪ 此次航班延误的原因是在航空公司控制范围内的	1	2	3	4	5	6	7
▪ 航空公司可以预见此次航班延误的原因	1	2	3	4	5	6	7
▪ 航空公司可以采取措施避免航班延误	1	2	3	4	5	6	7
▪ 相同情况的航班延误很可能在未来再次发生	1	2	3	4	5	6	7
▪ 航班延误很可能是长期的	1	2	3	4	5	6	7
▪ 航班延误的原因是只是暂时可以解决的（这种原因导致的航班延误很可能会再次发生）	1	2	3	4	5	6	7
▪ 航班延误很可能会非常频繁的出现	1	2	3	4	5	6	7

根据您对航班延误的看法，从以下范围中选择最合适的数字。

关于航班延误问题认知								
▪ 总体来说，航空公司对服务失败（航班延误问题）没有责任	1	2	3	4	5	6	7	完全应当为服务失败（航班延误问题）负责任
▪ 总体来说，航班延误并不是航空公司的错	1	2	3	4	5	6	7	完全是航空公司的错

- 你会在多大程度上为已发生的事（航班延误）责备航空公司

一点都不会	1	2	3	4	5	6	7	完全会

请圈出您认为最符合的答案（1= 一点都不，7= 非常）

在航班延误后，您对自己的在这种情境下由这家航空公司提供的服务体验有何感受	**一点都不**		**有点**			**非常**	
▪ 非常愤怒的	1	2	3	4	5	6	7
▪ 生气的	1	2	3	4	5	6	7
▪ 抓狂的/ 要发疯似的	1	2	3	4	5	6	7

第二部分 飞机延误后您的经历及行为

以下环节体现了飞机延误后人们可能的经历及想法。

以下描述有关于您对该航空公司的看法。请从以下范围中，选择最合适的数字作为答案。（1=非常不赞同 到 7=非常赞同）

您在航班延误之后对该航空公司的看法	**非常不赞同**			**中立**			**非常赞同**
▪ 航空公司职员在解决航班延误这个问题上对我的态度很礼貌	1	2	3	4	5	6	7
▪ 考虑到航班延误带来的不便，我从航空公司得到的结果是公平的	1	2	3	4	5	6	7
▪ 在努力解决航班延误的问题上，航空公司职员都尽力做到公平合理	1	2	3	4	5	6	7
▪ 航空公司职员在解决航班延误问题时是诚实和有道德的	1	2	3	4	5	6	7
▪ 在参照了其规章制度的同时，航空公司公平恰当的处理了问题	1	2	3	4	5	6	7
▪ 我认为，该航空公司及时地回应了航班延误	1	2	3	4	5	6	7
▪ 我相信航空公司有公平恰当的政策和惯例来处理这一问题	1	2	3	4	5	6	7
▪ 尽管航班延误给我带来了不便，航空公司仍然做出了公平且快速	1	2	3	4	5	6	7

的回应							
▪ 虽然这次航班延误给我带来了不便，航空公司的努力还是带给我一个好的结果	1	2	3	4	5	6	7
▪ 即使就此次航班延误所造成时间和金钱上的损失而言，我还是得到了很合理公正的结果	1	2	3	4	5	6	7
▪ 航空公司雇员在解决问题的过程中尽己所能帮助了我	1	2	3	4	5	6	7
▪ 因为航班延误我得到了额外的补偿	1	2	3	4	5	6	7

您对航空公司的声明有怎样的态度？请从以下范围中，选择最合适的数字作为答案。（1=非常不赞同 到 7=非常赞同）

I. 您认为

▪ 我对航空公司关于航班延误的声明持怀疑态度								
不赞同	1	2	3	4	5	6	7	赞同
▪ 我不认为这家航空公司向消费者透露了航班延误的实情								
不赞同	1	2	3	4	5	6	7	赞同

J. 在您看来

▪ 相较于平均水平，您对航班延误的知识储备较丰富								
不赞同	1	2	3	4	5	6	7	赞同
▪ 相较于一般乘客，您了解更多航班为何延误的原因								
不赞同	1	2	3	4	5	6	7	赞同
▪ 我曾查阅过有关航班延误的更多信息								
不赞同	1	2	3	4	5	6	7	赞同
▪ 我完全理解航班延误。								
不赞同	1	2	3	4	5	6	7	赞同

