The impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers towards airline companies

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DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed ..... (William Lai)

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STATEMENT 1

This thesis is the result of my own investigations, except where otherwise stated. Where correction services have been used the extent and nature of the correction is clearly marked in a footnote(s). Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

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Abstract

The airline industry contributes significantly to both the world economy and the Hong Kong economy. Before the COVID-19 pandemic, the competition in the passenger air transportation industry was fierce. However, many airlines encountered harsh operating environments due to flight restrictions and the quarantine policies imposed by many countries during the COVID-19 pandemic. The Hong Kong Special Administrative Region Government has started alleviating most of the COVID-19-related measures, especially those remaining in the tourism industry since the second quarter of 2022. Knowing how to earn the behavioural loyalty of Hong Kong air travellers has become an imperative.

This study aims to investigate the impacts of service quality, customer satisfaction and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers towards airline companies. A simple mixed method was employed in the investigation. Qualitative analysis was utilised to identify the behavioural loyalty-related factors first, and quantitative analysis was applied to triangulate the relationships. The qualitative data were sourced from 23 valid interviews conducted between May and July 2021. Ten of the interviewers have both business and non-business air travel experience. A total of 337 qualified air travellers provided valuable information for the quantitative analysis from August to October 2022. 182 of them had both kinds of experiences. It was found that a moderate level of behavioural loyalty exists in both Hong Kong business and non-business air travellers; service quality, customer satisfaction, and perceived price fairness are the major contributors to the behavioural loyalty of Hong Kong business and non-business air travellers towards airline companies.

Although there are some studies on the behavioural loyalty of air travellers, no similar study in the context of Hong Kong air travellers with business and non-business air travellers categorisation was observed. The current study adapts the AIRQUAL model to probe for the overall service quality of airlines available to Hong Kong air travellers. It is one of the pioneer validations of the AIRQUAL model using Hong Kong air travellers' data, and it will provide an option for gauging overall airline services besides SERVQUAL and SERVPERF. It was also revealed that the customer satisfaction factor partially mediates the contribution of the overall service quality factor to the behavioural loyalty factor. The partial mediation effect of business air travellers is more robust than non-business air travellers. The current study provides updated information on Hong Kong air travellers' behavioural attitudes towards airlines and managerial implications for airline companies to establish future strategies to earn Hong Kong air travellers' behavioural loyalty.

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Chapter 1: Introduction

1.1 Introduction

This chapter is devoted to providing the research rationale and describing the research gap. Information, including the overview of the airline industry and the theoretical framework, i.e., various kinds of loyalty and antecedents of loyalty, will also be introduced. The current study mainly focuses on service quality, customer satisfaction, and perceived price fairness, as they are the popular focuses of customer loyalty studies, and their impacts on the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies. The AIRQUAL model is adapted to measure the overall service quality of airlines; customer satisfaction, perceived price fairness, and behavioural intention scales are adapted from various studies. Other research-related topics, such as the importance of research, the research problem, objectives, questions, and methodology, will also be briefly presented in this chapter. The chapter ends with the scope of the research, which is a very concise summary of each chapter in the current study.

1.2 The rationale of the research

The title of the current study is “The impact of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies”. The central focus is on behavioural loyalty within the context of Hong Kong air travellers.

Behavioural loyalty emphasises the actual purchases made by the customer, especially repeated purchases (Oliver, 1999; Chaudhuri and Holbrook, 2001; Tashakkor and Teddlie, 2003; Park, Robertson and Wu, 2005; Saha and Theingi, 2009). Behavioural loyalty directly impacts the profitability of corporations; with more repeated patronisations, better financial performance will be generated. In addition, retaining existing customers is less costly than acquiring new customers (Reichheld and Sasser, 1990; Kotler, 2017).

There is no hidden secret behind the earning of customers' behavioural loyalty; service quality, customer satisfaction, and perceived price fairness are the significant factors in promoting customers' behavioural loyalty (Oliver, 1999; McMullan and Gilmore, 2008; An and Noh, 2009; Forgas *et al.*, 2010; Lee, Illia and Lawson-Body, 2011; Lee, Jeon and Kim, 2011; Curry and Gao, 2012; Etemad-Sajadi, Way and Bohrer, 2015; ben Akpoyomare, Kunle Adeosun, and Ganiyu, 2018; Gong and Yi, 2018; Zietsman, Mostert, and Svensson, 2019).

The aviation industry is a major contributor to global economic prosperity. The aviation industry offered 65.5 million jobs around the globe and added USD 2.7 trillion (3.6%) to the world's gross domestic product (GDP) in 2016, directly and indirectly. In 2018, the global airline industry carried approximately 4.3 billion passengers for 8.3 trillion revenue passenger kilometres; around 12 million passengers were carried each day by airlines (International Civil Aviation Organization, 2019; Asquith, 2020). The Hong Kong air transport sector contributed 10.2% of Hong Kong's GDP in 2017 (IATA Economics, 2019). In 2019, the Hong Kong International

Airport (HKIA) handled 71.5 million passengers, 4.8 million tonnes of air cargo, and 420,000 air traffic movements (Civil Aviation Department, 2021).

Connecting such an important industry with consumer behaviour theories is therefore meaningful and valuable research. The combination is the study of the impact of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies.

1.3 Research gap

There is a tremendous volume of studies regarding behavioural loyalty; many studies investigate the behavioural loyalty of air travellers in specific countries or places; based on the result of search engines, as of 5 March 2022, there was no similar study focusing on the behavioural loyalty of Hong Kong business and non-business travellers. A research window is opened for the current study.

Note: Major academic search engines, such as Chrome, Google Scholar, HKU Scholars Hub, and Hong Kong Baptist University's library search engine, which searches popular academic databases such as Scopus, EBSCO, ProQuest, as well as some industry-specific journals (i.e. Journal of Air Transport Management, Tourism Management), were used to search for the research topic, but no similar study was found. Hong Kong Baptist University's library's search engine examines over 370 databases, 125,400 electronic journals, 1.31 million e-book titles, 1.25 million printed volumes, and 153,000 multimedia items (HKBU Library, 2022).

1.4 Overview of the Hong Kong airline industry

Hong Kong is recognised worldwide for two achievements: it is a world-class financial centre and an international travelling hub. Hong Kong International Airport served over 419,730 arrival and departure flights and over 71.5 million air travellers in 2019. The location of the airport makes it reachable by half of the world's population within a 5-hour flight time (Hong Kong International Airport, 2020).

Before 2020, the pre-COVID period, the competition among airlines in Hong Kong was fierce. The full-service carrier airlines (FSC) market was severely challenged by low-cost carrier airlines (LCC). Competition was not confined to these two categories but also existed among airlines within the same category. Ticket price, service quality, and loyalty programmes were the usual areas of competition (Wang *et al.*, 2017).

The COVID-19 period began in 2020. The COVID-19 pandemic drastically impacted the Hong Kong airline industry. During the period between 01 April 2020 and 31 March 2021, the number of flights decreased by 71.1%, from 744,197 to 214,921 (Civil Aviation Department of Hong Kong, 2021). Passenger traffic plummeted 98.6% to 0.8 million, while aeroplane movements fell 66.2% to 127,760 (Hong Kong International Airport, 2021). Hong Kong followed China's strict control of the COVID-19 pandemic policy (Springer, 2021), including the quarantine measures. International travellers skipped Hong Kong for business and non-business purposes, while local people refrained from leaving Hong Kong for the same reasons as international travellers deciding to skip flights to the city: to avoid the risk, the long waiting times in the airport, the 14-day quarantine requirement, and the expensive

quarantine accommodation (Sun, Wandelt, and Zhang, 2020; Springer, 2021; Garaus and Hudáková, 2022). Airlines in Hong Kong struggled to survive.

After the second quarter of 2022, the Hong Kong government started to alleviate the COVID-19 pandemic measures; it relaxed and then paused the flight suspension policy, which penalised airlines for carrying five or more COVID-19-infected passengers to Hong Kong by suspending their flights for two weeks (Reuters, 2022). The hotel quarantine period was reduced to three days from seven days (Leung, 2022), and the airline business in Hong Kong gradually rebounded. More good news followed. Over 1.400 new global routes were slated to be added from 2022; around 600 will serve Europe, 500 the Asia-Pacific region, and 200 China (Allianz Global Corporate & Specialty, 2022). Airlines in Hong Kong welcomed the take-off of their business while equipping themselves for the approaching head-on competition. Knowing the factors influencing the behavioural loyalty of Hong Kong air travellers' is the key to winning the game.

1.5 Overview of the theoretical framework of the research

1.5.1 Customer loyalty

There are more than fifty definitions of customer loyalty (Berkowitz, Jacoby, and Chestnut, 1978). Repurchases catch the focus of numerous scholars, who investigate loyalty from different angles. These include proportion, frequency, sequence and probability, the share of budget, or a combination of these factors (Berkowitz, Jacoby, and Chestnut, 1978; Jacoby, 1978; Oliver, 1999; Ngobo, 2016).

Mainstream researchers divide loyalty into attitudinal and behavioural (Dick and Basu, 1994; Chaudhuri and Holbrook, 2001; McMullan and Gilmore, 2008; Lee, Jeon, and Kim, 2011; Watson *et al.*, 2015). Attitudinal loyalty is cognition or pleasurable fulfilment resulting from logical evaluations; it favours a particular brand or product. Strong attitudinal loyalty wards off competitors' offers and may impact customers' purchase behaviour and make word of mouth endorsements more likely (Oliver, 1999; Ahluwalia, 2000; Chaudhuri and Holbrook, 2001; Park *et al.*, 2010). Behavioural loyalty emphasises repeated purchases (Oliver, 1999; Chaudhuri and Holbrook, 2001; Tashakkor and Teddlie, 2003; Park, Robertson and Wu, 2005; Saha and Theingi, 2009). As purchases from customers contribute to the bottom line of a firm, behavioural loyalty directly impacts a firm's profitability (Rajaguru, 2016), which is essential to the airline industry's fight for survival.

1.5.2 Antecedents of consumer loyalty

Although some research postulates that brand loyalty is a stochastic consumer behaviour (Bass, 1974; Sharma, 1981), a significant portion of consumer behaviour studies show that there is a positive relationship between quality service and customer satisfaction, and that quality service enhances customers' loyalty to airlines (Forgas *et al.*, 2010; Wong and Musa, 2011; Curry and Gao, 2012; Ko, 2016; Farooq *et al.*, 2018; Dsilva *et al.*, 2020; Sarpong, 2021; Shen and Yahya, 2021). Perceived price fairness is another crucial factor impacting air travellers' behavioural loyalty. These findings are supported by a diversity of studies (Bei and Chiao, 2001; Lee, Illia and Lawson-Body, 2011; Asadi, Pool, and Jalilvand, 2014; Zietsman, Mostert, and Svensson, 2019).

There are many tools for gauging the service quality of an airline. SEVRQUAL and SEVRPERF are the two most well-known models. SEVRQUAL uses the expectancy disconfirmation model, which emphasises the disagreement between a consumer's expectations and their experience; if the experience is better than expectations, the evaluation of service quality should be good (Parasuraman, Zeithaml, and Berry, 1988; Oliver, Rust, and Varki, 1997; Sureshchandar, Rajendran, and Kamalanabhan, 2001; Carrillat, Jaramillo, and Mulki, 2007). SEVRPERF transcends SEVRQUAL by removing the expectations element for higher efficiency and predictability (Cronin and Taylor, 1992, 1994; Brady, Cronin, and Brand, 2002; Shen and Yahya, 2021). These two models are applied to many facets of business and are subject to disparate positive and negative comments. The current study adapts AIRQUAL scales as the measure of the overall service quality of an airline. AIRQUAL is tailor-made for the airline industry, and it has been validated in many studies (Bari *et al.*, 2001; Nadiri, Hussain, Ekiz, *et al.*, 2008; Alotaibi, 2015; Abdel Rady, 2018; Fananiar, Widjaja, and Tedjakusuma, 2020). The scales of overall service quality, customer satisfaction, perceived price fairness, loyalty programme satisfaction, perceived benefits, and repurchase intention are adapted from various studies.