以下列举了您可能的认知/在一个群体内的行为。请勾选可能与您的反应相一致的数字。（1是非常不赞同，7是非常赞同）

▪ 当我身处环境需要抱怨时，在	1	2	3	4	5	6	7

K. 群体中的认知或行为	**非常不赞同**	**中立**	**非常赞同**

群体中我更能够做到。							
▪ 当我身处环境需要抱怨时，我觉得在群体里我有资格这样做	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我觉得在群体里我会更有力	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现在群体中我更加强有力。	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现我自己更有效力	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时， 我感觉自己无所不能	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现我自己（表现的）更激烈	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现自己变得更令人信服	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现我自己变得更能坚持	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现自己变得劲头十足/ 有冲劲	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现自己变得轻率	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现自己变得热切	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，我发现自己变得大胆	1	2	3	4	5	6	7
▪ 当我身处环境需要抱怨时，在群体中我会觉得更能够做到	1	2	3	4	5	6	7

以下列举的是其他人同样经历航班延误后的表现，请从以下范围中，选择最合适的数字作为答案。（1=非常不赞同 到 7=非常赞同）

其他人的行为	**非常不赞同**			**中立**			**非常赞同**
▪ 我周围的人正在言辞犀利的热烈讨论	1	2	3	4	5	6	7
▪ 我周围的人看起来都非常严肃且生气	1	2	3	4	5	6	7
▪ 我周围的人都航空公司频繁的摇头抱怨	1	2	3	4	5	6	7

以下列举了当你在抱怨航空公司服务人员时，其他人的心理的感受，请从以下范围中，选择最合适的数字作为答案。（1=非常不赞同 到 7=非常赞同）

当你向服务人员抱怨时	**非常不赞同**			**中立**			**非常赞同**

▪ 服务人员的行为让我感觉无力并且不能控制当前局面	1	2	3	4	5	6	7
▪ 服务人员的行为让你在他人眼里看起来很易怒	1	2	3	4	5	6	7
▪ 服务人员的行为让你易怒	1	2	3	4	5	6	7
▪ 服务人员的行为损害了你在他人心目中的声望/名声	1	2	3	4	5	6	7
▪ 服务人员的行为损害了你的自我形象	1	2	3	4	5	6	7
▪ 服务人员的行为伤害了你的自尊	1	2	3	4	5	6	7

您对绿色产品的看法	**非常 不赞同**			**中立**			**非常 赞同**
绿色产品的环保功能对我来说很有价值	1	2	3	4	5	6	7
绿色产品的环保性能符合我的期望	1	2	3	4	5	6	7
我购买绿色产品是因为它体现的环保意识比其他产品强	1	2	3	4	5	6	7
我购买绿色产品因为它是环保的	1	2	3	4	5	6	7
我购买绿色产品是因为它比其他产品更有环保效益	1	2	3	4	5	6	7

以下列举在航班延误后您可能做出的行为，请从以下范围中，选择最合适的数字作为答案。（1=肯定不会 到 7=肯定会）

你会有多倾向于	**肯定 不会**			**一般**			**肯定 会**
▪ 在与航空公司雇员（们）沟通的过程中大声咒骂	1	2	3	4	5	6	7
▪ 大声的发表对于航空公司雇员或公司本身的负面评论	1	2	3	4	5	6	7
▪ 对航空公司雇员进行辱骂	1	2	3	4	5	6	7
▪ 在航空公司雇员面前提高嗓音理论	1	2	3	4	5	6	7
▪ 在极其生气的时候，与航空公司雇员产生肢体冲突	1	2	3	4	5	6	7
▪ 威胁对航公公司雇员实施人身伤害	1	2	3	4	5	6	7
▪ 试图破坏航空公司财产	1	2	3	4	5	6	7
▪ 对航空公司雇员摇头	1	2	3	4	5	6	7
▪ 在航空公司雇员面前翻白眼	1	2	3	4	5	6	7
▪ 在航空公司雇员面前露出轻蔑的脸色	1	2	3	4	5	6	7
▪ 怒视航空公司雇员	1	2	3	4	5	6	7

第三部分：您的态度与潜在行为

注：L部分是关于您对航班延误的知识了解；M & N部分是您对自己的见解。请填写合适的数字作为答案。

请从以下范围中，选择最合适的数字作为答案。（1=非常不赞同 到 7=非常赞同）

V. 机场硬件设施	**非常不赞同**			**中立**			**非常赞同**
▪ 机场内的温度是舒适的	1	2	3	4	5	6	7
▪ 机场内的音乐太吵了	1	2	3	4	5	6	7
▪ 机场内的空气质量很差	1	2	3	4	5	6	7
▪ 机场很干净整洁	1	2	3	4	5	6	7

X. 您的见解	**非常不赞同**			**中立**			**非常赞同**
▪ 如果挑衅超过底线，我可能会与他人产生肢体冲突。	1	2	3	4	5	6	7
▪ 我很少与他人持不同意见	1	2	3	4	5	6	7
▪ 当他人惹恼我，我会向他们表达我的想法	1	2	3	4	5	6	7
▪ 善意的谎言通常是好事	1	2	3	4	5	6	7
▪ 当我产生挫败感的时候，我会将我的愤怒表达出来。	1	2	3	4	5	6	7
▪ 我的朋友认为我是个急躁的人	1	2	3	4	5	6	7
▪ 当他人对我非常和蔼时，我会好奇他们是不是另有目的。	1	2	3	4	5	6	7

第四部分：背景信息

该部分信息只会在资料统计时，被用来归类被调查者的身份背景。请选择与您实际情况相符合的选项。

2. 您的性别 ❑ 女 ❑ 男	**2.** 您的年龄 ❑ 不满 17 ❑ 18-24 ❑ 25-29 ❑ 30-39 ❑40-49 ❑ 不满 49
3. 您的教育水平？ ❑ 无学历 ❑ 高中学历 ❑本科学历 ❑ 本科以上学历	**4.** 您的年收入是？ ❑ 10万以下 ❑ 10万至20万 ❑ 20万以上

5. 您一年乘飞机的频率

❑ 不乘坐 ❑ 少于等于 6 次 ❑ 大于6次

感谢您抽出宝贵的时间完成该调查。真诚感谢您的配合

Appendix 4 Non Response Bias Test for Online Survey

Group Statistics						Independent Samples Test							
												95% Confidence Interval of the Difference	
	N (late vs early)	Mean	SD	SD M	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
CON	48	3.9583	1.40856	.20331	2.911	.090	-1.077	188	.283	-.22007	.20443	-.62333	.18319
	142	4.1784	1.15652	.09705			-.977	69.656	.332	-.22007	.22529	-.66943	.22929
STA	48	4.9219	1.54038	.22233	1.919	.168	1.712	188	.089	.39195	.22893	-.05965	.84354
	142	4.5299	1.30991	.10992			1.580	71.365	.118	.39195	.24802	-.10256	.88645
BL	48	4.5903	1.31771	.19019	.595	.442	2.199	188	.087	.43065	.20512	.02601	.83529
	142	4.1596	1.19740	.10048			2.002	74.952	.079	.43065	.21511	.00213	.85917
ANG	48	4.1875	1.66384	.24015	11.522	.001	1.538	188	.126	.33116	.21530	-.09355	.75587
	142	3.8563	1.13771	.09547			1.281	62.510	.205	.33116	.25844	-.18536	.84769
SFS	48	5.0069	1.26881	.18314	.004	.949	3.252	188	.061	.73464	.21919	.30225	1.16703
	142	4.2723	1.32718	.11137			3.427	84.349	.065	.73464	.21434	.30842	1.16087
PJ	48	3.9410	1.24032	.17903	.065	.800	-1.413	188	.159	-.28673	.20294	-.68705	.11360
	142	4.2277	1.20708	.10130			-1.394	79.205	.167	-.28673	.20570	-.69614	.12268
SKEP	48	4.7865	1.42544	.20574	.052	.820	.519	188	.604	.12801	.24665	-.35856	.61457
	142	4.6585	1.49422	.12539			.531	84.513	.597	.12801	.24094	-.35109	.60711
CE	48	3.9896	1.14269	.16493	2.931	.089	-1.734	188	.085	-.40478	.23344	-.86529	.05572
	142	4.3944	1.47356	.12366			-1.964	103.762	.052	-.40478	.20614	-.81358	.00401
GE	48	3.6442	1.16677	.16841	1.976	.161	.993	188	.322	.20165	.20309	-.19898	.60228
	142	3.4426	1.23251	.10343			1.020	85.107	.310	.20165	.19763	-.19129	.59460
EC	48	4.5903	1.43288	.20682	.563	.454	3.233	188	.056	.81563	.23756	.34700	1.28426
	142	3.7746	1.41952	.11912			3.417	80.408	.053	.81563	.23867	.34069	1.29057
FL	48	3.8229	1.05991	.15298	7.309	.007	1.703	188	.090	.35930	.21104	-.05700	.77560
	142	3.4636	1.32505	.11120			1.900	100.434	.060	.35930	.18913	-.01590	.73450
AB	48	2.8428	1.41729	.20457	2.331	.128	-.272	188	.786	-.06885	.25307	-.56807	.43037
	142	2.9117	1.54718	.12984			-.284	87.746	.777	-.06885	.24229	-.55037	.41267
SER	48	4.0990	1.01549	.14657	.139	.710	-1.094	188	.275	-.17041	.15581	-.47777	.13695