1.6 The importance of the research

The Hong Kong International Airport reached its designed capacity of handling 57 million passengers and 4.4 million tonnes of cargo before 2020. A third runway was constructed and put into operation on 8 July 2022 (Hong Kong International Airport, 2022b). The capacity of the airport is due to expand to 102 million passengers and 8.9 million tonnes of cargo by 2030 (Scott & Associates Limited, 2015). The increase in

scale is analogous to Hong Kong building a completely new airport (Hong Kong International Airport, 2022c). The expanded capacity will attract new competitors to the Hong Kong airline market because it will reduce aircraft parking times, decrease parking costs, and increase aircraft usage efficiency (Scott & Associates Limited, 2015; Wang *et al.*, 2017). Together with the newly added routes and the connectivity of Hong Kong as one of the most important financial centres and transportation hubs, the competition among airlines, whether FSC or LCC airlines, will remain acute.

Hong Kong people have been desperate to travel worldwide since the beginning of the COVID-19 pandemic decimated travel with the imposition of a long quarantine period and unaffordable related accommodation expenses and ticket prices. The demand for air travel will be strong in the late stage of the COVID-19 and post-COVID-19 periods. To prepare for the challenges ahead, airlines need to know what factors influence air travellers' behavioural loyalty, which is precisely what the current study investigates. Therefore, this study contributes significant value to airline operators through the investigation of the impacts of factors of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong air travellers. The competitiveness of airlines, contributing to their profit-maximising and survival, will be enhanced by retaining behaviourally loyal customers. Air travellers will also benefit from this research because the enhancement of airlines competitiveness will bring their operations closer to consumer needs. Both the Hong Kong and global economy will gain much from this research, as the betterment of the provision of airline services will create demand for the tourism industry in Hong Kong and over the world, enhancing Hong Kong's economy and global economic activity.

1.7 The Research problem

The fundamental idea is that quality service leads to customer satisfaction, and customer satisfaction leads to customer loyalty (Parasuraman, Zeithaml and Berry, 1985; McMullan and Gilmore, 2008; Lee, Jeon and Kim, 2011; Coelho and Henseler, 2012; Yang *et al.*, 2017). Bei and Chiao (2001) argue that perceived price has a significant direct and indirect mediating effect on customer loyalty. Oliver (1999) also pinpoints that loyalty includes a dynamic element; a loyal customer might be swayed by relatively low prices and better features offered by other substitutes. Kim, Xu and Gupta (2012) found that perceived price fairness exerts a more significant impact on the repurchases of repeat customers than on potential customers. Therefore, perceived price fairness is another crucial factor to be inspected.

At time of writing, competition in the airline industry is not very intensive because the economy has not yet fully recovered and the number of confirmed cases is still at a very high level in Hong Kong. However, the gradual revival of the Hong Kong airline industry has been observed. Whether the current situation becomes a “new normal” or not, airlines in Hong Kong will face intensive competition from their counterparts for both survival and profit. Knowing the factors governing customer behavioural loyalty is essential.

1.8 Research objectives

The current study aims to investigate the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong

business and non-business air travellers to airline companies. Business and non-business air travellers have different antecedents of service quality, customer satisfaction, and perceived price fairness (Curry and Gao, 2012; Budd, Ison, and Budd, 2016; Jiang and Zhang, 2016; Dsilva et al., 2020). The division of air travellers is therefore justified. The objectives are:

- To investigate the degree of behavioural loyalty of Hong Kong business and non-business air travellers to airline companies
- To analyse the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business air travellers to airline companies
- To discuss the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong non-business air travellers to airline companies

The first objective is vital. Airline companies offer highly similar services to their customers, i.e., transportation to the destination. Due to the relatively high cost of air transportation, some customers may purchase an LCC ticket despite its not-so-convenient flight schedule or its limited services, especially non-business travellers who need to pay for the air ticket out of their own pockets. Some companies may also want to save operating costs by choosing the lowest-priced ticket available for a similar flight schedule and destination on behalf of their business travellers. If the ticket price is the only factor that affects air travellers' purchase decisions and behavioural loyalty is absent, then airlines should focus solely on cost reduction to prevail, rather than providing quality services. If the degree of behavioural loyalty is substantially significant for a category of customers, airline companies should design

programmes to promote the behavioural loyalty of the customers in that category, as the cost of acquiring a new customer is higher than retaining an existing customer (Reichheld and Sasser, 1990; Kotler, 2017). This objective, therefore, investigates the existence of behavioural loyalty and its significance.

The second and third objectives are also indispensable to airline companies with operations in Hong Kong. From the literature review in Chapter 2, service quality, customer satisfaction, and perceived price fairness are the significant factors contributing to air travellers' behavioural loyalty. Through inspection of these factors with respect to different categories of air travellers, the impacts of different factors can be analysed through linear regression analyses. The information obtained from the regression analyses is valuable for airlines hoping to develop their business strategies – different categories of air travellers may respond to the factors differently.

Therefore, this study provides a reference for airline companies operating in Hong Kong. If the airlines utilise the findings of this study, air travellers' preferences will be satisfied, which in turn will benefit both airlines and Hong Kong air travellers. Since the tourism industry usually involves cross-border activities, the prosperity of the Hong Kong tourism industry will enhance the economies of other areas; it is a win-win situation for the global economy.

1.9 Research questions

The research questions from the first objective are:

1. Does the behavioural loyalty of Hong Kong business and non-business

travellers exist?

2. How significant is behavioural loyalty for these two categories of travellers?

Since the AIRQUAL model is adapted in the current study to measure the overall service quality of airlines, the research questions from the second objective are:

3. Is AIRQUAL a valid model for measuring the service quality delivered by airline companies to Hong Kong business travellers?
4. What is the relationship between overall service quality and customer satisfaction for Hong Kong business air travellers?
5. How do overall service quality, customer satisfaction, and perceived price fairness impact the behavioural repurchase intentions of Hong Kong business travellers?

The research questions from the third objective are:

6. Is AIRQUAL a valid model for measuring the service quality delivered by airline companies to Hong Kong non-business travellers?
7. What is the relationship between overall service quality and customer satisfaction for Hong Kong non-business air travellers?
8. How do overall service quality, customer satisfaction, and perceived price fairness impact the behavioural repurchase intentions of Hong Kong non-business travellers?

1.10 Research methodology

This study adopts an epistemological pragmatic philosophical assumption. Since it aims to unveil knowledge, it belongs to epistemology (Hughes and Sharrock, 1997; Saunders, Lewis, and Thornhill, 2016). The study investigates Hong Kong air travellers' behavioural loyalty, which is intangible and co-created by the participants' and the researcher's minds. The epistemological subjectivists accentuate that there are multiple types of knowledge co-created by the researcher and research participants; they each understand and interpret the world in different ways (Cassell, 2015). Air travellers in different countries may behave differently, so there is no single universal rule for generalising all phenomena. (Cassell, 2015).

Since combining qualitative and quantitative methods is a better way to generate synergy from both methods (Teddlie and Tashakkori, 2010; Palinkas *et al.*, 2011), the study adapts the simple mixed method. There is no similar research on the behavioural loyalty of Hong Kong business and non-business air travellers; the utilisation of the qualitative method can explore more aspects and probe for new phenomena to ground a theory, as suggested by Hughes and Sharrock (1997). The inclusion of the quantitative method verifies and quantifies the relationship among variables; it is also a triangulation process (Erzberger and Kelle, 2003; Sreejesh, 2014).

Semi-structured telephone and face-to-face individual interviews and focus group methods were used under the qualitative method to form an in-depth understanding of the factors and build the grounded theory. These methods are appropriate as they

facilitate fertile interactions between participants and researcher (Cassell, 2015; Saunders, Lewis and Thornhill, 2016).

The quantitative method mainly utilises correlation and multiple regression analyses to verify and quantify the impact of overall service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies. Defects detected in the pilot test are rectified in the main test.

The convenience snowball sampling method was utilised in both the qualitative and quantitative data collection processes to avoid COVID-19 risks for both participants and the surveyor. These methods are efficient and satisfy the no-harm principle of the data collection process (Marshall, 2006; Hair, 2011; Fickling, 2022). After checking for eligibility and the appropriateness of the data, proper statistical tests were run to analyse the significance, validity, reliability, and size of the relationships among the data. A statistics analysis programme, SPSS V28, was employed for the statistical analysis.

1.11 Scope of the research

Since the current study is concerned with Hong Kong air travellers' behavioural loyalty, Hong Kong is the context. In both the qualitative and quantitative data collection processes, participants must pass eligibility checks before providing their information. In this study, there are four requirements for eligibility: the participant is a Hong Kong resident with a Hong Kong Identity Card, is aged 18 or older, agrees to

the informed consent, and had either business or non-business air travel experience before 2020. The first three requirements are essential. The fourth is justified because there may be overwhelming negative opinions regarding ticket prices, ticket booking procedures, ticket refunds, facilities, or airline services due to the severely abnormal post-2020 environment. Rita, Moro and Cavalcanti (2022) investigated online reviews of the airline sector from March to May 2020. They found that 83.7 % of the refund-related reviews, 64.1% of the customer satisfaction reviews, and 69.6% of loyalty and competitiveness reviews were negative. Air travellers also projected their anger about the government's flight suspension policy, quarantine arrangements, and related accommodation conditions and expenses (Miocic and Trullols, 2020; Springer, 2021) onto the airline services. These extreme attitudes are not the focus of the current study. The cut-off time is designed to prevent the data from such abnormal influences: only air travel experiences of Hong Kong air travellers before 2020 are included.

The qualitative data were primarily sourced from 23 qualified interviewers conducted between May and July 2021 by way of three individual face-to-face interviews, seventeen individual telephone interviews, and one face-to-face focus group with three interviewees. Ten of the interviewers had both business and non-business air travel experience. A total of 337 air travellers provided valuable information for the quantitative analysis between August and October 2022. 182 of them had both kinds of experience.

Since the current study employs convenience and snowball sampling methods in the interviews, focus groups, and online survey, the sample size might not be sufficiently diversified to correspond to the population probability. Convenience sampling is a

non-probability sampling method in which the participants are readily available and willing to participate (Weiers, 2005; Levine, 2016), while snowball sampling is also a non-probability sampling method in which subsequent participants are referred by former participants (Cooper, 2011).

1.12 The research structures

This study is divided into six chapters.

Chapter 1 contains the introduction. This chapter offers a rationale for engaging in this study, the background to the study (especially under the unprecedented influence of the COVID-19 pandemic), the overview of the Hong Kong airline industry, the overview of the theoretical framework (including the two main construct categories: customer loyalty and its antecedents). Customer loyalty primarily comprises attitudinal and behavioural loyalty. Loyalty's antecedents mainly consist of overall service quality, customer satisfaction, and perceived price fairness. The justification for the adaptation of AIRQUAL scales is also briefly discussed. Other related research items, such as the importance of the research, research objectives, and questions, methodology and scope, are also lightly touched on in this chapter.

Chapter 2 contains a literature review. It begins with a detailed analysis of the background of the airline industry in general and the Hong Kong airline industry in particular. Various kinds of loyalty definitions, related contents, and their relationship are presented and appended by discussion of benefits offered to loyal customers, such as utilitarian, hedonic, and symbolic benefits. Antecedents of loyalty include:

1) Service quality with the major measure models of SERVQUAL, SERVPERF and AIRQUAL and the impact of service quality on customer loyalty.
2) Satisfaction and its related topics, satisfaction trap, antecedents of satisfaction, and the impact of satisfaction on customer loyalty.
3) The different aspects of perceived price fairness with different aspects are discussed from the social fairness and equity points of views together with the impact of perceived price fairness on customer loyalty.
4) Loyalty programmes and their impact on customer loyalty are discussed. Other factors impacting customer loyalty (brand trust and affect, social influence, and moderation effect are also inspected.
The chapter ends with an adaptation of the AIRQUAL scales to measure overall service quality with justifications and implications of airline strategies.