	142	4.2694	.90412	.07587			-1.032	73.796	.305	-.17041	.16505	-.49929	.15847
AGG	48	3.7208	1.03038	.14872	.000	.989	-1.166	188	.245	-.19043	.16334	-.51265	.13178
	142	3.9113	.96036	.08059			-1.126	76.458	.264	-.19043	.16915	-.52730	.14643
Gender	48	1.56	.501	.072	.835	.362	2.042	188	.053	.168	.082	.006	.331
	142	1.39	.490	.041			2.020	79.554	.057	.168	.083	.002	.334
Age	48	2.33	.883	.127	1.538	.216	-.388	188	.698	-.061	.157	-.371	.249
	142	2.39	.960	.081			-.405	87.376	.687	-.061	.151	-.361	.239
Edu	48	2.21	.504	.073	2.545	.112	1.038	188	.301	.082	.079	-.073	.237
	142	2.13	.459	.039			.992	75.147	.325	.082	.082	-.082	.245
Income	48	1.50	.505	.073	.961	.328	.845	188	.399	.070	.083	-.094	.235
	142	1.43	.497	.042			.838	79.886	.404	.070	.084	-.097	.238
Frequency	48	2.21	.544	.079	1.108	.294	.381	188	.704	.032	.085	-.135	.200
	142	2.18	.495	.042			.363	75.057	.717	.032	.089	-.145	.209

CON: Controllability; STA: Stability; BL: Blame; PJ: Perceived Justice; SFS: service failure severity SKEP: Consumer Skepticism; GE: Group Empowerment; EC: Emotional Contagion; FL: Face loss; CE: Consumer Expertise; AB: Aggressive behavior; AGG: Aggressiveness; SER: Servicescape

Appendix 5 Exploratory Factor Analysis

	Constructs													
Tests	CON	STA	BL	PJ	SFS	SKEP	ANG	GE	FL	EC	CE	AB	AGG	SER
KMO>0.6	.674	.789	.682	.959	0.669	.814	.729	.951	.878	.743	.819	.941	.632	0.609
Bartlett's Test of Sphericity Sig. <0.05	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Factor Loading	0.772-0.815	0.806-0.861	0.779-0.833	0.713-0.826	0.713-0.881	0.767-0.897	0.772-0.856	0.818-0.900	0.849-0.878	0.893-0.923	0.756-0.902	0.850-0.894	0.707-0.867	0.810-0.880
% of Total Variance Explained >60%	63.70	67.93	66.27	74.87	61.29	72.22	81.20	74.20	69.96	82.44	73.12	72.60	75.13	73.30
No. of Items	3	4	3	12	3	4	3	10	5	3	4	10	3	4
Items deleted due to cross loading								Item 2, 3					Item 5	
Items deleted due to low factor loading								Item 1 0.671	Item 1 0.694			Item 1 0.651	Item 2 0.611 Item 3 0.687	
Total number deleted: 8														

CON: Controllability; STA: Stability; BL: Blame; PJ: Perceived Justice; SFS: service failure severity SKEP: Consumer Skepticism; GE: Group Empowerment; EC: Emotional Contagion; FL: Face loss; CE: Consumer Expertise; AB: Aggressive behavior; AGG: Aggressiveness; SER: Servicescape