Chapter 3 contains the research methodology. The chapter follows the research onion concepts proposed by Saunders, Lewis, and Thornhill (2016). The first layer is the research assumptions, which comprises ontology, epistemology, and relationship. The second layer is the research philosophy, which is composed of positivism, critical realism, interpretivism, postmodernism, and pragmatism. Justification for adapting the epistemological pragmatism philosophy assumption is also provided. The third layer is the approach to theory development, which includes the deductive, inductive, and abductive approaches. The fourth layer is the methodological choice, which consists of quantitative, qualitative, mixed, and multiple methods. The selection of the simple mixed method is also justified in this layer. The last layer represents the research strategies. The chapter concludes with details of the research design, which is composed of the eligibilities of the interviewees and participants, the rationale for

excluding the COVID-19 pandemic period, research ethics, sources and analysis methods of qualitative and quantitative data, confidence level, and sample size.

Chapter 4 contains the qualitative data analysis. Since the subjects of the current study are business and non-business air travellers, the following information applies to both categories of air travellers separately. The chapter begins with a description of qualitative data, followed by the presentation of last flight experience, factors influencing air travellers' satisfaction, reasons for choosing last flight airlines, categorisation of airline services, preferred airline characteristics, and loyalty indicator data. Qualitative analysis of factors determining the choosing of an airline under different haul time categories is also discussed, and the development of grounded theory is the last section of the chapter.

Chapter 5 contains the quantitative data analysis. The logical flow of this chapter is based on the practice of actual quantitative analysis. The pilot test and its related results are inspected first, followed by the details of the main test. After the demographics of the participants, a detailed check for normality, validity and reliability, as well as a factor analysis, various models are tested through t-tests or linear regression for hypothesis testing; the findings are reported in the last section of the chapter.

Chapter 6 is the concluding chapter of the study. The beginning of the chapter is comprised of a concise summary of previous chapters, including the background, significance, aim, and objectives of the research as well as the theoretical framework and methodology. Stress is laid on the findings of the qualitative and quantitative

analysis, managerial implications for capturing business and non-business air travellers' behavioural loyalty, and further recommendations on the service quality of airlines. The chapter ends with the contributions of the study to both the academic world and to the airline industry. The limitations of the study and future research directions are also discussed.

1.13 Summary

This chapter begins with a rationale for the research topic and an overview of the Hong Kong airline industry under the unprecedented influence of the COVID-19 pandemic. The theoretical framework of customer loyalty and the antecedents of customer loyalty are also introduced. The utilisation of the AIRQUAL model, rather than the SERVQUAL or SERVPERF, is briefly justified. Convenience and snowball sampling methods for both qualitative and quantitative data collection are adapted, and the results of both analyses will answer the research questions. The chapter ends with other research-related topics, such as the research problem, objectives, questions, and scope. The following literature review will form the foundation of the current study's theoretical structure and focus.

Chapter 2: Literature Review

2.1 Introduction

The objective of this chapter is to provide background information on the airline industry and review the literature on loyalty and the antecedents of loyalty for the purpose of establishing a theoretical framework to attain the objectives of this study.

The emphasis is on the context of Hong Kong and academic studies of the four constructs: behavioural loyalty, service quality, customer satisfaction, perceived price fairness, and their interrelationships.

2.2 Background of the airline industry

The aviation industry has contributed to the human freedom of travel. Air mobility allows passengers to travel to destinations quickly at an affordable price. This has been especially true since the establishment of low-cost carriers (Diaconu, 2012). However, it is a double-edged sword; the aviation industry is alleged to be the main propagation channel of COVID-19 around the globe (Sun, Wandelt and Zhang, 2020; Liu, Kim and O'Connell, 2021). Due to such criticism, airlines have greatly improved aircraft sanitisation measures and inflight protocols, such as the wearing of face masks.

2.2.1 Business models for airlines

The four most important business models for airlines are full-service carriers, low-cost carriers, charter airlines, and cargo airlines (Revfine.com, 2022).

Full-service carriers (FSC)

The FSC airlines offer a wide range of services, such as pre-flight and on-board services, which include checked baggage, in-flight meals, and multiple service levels like first, business, and economy classes. They also provide cargo services and various flights to a diversity of destinations to meet customer demand. In addition, they usually seek to harbour customer loyalty through the provision of loyalty programmes. The majority of FSC airlines are former state-owned flag carriers like British Airways, Air France, American Airlines, and Lufthansa (Saha and Theingi, 2009; Leong *et al.*, 2015; Rajaguru, 2016; Kim and Sohn, 2022; Revfine.com, 2022).

Low-cost carriers (LCC)

The LCC airlines create competitive edges by reducing operating costs through reducing unnecessary services such as free baggage, in-flight meals, and inter-lining facilities. They do not even provide free drinking water during flights. They tend to use smaller aircraft and focus on point-to-point, short to medium-haul flights with high break-even load factors to offer low and competitive fares (Revfine.com, 2022). Budget airlines are another name of LCC airlines. Examples include Hong Kong Express, Jet Star, Ryanair, and Eurowings (Curry and Gao, 2012; Akamavi *et al.*, 2015; Wang *et al.*, 2017; Kim and Sohn, 2022). Due to the keen competition between LCC airlines and the development of the growing focus on business air travellers, some of them have launched loyalty programmes (Chang and Hung, 2013).

Charter airlines

Charter airlines do not sell air tickets directly to passengers. They are contracted with other parties like tour operators or travel agencies, giving them their other name; holiday carriers. The range of services is usually between the LCC and FSC, subject to mutual agreements between the charter airlines and their clients. Traditionally, they provide in-flight meals (Dennet't *et al.*, 2000; Plunkett Research Ltd., 2022; Revfine.com, 2022).

Cargo airlines

Cargo airlines, also known as air freight carriers, are engaged in the air transportation of cargo. Some of them are the subsidiaries of large FSCs, such as Lufthansa Cargo and Emirates SkyCargo. Cargo airlines can be divided into traditional cargo and integrated cargo carriers. For better logistic flow, integrated cargo carriers will control many aspects of the transportation process, such as ground or non-flight elements. UPS Airlines and FedEx Express belong to the integrated cargo airlines category (Kim and Sohn, 2022; Revfine.com, 2022). There are variations in the classification of airlines' business models. Kim and Sohn (2022) categorized air transportation into passengers and cargo only, while Magdalina and Bouzaima (2021) merely focused on the LCC and FSC and put two hybrid business models in between. These two models reflect the graduate transition from both ends.

This study will only include FSC and LCC airlines, as they are the usual channels for Hong Kong business and non-business air travellers.

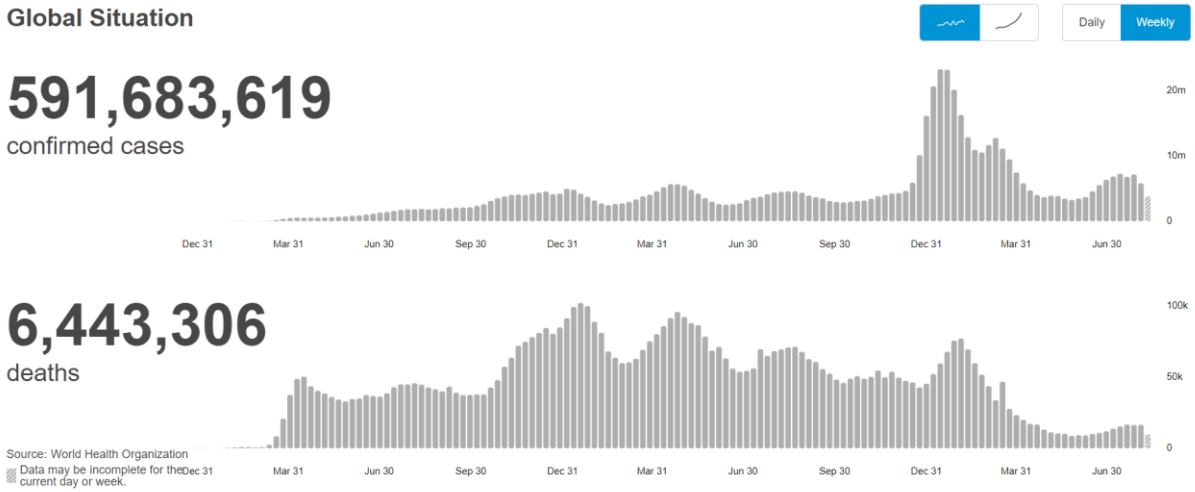
2.2.2 Development of the airline industry

The airline industry developed well before the COVID-19 pandemic. Airlines compete in the global market through ticket price, service quality, range of services, destinations, route networking, and loyalty programmes. Air travellers enjoy a diversity of choice and value for money in the intensely competitive environment. After the breakout of the COVID-19 pandemic in 2020, economic situations in the global economy deteriorated drastically. Countries closed their borders, cities were locked down, and people were restricted or unwilling to travel (Sun, Wandelt and Zhang, 2020; Springer, 2021). The business of the FSC and LCC airlines dropped to an unexpectedly low level and they were forced to cancel many flights, lay off employees, and some airlines went bankrupt. Many governments offered rescue packages to their national airlines to mitigate the negative impacts (M2 Communications, 2020; *M2 Pharma*, 2020; John Rizzo, 2021; Richard Milne, 2021)

Development since the second quarter of 2022

Since the second quarter of 2022, the negative impact of COVID-19 has been reduced. Even though the number of infections is still at a high level, death and severe sickness cases have decreased substantially (World Health Organization, 2022a), as shown in Figure 2.1. Many countries have reopened their borders, and travellers can freely travel around most parts of the world without quarantine. The airline business has begun to revive.

Figure 2.1 Global situation of COVID-19 confirmed cases and deaths as of 20 August 2022



(World Health Organization, 2022a)

The fifth government of the Hong Kong Special Administrative Region took over the administration on 01 July 2022. This Hong Kong government took prudent but relatively lenient control of COVID-19 policies. For example, the flight suspension policy, which penalised airlines for carrying five or more COVID-19-infected passengers to Hong Kong by suspending their flights for two weeks, was paused (Reuters, 2022). The hotel quarantine period was reduced to three days from seven days (Leung, 2022). The airline business in Hong Kong started to rebound gradually. Hong Kong's flagship airline, Cathay Pacific Airways Limited (Cathay Pacific), reported carrying a total of 219,746 passengers in July 2022, an increase of 306.2% compared to July 2021 (Cathay Pacific Airways Limited, 2022). However, the number of people infected each day with COVID-19 also jumped substantially from 2,318 on 01 July 2022 to 4,254 on 01 August 2022, and then further to 9,708 on 28 August 2022 (The Government of the Hong Kong Special Administrative Region, 2022). The corresponding daily deaths number are 1, 6 and 8 (Our World in Data,

2022), reflecting the growing risk situation during the period. Therefore, although the post-COVID-19 era may have commenced in other places, at time of writing, Hong Kong is still in the COVID-19 period.

In the current study, the development of the airline industry is divided into two periods: the pre-COVID-19 pandemic period, before 2020, and the COVID-19 pandemic period, from 2020 onward.

Pre-COVID-19 pandemic period

Since the deregulation of the U.S. airline industry in 1978, competition among airlines has been intense. The appearance of LCC airlines exacerbated the fierce competition. The LCC airlines' operations were innovative, and raised the efficiency of both employees and aircraft. Employee efficiency enhancement was achieved by applying more flexible work rules and coordinating different flights. Aircraft efficiency was boosted by reducing the ground times of aircraft through simplified passenger processing and point-to-point flight operation. In the last two decades, LCC airlines have further reduced operating costs by using advanced technology such as internet booking and check-in and electronic tickets. They stopped providing free in-flight food and beverages as well as checked baggage allowances to reduce operating costs even further. As a result, LCC airlines are able to provide very attractive fare prices to passengers as a competitive edge. Responding to the challenges bought by the LCC airlines, the traditional FSC airlines reduced costs by establishing hub-and-spoke networks. It was a network with a joint supply of seats to multiple origin-destination markets. It requires lower flight frequency and fewer aircraft, and its total operating costs are less than a point-to-point route network (Powell, 2012; Belobaba

et al., 2015). Although fewer aircraft were utilised, more passengers were carried due to the utilisation of larger aircraft (Diaconu, 2012; Belobaba *et al.*, 2015; Magdalina and Bouzaima, 2021; Shen and Yahya, 2021).

Around 2010, FSC airlines began to replicate some LCC airline cost-efficient methods, such as using advanced technology to lower operating costs. LCCs also joined the hub and spoke network to lower their operating costs. Both began to use code sharing to enhance their efficiency. As a result, LCC and FSC airlines' operating costs converged with each other. In the past, LCCs had a good market share of the short-haul market. New propulsion technology means new aeroplanes are more fuel-efficient than their older counterparts and this enabled LCC airlines to establish long-haul point-to-point routes. The Perth-London non-stop flight is a good recent example. As a result, LCC airlines regained their cost advantage, and the FSC airlines were left needing to resume their fierce competition. It can also be observed that the airline industry has become fragmented. The Hub-and-spoke networks concept works successfully in some areas, while the point-to-point concept works in others (Diaconu, 2012; Boeing, 2017; Magdalina and Bouzaima, 2021).

LCC airline companies have been modifying their business models from cost leadership to product differentiation (Daft and Albers, 2013). Some dominant FSC airline companies acquired LCC airline companies, known as airline-within-an-airline, for better market share and to meet the needs of various types of customers. The strong demand for LCC in the last two decades originated from the rapid economic and demographic progress in many countries, especially Asia (Whyte and Lohmann, 2015). The growing size of the middle class, especially in emerging

economies, and the availability of LCCs have moved air travel away from being a luxury commodity. Worldwide connectivity has improved substantially (International Civil Aviation Organization, 2019; Kim and Sohn, 2022).

Pre-COVID-19 pandemic period-Hong Kong airline industry

Hong Kong is one of the world's largest financial centres and a main international travel hub, with over 419,730 arrivals and departure flights serving over 71.5 million air travellers in 2019 (Hong Kong International Airport, 2020). Hong Kong outperforms its population size in the global arena because of its connectivity to China, Asia-Pacific, and the world (Targeted News Service, 2011).

In 2019, the Hong Kong International Airport (HKIA) handled 71.5 million passengers, 4.8 million tonnes of air cargo, and 420,000 air traffic movements (Civil Aviation Department, 2021). The air transport sector makes a significant contribution to the Hong Kong economy. In 2017, 88,000 people were employed by the airlines, HKIA and its auxiliary operations such as ground services, on-site stores and catering services, navigation services, and aircraft manufacturers. 82,000 persons were hired by the suppliers of the airlines and HKIA. The whole sector supported a total of 330,000 jobs, including tourism and related employees. The air transport industry and its supply chain were estimated to contribute USD 20 billion to the gross domestic product (GDP) of Hong Kong. The contribution could be as large as USD 33 billion if foreign tourist spending is included. This means the air transportation sector contributed 10.2 per cent of Hong Kong's GDP in 2017 (IATA Economics, 2019). According to the estimation of IATA Economics (2019), if the 2017 trend continues,

the sector could grow by 96%, employ 424,043 people and contribute USD 64 billion to Hong Kong's GDP by 2037.

The competition among airlines in Hong Kong reflects the world market. The FSC market was severely challenged by the entrance of LCC firms. The number of LCC airlines grew from 1 in 2001 to 18 in 2014, while the number of their destinations increased from 3 in 2001 to 35 in 2014. Major Asian LCC operators such as AirAsia group, Cebu Pacific Air, Jetstar Asia, Juenyao Airlines, Spring Airlines, SCOOT, and Tiger Airways had operations in Hong Kong. The growth made the number of annual LCC flights jump from 168 in 2001 to 38,561 in 2014 (Wang *et al.*, 2017).

COVID-19 pandemic period

The World Health Organization (WHO) officially announced the propagation of COVID-19 to be a pandemic on 11 March 2020. At that point, there were more than 118,000 confirmed cases in 114 countries, and 4,291 people had died because of the virus (World Health Organization, 2020). Hong Kong, Japan, Singapore, Taiwan, Thailand, and Vietnam are proximate to Mainland China, they reported severe COVID-19 cases from late January to mid-February 2020, and around 47.7% of the cases were possible work-related transmission cases (Lan *et al.*, 2020). On 6 April 2020, 14,500 passenger jets were grounded, which accounted for around 55% of the world's passenger fleet (Doyle, 2020). As of 20 April 2022, over 6.2 million deaths had been attributed to COVID-19 and 4.7 million of the reported deaths were from the Americas and European regions (World Health Organization, 2022b). Compared with previous pandemics, the propagation speed of COVID-19 is faster. The spread of the disease also caused severe disruptions in the global supply chains (Govindan, Mina and Alavi, 2020). U.S. airline capacity decreased by more than 70% in early April

2020. To compare to another major event in the U.S., capacity decreased 19% after 11 September 2001 and 11% after the global financial crisis of 2008 (Andrew Curley *et al.*, 2020). The COVID-19 pandemic impact is much more severe than other shocks to the U.S. airline industry.

COVID-19 pandemic period-Hong Kong airline industry

During the period between 01 April 2020 and 31 March 2021, the Hong Kong airline industry was drastically impacted by the COVID-19 pandemic. The number of flights and passengers has dropped to an unbearable level. The number of flights decreased by 71.1%, from 744,197 to 214,921 (Civil Aviation Department of Hong Kong, 2021). The impact on passenger transportation has been particularly disastrous. Passenger traffic dropped 98.6% to 0.8 million, while aeroplane movements fell 66.2% to 127,760 (Hong Kong International Airport, 2021).

China took a conservative approach to the propagation of the COVID-19 pandemic and adopted zero tolerance policy towards infections within society, and Hong Kong followed China's policy from 2020 to 2022, ostensibly to make free travel across the border feasible (Springer, 2021).

Unlike China, where the domestic airline business remained in good shape during the COVID-19 period due to its enormous 1.4 billion population and strict control over the COVID-19 virus, Hong Kong's airline business relied on international air travellers and was deeply damaged by the flight suspension policy and long quarantine period. The number of airline passengers rebounded significantly after April 2021 in many parts of the globe, but Hong Kong's figures have been robust only

since the third quarter of 2022. It was 112 thousand during the first half of 2022 and recovered to 401 thousand in July 2022 (Hong Kong International Airport, 2022a). Kim and Sohn (2022) suggest the number of air travellers will increase with the reduction in global COVID cases and better vaccine distribution.

The good news is more than 1.400 new routes will be added from 2022; around 600 will serve Europe, around 500 the Asia-Pacific region, and 200 in China (Allianz Global Corporate & Specialty, 2022).

2.3 Importance of customer loyalty

Due to advancements in information technology, product and service information are readily and widely circulated on the internet. Consequently, the expectation for quality service has grown (ben Akpoyomare, Kunle Adeosun and Ganiyu, 2018). During the COVID-19 pandemic, the airline industry was severely impacted. Many aircraft were grounded for many months (Shen and Yahya, 2021), and the United States (US) airline industry incurred a net loss of USD 35 billion (Pascual and Cain, 2021). The largest airline in Hong Kong, Cathay Pacific Airways Limited, reported a net loss of HKD 21.6 billion (Cathay Pacific, 2021a). The competitive pressure between airlines is substantial. Enhancing competitiveness and retaining customer loyalty is crucial to post-pandemic survival.

Customer retention is more important than recruiting new customers due to the financial impact of profitability (Evanschitzky and Wunderlich, 2006) and defection (Zeithaml, Berry and Parasuraman, 1996). Acquiring new customers involves

substantial advertisement and promotion costs, such as high discount rates or more attractive packages. Loyal customers can be served more efficiently (Reichheld and Sasser, 1990; Kotler, 2017) and effectively as they become used to the servicing style of the company. As a result, the costs associated with retaining customers are lower than those associated with attracting new customers; the priority is to maintain customer loyalty for the resumption of profitability.

2.4 Definitions of customer loyalty

There are more than fifty definitions of customer loyalty (Berkowitz, Jacoby and Chestnut, 1978) and the earliest can be dated back to a century ago. In philosophy, loyalty is defined as a "willing and practical and thoroughgoing devotion of a person to a cause" (Royce, 1908, cited in Oliver, 2010). In consumer behaviour studies, the original focus of customer loyalty has been placed on repeated repurchase behaviour in terms of proportion, frequency, sequence and probability, the share of budget, or a combination of these factors (Jacoby, 1978; Oliver, 1999; Ngobo, 2016). When loyalty is measured by repeated patronage (Mimouni-Chaabane and Volle, 2010), variety ranges from exclusive purchases and dual-brand loyalty to multiple-brand loyalty (Kannan and Yim, 1999; Arifine, Felix, and Furrer, 2019)

Mainstream researchers divide loyalty into attitudinal and behavioural types (Dick and Basu, 1994; Chaudhuri and Holbrook, 2001; Watson *et al.*, 2015). In addition to the above behavioural measure, the attitudinal measure is essential because loyalty originates from a consumer's attitude, and it can help screen out spurious loyalty (Dick and Basu, 1994; Oliver, 2010).

2.4.1 Attitudinal loyalty

People utilise a variety of information to form their attitude. Attitudinal loyalty is described as cognition or pleasurable fulfilment that favours a particular brand or product. Strong attitudinal loyalty results from logical evaluations and impacts customer's purchase behaviour. It also fences off competitors' offers (Oliver, 1999; Ahluwalia, 2000; Chaudhuri and Holbrook, 2001; Park *et al.*, 2010).

The outcome of strong attitudinal loyalty is word of mouth (Ahluwalia, 2000), including favourable mentions on social media. Attitudinal loyalty is not directly related to purchasing behaviour, but it does have a practical promotional effect in that it helps a brand develop a reputation. It may exist despite situational constraints such as financial conditions and convenient location (Watson *et al.*, 2015).

2.4.2 Behavioural loyalty

Behavioural loyalty emphasises the performance side of customers. That is, the actual purchases made by a customer, especially repeated purchases (Oliver, 1999; Chaudhuri and Holbrook, 2001). Behavioural loyalty has a direct impact on a firm's profitability. With more repeated patronisations, higher earnings are generated. However, too much emphasis on purchase behaviour can cause questions about the psychological processes attached to customer behaviour in that it may not reflect a strong attitudinal component (Watson *et al.*, 2015). Repeated purchases may be situational or result from a lack of substitutes (Henderson, Beck and Palmatier, 2011). Despite some researchers focusing on behavioural loyalty because it affects the bottom line of a business, others stress both attitudinal and behavioural components

offer a more solid ground of theory-building purpose (Berkowitz, Jacoby, and Chestnut, 1978; Reinartz, Thomas and Kumar, 2005; Watson et al., 2015; Ngobo, 2016)

2.4.3 Relationship between attitudinal and behavioural loyalty

Watson et al. (2015) point out that investigations focusing only on attitude or behaviour are common research practices, which leads to mixed guidance regarding the effect of loyalty on performance. Investigations that combine attitudinal and behavioural items are more effective. Some researchers combine attitudinal and behavioural together as a composite loyalty, while others suggest there are development stages leading from purely attitudinal loyalty to behavioural loyalty.