Appendix 6 Scale Validation & Discriminant Validity

	FOL	Mean	SD	AVE	CR	CON	STA	BL	PJ	SKEP	ANG	SFS	GE	EC	FL	CE	AGG	SER	EDU	FRE	AB
CON	0.738-0.879	4.358	1.260	0.632	0.837	0.7947															
STA	0.787-0.835	4.862	1.340	0.678	0.894	0.4469	0.8237														
BL	0.797-0.838	4.830	1.061	0.659	0.853	0.3017	0.2309	0.8118													
PJ	Forma	4.66	1.204	0.649	0.956	0.1039	0.0057	0.0394	0.8053												
SKEP	0.781-0.879	4.786	1.356	0.685	0.897	0.235	0.1289	0.3085	0.1707	0.8278											
ANG	0.854-0.899	4.607	1.358	0.772	0.911	0.2104	0.1242	0.5086	0.064	0.443	0.8788										
SFS	0.772-0.910	4.900	1.276	0.728	0.889	0.0598	0.2263	0.444	0.0237	0.2186	0.6288	0.8533									
GE	0.779-0.893	3.953	1.449	0.715	0.968	0.1046	0.0571	0.3198	0.3438	0.455	0.5029	0.3649	0.8454								
EC	0.86-0.925	4.772	1.321	0.785	0.916	0.1769	0.2342	0.2661	0.1677	0.3474	0.3318	0.2325	0.3113	0.8860							
FL	0.839-0.901	4.062	1.529	0.760	0.941	0.1173	0.0363	0.3715	0.1553	0.509	0.5436	0.3563	0.6824	0.493	0.8717						
CE	0.742-0.902	4.290	1.420	0.740	0.919	0.1136	0.0653	0.1722	0.5088	0.3063	0.2415	0.2051	0.4868	0.281	0.4185	0.8604					
AGG	0.849-0.884	4.095	1.061	0.751	0.858	0.0573	0.0188	0.1348	0.2617	0.1238	0.2569	0.0958	0.4565	0.1719	0.4327	0.147	0.8714				
SER	0.785-0.858	4.385	0.926	0.78	0.876	0.0598	0.0187	0.2582	0.2382	0.2329	0.2257	0.1434	0.2626	0.0901	0.299	0.3344	0.2585	0.8832			
EDU	Single item	3.12	0.526	1	1	0.0151	0.0199	0.0417	0.122	0.1083	0.0462	0.037	0.0351	0.0061	0.0297	0.0272	0.0417	0.0067	N/A		
FRE	Single item	2.19	0.471	1	1	0.0307	0.0064	0.1012	0.0978	0.0934	0.1116	0.0841	0.0431	0.0394	0.0269	0.073	0.1012	0.0161	0.2406	N/A	
AB	0.768-0.882	3.095	1.587	0.655	0.963	0.033	0.0874	0.2541	0.2162	0.3403	0.4748	0.237	0.658	0.2197	0.636	0.3564	0.5044	0.3588	0.0173	0.0139	0.8094

FOL: Factor Outer Loading; CR: Composite Reliability
CON: Controllability; STA: Stability: BL: Blame; PJ: Perceived Justice; SFS: service failure severity SKEP: consumer skepticism; GE: group empowerment; EC: Emotional contagion; FL: face loss; CE: consumer expertise; AGG: Aggressiness; SER: Servicescape; EDU: education; FRE: frequency; AB: Aggressive behaviour

Appendix 7 Moderation Test Results

Moderation Effect	Path Coefficient	P Value	T Value	Hypotheses
BL*SKEP -> ANG	0.2226	*	2.237	H2a: Accepted
PJ *SKEP -> ANG	-0.1628	*	1.9872	H2b: Accepted
SFS *SKEP -> ANG	0.1823	*	2.2709	H2c: Accepted
GE *ANG-> AB	0.2936	***	3.2296	H3: Accepted
FL*ANG-> AB	0.1739	*	2.4746	H4: Accepted
EC*ANG -> AB	0.3706	**	2.8126	H5: Accepted
CE *ANG-> AB	0.2471	**	2.7882	H6: Accepted
Demographic Factor				
EDU*ANG-> AB	-0.1124	*	2.211	H7: Rejected
FRE*ANG-> AB	0.13	*	2.1182	H8: Accepted
Direct Effect				
AGG-> AB	0.1858	***	3.4432	H9: Accepted
Relationship				
SER-> AB	0.1879	***	3.3854	H10: Accepted
Control Variables				
Gender	-0.0313	N.S	1.5439	
Age	-0.0025	N.S	0.1174	
Income	0.0047	N.S	0.2977	

Note: P<0.001 ***; P<0.01 **; P<0.05 *; P> 0.05=N.S.
R^2=0.587
BL: Blame; PJ: Perceived Justice; SFS: service failure severity SKEP: consumer skepticism; GE: group empowerment; EC: Emotional contagion; FL: face loss; CE: consumer expertise; AB: Aggressive behaviour; AGG: aggressiveness; SER: Servicescape: EDU: education; FRE: frequency

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