Composite loyalty

Berkowitz, Jacoby, and Chestnut (1978) defined behavioural loyalty with a set of six necessary and collectively sufficient conditions:

1) The biased – the customer has a preference toward a particular brand or product, it is not a random choice.

2) Behavioural response – the customer will purchase the preferred brand or product.

3) Expressed over time – the customer will show appreciation through word of mouth and purchase behaviour.

4) The customer involves themselves in purchase decision making.

5) The purchase of the preferred brand or product is one of alternatives among many.

(6) The loyalty is a function of psychological action, like decision-making.

Dehghan and Shahin (2011) suggest that loyalty towards a brand comprises five elements: repeated purchases, positive word of mouth, a preference, unwillingness to

switch to other brands, and identification with the brand. These two definitions are associated with composite loyalty, which includes both attitudinal and behavioural aspects.

Behavioural loyalty development stages

Oliver (1999) suggested that behavioural loyalty results from attitudinal loyalty. Developing behavioural loyalty is a step-by-step process, which he called action inertia. The first stage is cognitive loyalty. Consumers seek alternatives in their target goods or services by analysing costs and benefits based on their experience and prior (or vicarious) knowledge, then select the goods or services which best fit their circumstances. If consumers gain satisfaction at this stage, the seed of brand loyalty starts germinating. The loyalty level in this stage is shallow.

The second stage is affective loyalty. As satisfaction accumulates, a liking attitude towards the brand develops. In this stage, consumers show a low level of preference for the brand because they are satisfied with the performance of the brand's product or service. The loyalty level at this stage is mild but is better than in the cognitive stage. The intention to switch the brand is still robust.

The third stage is conative loyalty, in which consumers show an intention to rebuy, which is supported by repeated episodes of positive interactions with the brand. Consumers desire to repurchase the brand's product or services, but the actual outcome is still not set.

The final stage is action loyalty (behavioural loyalty). Consumers act by patronising goods and services. At this stage, consumers possess a readiness to act and overcome any obstacles. Readiness to act is a deep commitment to rebuy the brand's products or services in the future. Overcoming obstacles includes fencing off the situational influences and promotional efforts of other brands' similar products or services.

In summary, cognitive loyalty accentuates the brand's performance aspects, affective loyalty reflects a growing liking of the brand, conative loyalty indicates the consumer's high repurchase intention, and action loyalty is a commitment to repeated patronisation (McMullan and Gilmore, 2008; Oliver, 2010). The first three stages are classified under attitudinal loyalty, and the final stage is behavioural loyalty (Oliver, 2010). The sequence of the stages is logical and has been confirmed by Harris and Goode (2004) in investigations of online purchases of books and air tickets, McMullan (2005) in a passenger ferry sector study, and Evanschitzky and Wunderlich (2006) in research concerning the customers of a large do-it-yourself (DIY) retailer. The outcome of strong attitudinal loyalty is word of mouth, while the result of solid behavioural loyalty is repetitive patronage. If a customer has both strong attitudinal and behavioural loyalty, they will not only resist purchasing competing products (Ahluwalia, 2000) but also buy frequently from the brand they have a loyalty towards.

2.4.4 Multi-brand Loyalty

Numerous works of literature on behavioural brand loyalty investigate consumer behaviour exclusively loyal to a single brand. However, only a limited number of studies focus on multi-brand loyalty (Kannan and Yim, 1999; Arifine, Felix and Furrer, 2019). Due to advances in communication technology, new products and

services spread into markets at lightning speed. Once the market warmly welcomes a new product or service, similar products or services will appear in a short period of time. With an increase in similar products and services and the increased fragmentation of markets, it is sometimes difficult for a consumer to remain loyal to a single brand (Kannan and Yim, 1999). Other brands can be considered substitutes if they are within an acceptance boundary of quality. Being loyal to more than one brand is viewed as reasonable (Oliver, 2010). Kannan and Yim (1999) categorised loyalty into hard-core and reinforcing loyalty. A consumer with hard-core loyalty will keep patronising the same single brand, and any price changes of the brand they are loyal to will only affect the quantity demanded, not the choice itself. A consumer with reinforcing loyalty may switch brands but will repeatedly buy one or more brand alternatives at a significant rate. Within the reinforcing loyal customer category, deal-prone consumers are motivated by promotions, while variety seekers are attracted by different products offered by various brands regardless of whether a promotion is in effect or not.

Oliver (2010, p.432) adapted the multi-brand loyalty concepts. He defined customer loyalty as “a deeply held commitment to rebuy or repatronise a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior.” This allows for occasional switching behaviour in his wider definition.

This study primarily focuses on customers’ behavioural loyalty in the Hong Kong context. It is crucial within the COVID-19 pandemic environment.

2.5 Benefits to loyal customers

There are three main benefits for loyal customers in general: utilitarian, hedonic, and symbolic.

2.5.1 Utilitarian benefit

The utilitarian benefit includes benefits derived from customers' shopping experience, such as convenience and customer service, as well as benefits provided by the product itself, like safety and functionality. There is also a concomitant reduction in purchasing decision-making time. However, the most significant benefits are monetary savings like cash coupons and discounts obtained from loyalty programmes. From the utilitarian point of view, the benefits generated from airline loyalty programmes decrease decision-making time due to the attraction of free lounge services and the redemption of mileage recognition for free tickets or free goods (Peterson, 1995; Sheth and Parvatiyar, 1995; Bolton, Kannan and Bramlett, 2000; Bolton, Lemon and Verhoef, 2004).

2.5.2 Hedonic benefits

Hedonic benefits are non-instrumental and created from enjoyment and emotion. The benefits contribute to loyalty programmes through exploration and entertainment dimensions (Mimouni-Chaabane and Volle, 2010). The hedonic feeling resulting from a free upgrade from economy to business or first class, which the customer may not otherwise be able to afford and experience, is a memorable flight involvement that significantly enhances customer behavioural loyalty (Arnold and Reynolds, 2003; Jones, Reynolds and Arnold, 2006). Another example is the satisfaction created by the

process of exchanging mileage for something a customer desires (Johnson, Herrmann and Huber, 2006).

2.5.3 Symbolic benefits

Symbolic benefits are not related to product attributes. Instead, they correlate to social approval, personal expression, and self-esteem (Keller, 1993). In the case of airline loyalty programmes, symbolic benefits primarily result from an advancement in recognition and social status gained through being a member of the loyalty programme (Mimouni-Chaabane and Volle, 2010). A loyalty programme is composed of a product, service, and the membership privileged experience (Mcalexander, Schouten and Koenig, 2002). For instance, a Marco Polo Club green card holder can enjoy extra-legroom seats, premium economy class counters, priority boarding, extra baggage redemption, and free access to lounges (Cathay Pacific, 2021b). These privileges create a perception that the loyalty programme members are treated better than non-member customers. Members therefore feel they have higher social status and recognition (Csikszentmihalyi, 2000).

2.6 Antecedents of loyalty

Despite a few researchers postulating that brand loyalty is a stochastic consumer behaviour (Bass, 1974; Sharma, 1981), a significant portion of consumer behaviour studies show that there is a positive relationship between quality service and customer satisfaction, and that quality service enhances customer loyalty (Oliver, 1999; McMullan and Gilmore, 2008; An and Noh, 2009; Forgas *et al.*, 2010; Lee, Jeon and

Kim, 2011; Curry and Gao, 2012; Etemad-Sajadi, Way and Bohrer, 2015; ben Akpoyomare, Kunle Adeosun and Ganiyu, 2018; Gong and Yi, 2018) and Yi, 2018).

2.6.1 Service quality

Service quality can not only promote customer loyalty but can also help a company attain above-average market share growth and provide a base for premium pricing capabilities (Oliver, 1999). Service quality is the most important variable among the competitive variables of airlines, such as price, flight frequency, tangibles, and advertisements. It differentiates an airline from its competitors, determining market share and profitability (Dsilva *et al.*, 2020). There are various methods to gauge service quality. The most popular models are SERVQUAL, which originates from the expectancy disconfirmation model, SERVPERF, which is based purely on perceived service quality, and AIRQUAL, which is similar to SERVPERF but specific to the airline industry (Parasuraman, Zeithaml and Berry, 1988; Cronin and Taylor, 1992, 1994; Brady, Cronin and Brand, 2002; Morrison Coulthard, 2004; Ekiz, Hussain, and Bavik, 2006; Oliver, 2010; Abdel Rady, 2018).

Expectancy disconfirmation model

Some researchers agree that the quality of service is determined by customer comparison of their expectations and actual experience – the gap between the consumer perceptions and expectations (Parasuraman, Zeithaml, and Berry, 1985; Oliver, 2010; Martin, 2016; Mazhar *et al.*, 2022). They further suggest that customers form their expectations based on word of mouth, personal needs, and experience. However, actual service performance depends on management perceptions of customer expectations, the successful translation of management perceptions into

employee service quality specifications, actual service delivery, and the service providers' communication with their customers (Parasuraman, Berry and Zeithaml, 1993).

Under the expectancy disconfirmation model, positive disconfirmation refers to perceived performance being better than the customer expectation. Negative disconfirmation refers to perceived performance falling below customer expectations. Zero disconfirmation refers to perceived performance equalling customer expectations (McMullan and Gilmore, 2008; Oliver, 2010; Zamani and Pouloudi, 2021; Mazhar *et al.*, 2022). Negative disconfirmation may cause switching behaviour and attenuate repurchase intentions (Mazhar *et al.*, 2022).

Even though the disconfirmation gap can measure customer satisfaction, the influences on customer satisfaction are different. Negative disconfirmation plays a stronger role in decreasing satisfaction than positive disconfirmation does in increasing it (Oliver, 2010; Zamani and Pouloudi, 2021). Researchers should be cautious when interpreting and applying disproportionate influences.

SERVQUAL model

Parasuraman, Zeithaml and Berry (1985) factorised the measures of perceived service quality. The determinants are:

1. Reliability: consistency of performance and dependability
2. Responsiveness: the readiness and willingness to provide service
3. Competence: possession of the required skills and knowledge
4. Access: high level of approachability

5. Courtesy: being polite, friendly, respectful, and considerate
6. Communication: keeping the customers informed and understanding
7. Credibility: Acting for customers' best interest and being trustworthy
8. Security: provision of safety and confidentiality
9. Understanding the customers' needs and situations
10. Tangibles: including the physical facilities and the appearance of personnel

Based on the above measures and the gaps between expectations and perceptions, the focus falls on five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. The researchers developed twenty-two-item scale pairs for measuring service quality. Each pair contains a scale for measuring perceived service performance and expected service performance. This model was named the SERVQUAL model (Parasuraman, Zeithaml and Berry, 1988; Carrillat, Jaramillo, and Mulki, 2007). The SERVQUAL model is praised for its comprehensive measurement and good predictive results (Sureshchandar, Rajendran, and Kamalanabhan, 2001). The gap paradigm indicates that service quality is admirable when the customer's perceptions of service quality are the same or better than the expected performance (Brady, Cronin and Brand, 2002)

The SEVRQUAL model is criticised for a diversity of deficits. Caruana, Ewing, and Ramaseshan (2000) suggest that a deficit of the SERVQUAL model lies in the required measuring of expectations before measuring perceptions. They argue this creates a priming effect on perceptions. The priming effect is that responses to prior questions influence the answers to later questions. The prior question activates information about the later question's construct. People are inclined to summarise

their responses to prior questions when answering later questions (DeMoranville, Bienstock and Judson, 2008). The findings of Caruana, Ewing, and Ramaseshan (2000) signal a fundamental weakness of the SERVQUAL model, and the researchers suggest collecting the two variables at different times. Babakus and Boller (1992) note that the difference score between perceived service performance and the expected service performance does not contribute to the SERVQUAL significantly. It does not provide additional information other than that already included in the perceptions scales. They postulate that the measures of expectation are redundant.

SERVPERF model

Subsequently, Cronin and Taylor (1992) transformed SEVRQUAL by removing the expectation elements. This created another performance measuring model, SEVRPERF, which only incorporates measures of service performance and does not consider the expectations of customers (Cronin and Taylor, 1992, 1994; Brady, Cronin, and Brand, 2002; Shen and Yahya, 2021).

Parasuraman, Berry and Zeithaml (1993) admit that the perceptions measure outperforms the gap measure in explaining the variance of other variables. However, they also point out that the disconfirmation model is superior on a theoretical basis and practical issue. They note the two items, responsiveness and empathy, have identical perception scores of 5.1 while having different gap scores of -1.3 and -1.1, respectively. From the perception-only angle, the two items face the same level of evaluation. Nevertheless, the responsiveness item needs to be improved. They raise the question of whether it is worth surrendering the potential loss of richer, more accurate diagnostics for improving service quality in exchange for an increase in the

ability to explain variance. Recent research has supported the above view. Both SERVQUAL and SERVPERF have been found to be valid predictors of overall service quality, with SERVQUAL having superior predictive validity to SERVPERF (Carrillat, Jaramillo and Mulki, 2007).

There are many discussions of whether SERVQUAL or SERVPERF should be adopted as a measure of service quality (Cronin and Taylor, 1992, 1994; Brady, Cronin and Brand, 2002; Carrillat, Jaramillo and Mulki, 2007; Shen and Yahya, 2021) However, other researchers doubt if there is a universal measure applicable to the service quality of all service industries. Different types of service industries have different aspects of meeting customer desires (Bitner, 1992; Silvestro *et al.*, 1992).

AIRQUAL model

The airline industry is not only enormous – it is unique. Researchers have found that the five-dimension measures in SERVQUAL (tangibles, assurance, reliability, empathy, and responsiveness), do not fit the airline industry well (Park, Robertson, and Wu, 2005; Ekiz, Hussain, and Bavik, 2006; Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008).

Some researchers allege that customer expectations of the airline industry are formed momentarily when they interact with airline staff at different stages of service (ticketing, check-in, pre-flight, in-flight, baggage etc.). Any piece of the perceived service episode may change expectations at any point in the air travel process. In fact, perceived service inheres to prior expectations (Chang and Yeh, 2002; Farooq *et al.*, 2018). Cunningham, Young, and Lee (2004) criticise SERVPERF as too generic for

the airline industry. Other scholars also indicate that the measures for the service quality of the airline industry are unique (Jacobson and Martinez, 1974; Westwood, Pritchard and Morgan, 2000; Wu and Cheng, 2013; Pascual and Cain, 2021).

Bari et al. (2001) developed and modified measuring scales with five dimensions and named the scales AIRQUAL. Their five dimensions are personnel, empathy, image, airline tangibles, and terminal tangibles. Since the expectancy disconfirmation model compares perceived service quality with expectations, the image of an airline is a source of expectations. Therefore, a model to measure the airline service quality should include a dimension representing the airline's image (Robledo, 2001).

Even though AIRQUAL was developed in 2001, its application has only been popular since 2017 (Thirunavukkarasu and Neduncheziyan, 2019; Google Scholar Citations, 2022). Some scholars have validated the AIRQUAL scales and affirmed that there is a significant link between airline service quality and customer loyalty. (Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008; Alotaibi, 2015; Abdel Rady, 2018; Fananiar, Widjaja, and Tedjakusuma, 2020). AIRQUAL is considered a better replacement for SERVQUAL and SERVPERF for the airline industry by some researchers (Ekiz, Hussain and Bavik, 2006; Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008; Monoarfa, Usman, and Tausyanah, 2020). Because this study solely investigates the airline industry, the AIRQUAL model is adopted.

The impact of service quality

Many studies affirm a direct impact of service quality on customer satisfaction and customer loyalty (Zeithaml, Berry, and Parasuraman, 1996; Robledo, 2001; Brady,

Cronin, and Brand, 2002; Kozak, Karatepe and Avci, 2003; Saha and Theingi, 2009; Jiang, and Zhang, 2016; Shen and Yahya, 2021). Satisfaction also has a mediating role between service quality and customer loyalty (Khuong, 2014; Huang and Pan, 2016; Hapsari, Clemes, and Dean, 2017; Jiang *et al.*, 2021).

2.6.2 Satisfaction

There are several definitions of customer satisfaction. Satisfaction is an emotion or feeling of a highly positive utility evaluation after consuming a good or service. Fulfilling customer needs is insufficient to cause purchase behaviour. Satisfaction is needed to win the behavioural loyalty of customers (Oliver, Rust and Varki, 1997). Satisfaction is also depicted as a feeling of gratification and the fulfilment of desires, needs, and goals compared to the expectations and perceived experience of customers (Oliver, 1999). Satisfaction is the personal feeling of pleasure (or disappointment) after comparing the perceived performance of a product or service with the consumer's expectations (Kotler, 2016). It is an effective response after consuming a product or service (Yuan *et al.*, 2005).

The most significant variable of the expectancy disconfirmation concepts is the disconfirmation gap – perceived performance minus expected performance. In theory, the larger the positive disconfirmation gap, the higher the service quality and customer satisfaction (Oliver, 2010)

Satisfaction trap

Satisfaction is challenging to measure, but it is the formation of customer loyalty, which includes behavioural and non-behavioural loyalty. A high satisfaction score in

a satisfaction survey does not mean the highly satisfied customers will automatically repatronise the brand. The automobile industry has invested an enormous amount in enhancing customer satisfaction with the aim of retaining existing customers. However, their investments did not pay off. A satisfaction survey showed that 90% of customers were satisfied, but only 40% would repurchase the same brand. This phenomenon is called the satisfaction trap – revealing a large gap between satisfaction and actualised repurchases. Another term for the satisfaction trap is satisfaction-loyalty asymmetry. Customer loyalty monotonically increases with an increase in customer satisfaction, but the marginal effect of satisfaction on customer loyalty declines (Wu, Zhou and Wu, 2012). Therefore, companies should focus on the number of repurchases by satisfied customers rather than the number of satisfied customers (Reichheld, 1996). This is the main reason behind the current study's focus on behavioural loyalty.

Antecedents of satisfaction

Service quality is widely recognised as the antecedent of consumer satisfaction, which explains a greater portion of the variance in consumer purchase intention (Tse and Wilton, 1988; Brady, Cronin, and Brand, 2002; Davis-Sramek *et al.*, 2009; Oliver, 2010; Curry and Gao, 2012; Han and Hyun, 2015; Mantey and Naidoo, 2017; Farooq *et al.*, 2018; Gong and Yi, 2018; Thirunavukkarasu and Nedunchezian, 2019).

The Impact of customer satisfaction

Cronin and Taylor (1992) allege that customer satisfaction is more important to purchase intentions than quality service. Satisfied customers are less price-sensitive and less influenced by competitors. They are easier to retain and have a higher

intention to repurchase (Zineldin, 2000; Hansemark and Albinsson, 2004). Satisfaction is a necessary step in loyalty formation (Oliver, 1999), and loyalty is a necessity for survival in the current competitive business environment caused by the COVID-19 pandemic.

A study of service quality, service satisfaction, and customer loyalty in the LCC sector, finds both service quality and service satisfaction positively impact repurchase intentions. Still, customer satisfaction has a significantly higher impact than service quality on repurchase intentions (Curry and Gao, 2012). Despite the general acceptance that service quality is an antecedent of customer satisfaction, some researchers argue that the order should be reversed (Bitner, 1990; Bolton and Drew, 1991). This research follows the generally accepted order as it is more logical and convincing (Oliver, Rust and Varki, 1997; Oliver, 1999; Davis-Sramek *et al.*, 2009; Mantey and Naidoo, 2017).

2.6.3 Perceived price fairness

Nghiêm-Phú (2019) identified that perceived price fairness is the most significant factor leading to direct customer loyalty and overall satisfaction through its mediating effect. For an ordinary consumer good or service, the price usually accounts for a small portion of an average consumer's disposal income, but this may not be the case when consuming an airline service unless the ticket price is paid by other parties such as a business traveller's employer. It also explains why many airline customer loyalty researchers postulate that ticket price significantly impacts customer loyalty (Ostrowski, O'Brien and Gordon, 1993; Namukasa, 2013; Jiang and Zhang, 2016; Yang et al., 2017). This is also synchronistic with the findings of Yang et al. (2017)

and Ostrowski, O'Brien, and Gordon (1993). They found that LCC airline customers ranked price as the most critical factor when selecting airline companies.

From a social fairness point of view

In general, price is the amount of money charged for a product or service (Khandelwal and Bajpai, 2012). It is the consumers' monetary cost to pay for products or services as a part of a purchase agreement (Nagle, 2002). Perceived price fairness and overall price fairness are interchangeable, focusing on assessing the fairness of the overall price offer (Campbell, 1999).

Overall price fairness is based on two assessments – distributive fairness and procedural fairness (Ferguson, Ellen, and Bearden, 2014; Zietsman, Mostert and Svensson, 2019). They are part of the two distinct aspects of social fairness mentioned in Maxwell (2008). Distributive fairness results from comparing the offered price with prices of similar products or services. Distributive fairness is achieved if the consumer decides that the offered price is the same or better than the others. Otherwise, distributive unfairness is generated. From a consumers' standpoint, price perception results from comparing prices offered by various sellers (Kim, Xu and Gupta, 2012; Zietsman, Mostert and Svensson, 2019). It is a subjective judgment of the reasonableness of a price of a product or service after referencing prices offered by competitors (Han and Hyun, 2015). Ferguson, Ellen, and Bearden (2014) argue that distributive fairness has a significant relationship with perceived price fairness. The more advantageous the price, the stronger the perceived price fairness. Procedural fairness implies that the pricing process is transparent to the consumers, or consumers

infer procedural unfairness (Campbell, 1999; Oliver, 2010; Ferguson, Ellen, and Bearden, 2014).

From an equity point of view

Equity is essentially a fairness concept (Oliver and Shor, 2003). Equity can be seen as whether a customer feels his "rewards in exchange with others should be proportional to his investment…" (Homans, 1974, p. 235). To justify the rightfulness of the proportion, fairness implies the proportion of reward to investment must be similar to other people's proportion in similar cases (Oliver, Shor and Tidd, 2004; Xia, Monroe and Cox, 2004; Oliver, 2010; Zietsman, Mostert and Svensson, 2019). The price paid is a customer investment, while the service and its related benefits, including the benefits gained from any loyalty programme, are the reward. Many customers do have perceptions of rewards in the sales transaction. Such perceptions may not be accurate. Like the expectancy disconfirmation model, an inequity continuum exists from positive inequity to negative inequity, with equity (or zero inequity) in the middle. Positive inequity indicates a customer is over-benefited with rewards than others making the same investment. While equity means the customer reward/investment ratio is like others; negative inequity implies a lower customer reward/investment ratio than others (Oliver and Shor, 2003; Oliver, Shor and Tidd, 2004; Oliver, 2010). The consequences of inequity comparisons are similar to those of satisfaction, including the intention to repurchase, and positive and negative word of mouth (Oliver, 2010).

The impact of perceived price fairness

Studies revealed a strong positive impact on perceived price fairness and satisfaction if customers are given positive-inequitably (Oliver and Shor, 2003; Oliver, Shor and Tidd, 2004; Oliver, 2010). This echoes the results of the study of Ferguson, Ellen, and Bearden (2014). The more advantageous the price, the stronger the perceived price fairness. People are thought to have an egocentric, self-serving bias. Customer fairness comprises positive inequity and equity – having a higher rewards/investment ratio than others is considered fair (Diekmann *et al.*, 1997; Oliver, 2010). Perceived price fairness is one of the most important reasons consumers remain with a current provider (Varki and Colgate, 2001; Kim, Xu and Gupta, 2012; Han and Hyun, 2015).

In a study of internet shopping, Kim, Xu, and Gupta (2012) discovered that perceived price fairness has a more significant impact on the repurchases of repeat customers than on potential customers. In another study of the perceived price of banking, researchers also found that perceived price fairness has a significant direct effect on customer satisfaction, behavioural intentions, and customer retention (Varki and Colgate, 2001).

A previously satisfied customer may become disgruntled if they discover that other consumers procured a similar product or service at a lower cost or with greater value. By the same token, a previously unsatisfied customer may become less unsatisfied if they lower their standard of a comparative referent. This is termed “satisfied poor” (Oliver, 2010).

When consumers infer a firm has a negative motive, especially for enhancing its profitability with price increases, the situation will be viewed as unfair. Such an adverse effect impacts a reputable firm less severely than a non-reputable firm for the same price increment. Reputation is a moderator in Campbell (1999)'s study, and she also found that perceived unfairness reduces consumer shopping intentions. Yang et al. (2012) found that there is a strong relationship between service quality and value for money, as well as behavioural loyalty.

Business air travellers may have a business-to-business relationship with airlines because their choices are limited by their employers' policies, including the business trip's budget. Cater and Cater (2009), in their business-to-business research, investigated 477 customer-supplier relationships and alleged that customer satisfaction is negatively influenced by price and positively influenced by delivery performance, supplier technical knowledge, and personal interactions. Both behavioural and attitudinal loyalty is positively affected by satisfaction. Behavioural loyalty is also negatively impacted by a relatively high price and positively by product quality. Attitudinal loyalty is positively influenced by personal interactions.

The human factor, cabin staff and ground staff, is the most influential factor in customer perceived value for money, overall satisfaction, and loyalty. Traditional tangibles and services such as seats, food and drink, and entertainment are more important than newer ones in determining the perceived price fairness (Nghiêm-Phú, 2019). Furthermore, studies also reveal that non-business customers are more price-sensitive than business customers, while customers for the full-service carrier (FSC) are less price-sensitive than LCC customers (Curry and Gao, 2012). Low FSC prices

are efficient in attracting LCC customers, who are economic cost-consciousness. This mirrors the pricing strategies of LCC airlines (Wong and Musa, 2011).

2.6.4 Loyalty programmes

The benefits or utilities embedded in airline loyalty programmes are represented in the equity formula of Homans (1974), and affect customer perceived price fairness. The maintenance of loyalty or enduring preferences for a brand requires continuous interactions between the customers and the products or services under the brand, usually by repetitive patronisations. Without such long-term participation, the potential for loyalty is slim (Oliver, 2010). Therefore, loyalty programmes as loyalty maintenance tools are essential for firms' competitiveness.

Loyalty programmes can benefit both firms and their customers. Firms can identify valuable customer groups, enhance customer retention rates, and develop a communication channel with their customers through loyalty programmes. Customers gain from loyalty programmes, as they can provide more information, relevant promotions, and customised products and services (Stourm *et al.*, 2020).

The benefits airlines gain from loyalty programmes are diverse. Consumers are given points proportional to their consumption amount and they can use points in exchange for gifts, discounts, upgrades, and free tickets. This extra value may cause the customer to be loyal to the benefits, rather than the companies themselves (Oliver, 2010). In contrast, higher-order values such as the silver, gold, platinum, million-dollar, and million-mile membership statuses, which play to customers' self-esteem, provide lasting value to the customers and engender true loyalty towards the company

(Oliver, 2010). Having loyal customers is not only profitable, it is also a source of liquidity. Pascual and Cain (2021) note that the loyalty programme of an airline can be pledged as collateral for credit from the U.S. government and that U.S. airlines have unlocked USD 4.75 billion in government loans. With the exhaustion of bailout funding, the liquidity turned out to be a lifebuoy for the grounded U.S. airlines industry during the COVID-19 pandemic.

However, Watson et al. (2015) allege that "loyalty cannot be bought", which implies spending money on loyalty programmes is worthless because there are many factors that contribute to building customer loyalty. Simply adding another is not significant when the major drivers are commitment, trust and satisfaction.

The perceived value of a loyalty programme

Literature surrounding loyalty programmes focuses on the benefits to companies (Kivetz and Simonson, 2002; Lewis, 2004; Betancourt *et al.*, 2009). The perceived benefits gained by customers are utilitarian (monetary savings and convenience), hedonic benefits (exploration and entertainment) and symbolic benefits (recognition and social benefits) (Mimouni-Chaabane and Volle, 2010; Bose and Rao, 2011). Both studies found that satisfaction derived from loyalty programmes is a legitimate source of customer loyalty.

To maintain customer loyalty through loyalty programmes, airlines have extended mileage expiry dates, reaffirmed customer statuses, and lowered awards thresholds to better serve customers by improving the perceived value of their loyalty programmes during the COVID-19 pandemic (Pascual and Cain, 2021). This study also

investigates the impact of loyalty programme satisfaction and the perceived benefits to the behavioural loyalty of Hong Kong air travellers.

2.7 Other factors impacting customer loyalty

Commitment, trust, and satisfaction are identified by Watson et al. (2015) as the antecedents of customer loyalty, resulting in word of mouth and patronisation. A pleasurable transactional experience is backed by commitment and trust (Palmatier, Scheer and Steenkamp, 2007), while satisfaction is created by better-than-expected performance (Geyskens and Steenkamp, 2000). Loyalty incentives, such as the benefits offered by loyalty programmes, are an additional encouragement of repetitive patronage (Henderson, Beck and Palmatier, 2011).

Brand affect is positive emotional feedback upon utilising a product or service on average consumers, while brand trust is the confidence that the average consumer has that the brand can perform its stated functions (Chaudhuri and Holbrook, 2001). These two factors contribute to the brand loyalty of customers. The effect of brand trust is significant, especially on occasions which add substantial value to the customer, such as business trips. Customers are willing to pay more to reduce the chance of loss.

Watson et al. (2015) claim that commitment, satisfaction, trust, and loyalty incentives all contribute to customer loyalty, but the impacts on attitudinal and behavioural loyalty vary. Commitment is the thirst to sustain a cherished relationship (Moorman, Zaltman and Deshpande, 1992); trust reflects the confidence that the service or

product is reliable and the integrity of the provider is acceptable (Morgan and Hunt, 1994); satisfaction is the consequence of a better than expected perceived performance (Tse and Wilton, 1988).

2.8 Moderation effect

The moderators of the perception of airline services and customer satisfaction on different categories of customers (business, couple leisure, family leisure, solo leisure, international students) are the different cabin classes of customers, the different types of flights (direct and connecting), the different types of airlines (LCC, FSC) (Nghiêm-Phú, 2019), and the different cultures and nationalities of passengers (Bose and Rao, 2011) are.

Several demographics are noted as the moderators of loyalty, and the impacts of the moderators vary by phenomena and study. In general, youthfulness is negatively related to the stability of loyalty as younger people are more often eager to explore various utilities from different products and services from different providers. Income is positively related to the stability of loyalty as wealthy consumers save their decision-making time by selecting various products and services to minimise the opportunity costs of uncertainty (Evanschitzky and Wunderlich, 2006; Oliver, 2010). The satisfaction-loyalty link tends to be weak for e-commerce transactions due to the availability of numerous alternatives. In addition, more involved customers have more vital satisfaction with loyalty links (Oliver, 2010).

This study focuses on business and non-business air travellers. These two groups of air travellers should be emphasised. Jiang and Zhang (2016) investigated the link between service quality, customer satisfaction, and loyalty for the four largest airline companies in China: Air China, China Southern, China Eastern, and Hainan Airlines. They discovered an interesting phenomena. The ticket price was an important determinant for non-business travellers but not for business travellers. If the customer paid for the ticket themselves, their satisfaction levels were lower. Customer loyalty was positively and significantly associated with customer satisfaction for non-business travellers, but not for business travellers. Loyalty programs or frequent flyer programs were not successful in maintaining customer loyalty regardless of whether they were business or non-business travellers.

Non-business air travellers are more price-sensitive than business customers, while customers of the full-service carriers (FSC) are less price-sensitive than LCC customers (Curry and Gao, 2012). Business travellers desire operational quality and avoid unreliable and inconvenient airlines. They have high expectations of the reliability of departure and arrival times as they need to be on time for business meetings, connecting flights, and business opportunities (Dsilva *et al.*, 2020). Frequent business travellers typically put a higher value on time than non-business travellers but a lower value on the cost of their trips. They prefer speedy and comfortable transportation and some of them even depart in the morning and return the same evening (Budd, Ison, and Budd, 2016; Dsilva *et al.*, 2020).

2.9 Scales adaptation

The SERVQUAL scales under the expectancy disconfirmation model explain the service quality and customer satisfaction well in general, but have the following deficits;

- There is a zone of indifference, which distorts the accuracy of the gap measures in the expectancy disconfirmation model
- The momentary expectation formation in the consumption of various stages of airline services perverts the expectation element in the expectancy disconfirmation model

Despite the fact that the SERVPERF scales are better measurements when explaining other variables, neither SERVQUAL nor SERVPERF is industry specific. AIRQUAL was specially developed for the airline industry. It is also validated and recommended by various researchers, so this study will adopt AIRQUAL scales for measuring service quality.

One criticism of AIRQUAL surrounds a cultural issue. Culture is a crucial moderating factor influencing customer perception of satisfaction, service quality, and the link to loyalty (Pantouvakis, 2013; Kim and Park, 2017; Izwan *et al.*, 2021). Vlachos and Lin (2014) investigated the loyalty drivers of airline loyalty of business travellers in China and note that airline reputation is one of the major drivers for business travellers in China. The scale of reputation in the research is "Passenger's general impression of the airlines as a whole", which is similar to the image scale in AIRQUAL: "Image of the airline company" (Bari *et al.*, 2001; Ekiz, Hussain, and Bavik, 2006; Ali, Dey, and Filieri, 2015). Since the majority of Hong Kong air travellers are Chinese, the adaptation of the AIRQUAL image scale should fit the culture of Hong Kong. Neither

SERVQUAL nor SERVPERF has a similar measure and this point reinforces that AIRQUAL scales are better measures of the service quality of airlines. As there is no similar study to the current airline-related loyalty study in Hong Kong, the adaptation of the AIRQUAL scale to measure the overall service quality of airlines is a rational and appropriate choice. The following scales are adapted from the AIRQUAL model.

Airline Tangibles
The aircraft is clean and modern-looking
Quality of catering served on the plane
Cleanliness of the plane toilets
Cleanliness of the plane seats
The comfort of the plane seats
Quality of air-conditioning in the planes

Personnel
Employees' general attitude
Whether airline personnel gave exact answers to my questions
Whether personnel showed personal care equally to everyone
Employees had the knowledge to answer your questions
The empathy of the airline personnel
Awareness of airline personnel of their duties
Error-free reservations and ticketing transaction

Empathy
Punctuality of the departures and arrivals
Compensation schemes in case of loss or hazard
Care paid to passengers' luggage
Number of flights to satisfy passengers' demands

Image
Availability of low-price ticket offerings
Consistency of ticket prices with given service
Image of the airline company

(Ekiz, Hussain and Bavik, 2006; Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008; Ali, Dey and Filieri, 2015)
Total 20 scales

Since AIRQUAL only measures the factors that contribute to service quality provided by airlines, this study also adopts the scales for examining service quality, customer satisfaction, perceived price fairness, perceived loyalty programme benefits, the satisfaction with loyalty programmes, and consumer loyalty from other studies

(Cronin, Brady, and Hult, 2000; McCollough, Berry, and Yadav, 2000; Chen, 2008; Nadiri, Hussain, Haktan Ekiz, et al., 2008; Brodie, Whittome, and Brush, 2009; Saha and Theingi, 2009; Mimouni-Chaabane and Volle, 2010; Kim et al., 2013). These additional scales have been revalidated by Kim et al. (2013) and Hapsari, Clemes, and Dean (2017). The following scales are adapted from various studies.

Service Quality
The staff of this airline deliver superior services
Overall, the in-flight facilities in this airline are excellent
This airline has convenient reservation and ticketing systems
This airline offers an excellent security system
I feel safe when I fly with this airline
This airline offers excellent baggage handling services

(Chen and Chang, 2008; Saha and Theingi, 2009)

Customer Satisfaction
I had a satisfying experience flying with this airline
I did the right thing when I chose to fly with this airline
I normally have a pleasant flight with this airline
Overall, this airline provides a very satisfying experience

(Cronin, Brady, and Hult, 2000; McCollough, Berry, and Yadav, 2000; Chen, 2008; Brodie, Whittome, and Brush, 2009)

Loyalty Programme Perceived Benefits
I saved money
I discovered new destinations (products)
I was treated better than other customers

(Mimouni-Chaabane and Volle, 2010; Kim et al., 2013)

Loyalty Programme Satisfaction
The advantages I received, being a member of this program meet my expectation
All in all, I am satisfied with this program

(Mimouni-Chaabane and Volle, 2010; Kim et al., 2013)

Perceived Price Fairness
Considering the ticket price I paid for the airline, I believe that the airline offers excellent services
Compared to what I have given up (including money, energy, time, and effort), the overall service of this airline is excellent
Overall, this airline offers good value for money
Overall, this airline's services and goods are valuable

(Cronin, Brady, and Hult, 2000; Chen, 2008; Brodie, Whittome, and Brush, 2009; Patterson and Macqueen, 2021)

Consumer loyalty: Repurchase intention
I consider this airline company my first choice for air travel
I will consider this airline company more for air travel in the next few years
I intend to fly with this airline again in the future
Overall, given the other choices of airline companies, I will remain flying with this airline

(Chen and Chang, 2008; Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008; Brodie, Whittome, and Brush, 2009)
Total 23 scales

2.10 Summary

The chapter begins with an introduction to the airline industry in general and the Hong Kong airline industry in particular. Under the current COVID-19 pandemic in Hong Kong, the behavioural loyalty of air passengers is crucial to the survival of Hong Kong airlines. However, no similar study focuses on the behavioural loyalty of Hong Kong business and non-business air travellers through the impacts of service quality, customer satisfaction, and perceived price fairness. The literature on the primary constructs of the current study concerning service quality, customer satisfaction, perceived price fairness, and behavioural loyalty was reviewed. The two main streams of loyalty, attitudinal and behavioural loyalty, and their composite and development stages are inspected. There are many models to measure service quality, such as SERVQUAL, SERVPERF and AIRQUAL. The shift of paradigm from SERVQUAL (based on the expectancy disconfirmation model) to SERVPERF (based on the service performance model) is also discussed. Due to the uniqueness of the airline industry, which has many service episodes in each air travel consumption, the current study adapted the AIRQUAL model (based on the service performance model) to probe the service quality of airlines. Satisfaction can be rationalised from

the expectancy disconfirmation model. Perceived price fairness can be analysed from the social fairness and equity point of view. Loyalty programmes are also acknowledged, and the views on their effectiveness are diverse.

The literature review confirms that quality service provokes customer satisfaction. Quality service, customer satisfaction and perceived price fairness collectively construct behavioural loyalty. This is the fundamental structure of the current study. The research method is discussed in detail in the next chapter.

Chapter 3: Research Methodology

3.1 Introduction

The chapter elaborates on and justifies the selection of the philosophical assumption – the approach to theory development and methodology. Details of the research design include the eligibility of the participants, the reasons for excluding the COVID-19 pandemic period, and the research ethics. Sources, analysis methods, confidence levels, sample sizes, and the languages used in the collection of the qualitative and quantitative data are also discussed.

3.2 Research assumptions

Researchers query the concepts, relationships, and causality of certain phenomena to find solutions, develop theories, and gain a better understanding of the phenomena. The purpose of doing research is to discover something unknown to the academic universe (Hughes and Sharrock, 1997). In all, research is a systematic and methodical process of inquiry and investigation which aims to increase knowledge (Collis and Hussey, 2014).

Saunders, Lewis, and Thornhill (2016) state that sets of assumptions are made at each research stage, including the assumptions of reality or being, which are axiological, ontological, and epistemological assumptions.

Axiology is the study of values and beliefs (Edwards, 1995). Ontology is the study of being, existence, and reality. It postulates that reality actually exists (Hughes and

Sharrock, 1997; Teddlie and Tashakkori, 2010; Cassell, 2015; Mann, 2016). Epistemology is the study of what knowledge is, the source of knowledge, and the limits of knowledge (Cassell, 2015; Eriksson and Kovalainen, 2016). In its name, studies are made of the nature of knowledge and what research topics are adequate knowledge (Teddlie and Tashakkori, 2010). The epistemological subjectivists accentuate that in any study, multiple types of knowledge are co-created by the researcher and the research participants. Each understands and interprets the world in different ways (Cassell, 2015). This proposition is like the interview-data-as-topic approach, which postulates that the interviewer and interviewee collectively create a reality (Mann, 2016).

3.3 Research planning

The research planning comprises the selection of research philosophy, the approach to theory development, the methodological choice, the strategies, the time horizon, and the employed techniques and procedures. The “research onion” planning method, as shown in Figure 3.1, proposed by Saunders, Lewis, and Thornhill (2016), is adopted.

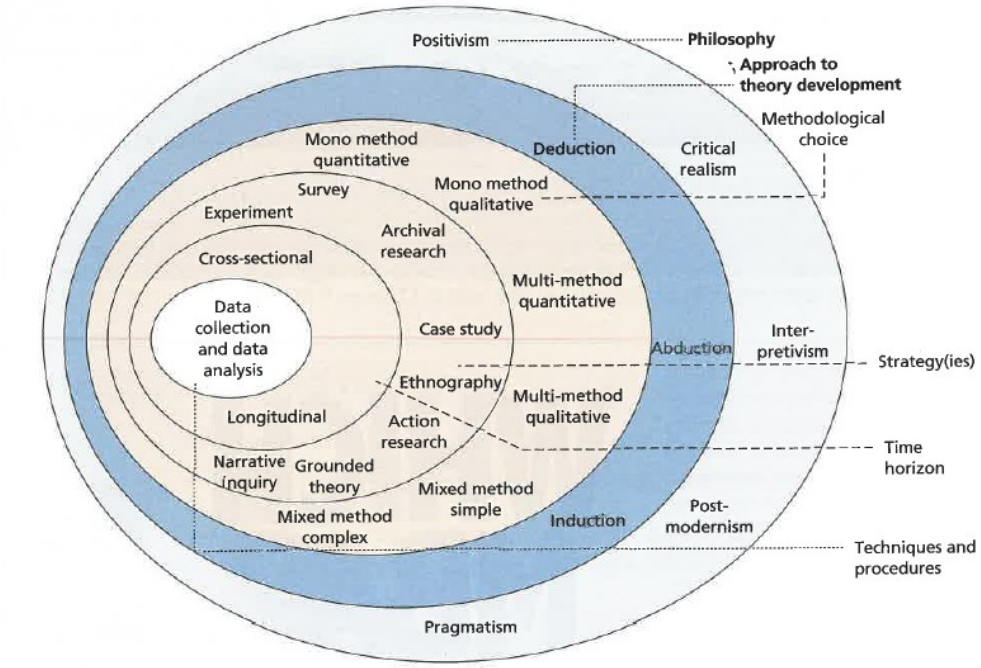


Figure 3.1 Research onion

(Saunders, Lewis, and Thornhill, 2016)

The research onion planning technique is logical, comprehensive, and top-down. Once the research assumption is determined, the researcher needs to select the items layer by layer from the onion. The first layer is philosophy, which consists of positivism, critical realism, interpretivism, postmodernism, and pragmatism. The second layer is the approach to theory development, which includes the deductive, inductive, and abductive approaches. The selections continue until the last layer is reached – techniques and procedures.

3.3.1 Philosophy

Positivism

Positivism originates from the requirements of natural science. The object under investigation should be observable (Gray, 2017; Hair, 2020). It assumes the singularity of social reality, which is not influenced by the acts and beliefs of the

researcher (Polonsky and Waller, 2015). The research adopts a deductive process that usually involves an explanatory theory to discuss social phenomena (Collis and Hussey, 2014). Only pure data from observation and experiments is accepted for building theories. Other human or social biases or interpretations should be excluded. The researchers do not add their value judgements or interpretations to the collected data, which is said to be external to the researcher (Polonsky and Waller, 2015; Gray, 2017). Applying positivism to the social sciences is formidable as the theory of phenomenon may only be true under a particular context and may be proved to be false under different contexts (Popper, 1992).

Critical realism

Critical realists stress what we observe and experience. They deem that reality is external and independent but not directly accessible through people's observation and knowledge. What people can see is only a tiny part of reality. To get a better understanding of social events, critical realists seek to understand what is behind any social phenomenon, such as social structures. Therefore, critical realists often utilise the in-depth analysis of social and organisational structures to study specific social issues. (Reed, 2005; Saunders, Lewis and Thornhill, 2016; Tsang, 2017; Basden, 2019).

Interpretivism

Interpretivists stress the meaning created by people. They believe that physical phenomena are different from people, who can create meaning. Thus, physical phenomena and people within their peculiar social atmospheres cannot be studied in the same way (Collis and Hussey, 2014; Polonsky and Waller, 2015; Saunders, Lewis

and Thornhill, 2016; Gray, 2017). In all, interpretivists stress the significance of language, culture, history, social, and organisational backgrounds when cultivating people's experiences, understandings, and interpretations of organisational and social phenomena (Crotty, 1998; Hair, 2020).

Postmodernism

Postmodernists attribute more importance to the role of language and power relations. They believe that any order is temporary and without foundation – language is important. "Right" and "True" are decided collectively, and power relations shape collective power (Tsang, 2017).

Pragmatism

Pragmatism concentrates solely on executable concepts in the empirical environment. Researchers are free to select philosophies for their research, if the philosophies comply with the research purposes. The deficit of one philosophy can be compensated for by another philosophy (Collis and Hussey, 2014). An ideology is valid only if it empirically functions well and initiates practical results for the community (Gray, 2017).

The aim of pragmatic research is to offer a practical solution or insight to a problem. Therefore, the research problem is of utmost significance. Pragmatists assert that many realities exist, and there are many ways and methods to understand and interpret the world and social phenomena. The entire picture cannot be explored by using only one method or one philosophy (Collis and Hussey, 2014; Tsang, 2017; Basden, 2019).

Justification for the epistemological pragmatism philosophy assumption

The current study explores the nature of the knowledge of consumer behaviours and evaluates claims about the way in which the world can be known to us. Its focus is on unveiling knowledge and, hence, it belongs to epistemology (Hughes and Sharrock, 1997).

The study investigates the relationships between service quality, customer satisfaction, perceived price fairness, and behavioural loyalty of Hong Kong business and non-business air travellers. These are only concepts that exist in people's minds and are subjective, rather than tangible objects. The context of this study is limited to Hong Kong air travellers, and there are many air travellers domiciled in different parts of the world. The researcher believes that there are multiple types of knowledge co-created by the researcher and the participants, just as there is similar research for other geographical areas applying similar research methods. Still, the findings are not precisely the same, which implies that there is no single universal rule for generalising all phenomena. This is the element of epistemological subjectivism and pragmatism (Cassell, 2015; Basden, 2019). The adaptation of the epistemological pragmatism philosophy assumption is therefore justified.

3.3.2 Approach to theory development

There are three theory development approaches: deductive and inductive contrast with each other, while abductive reasoning is a combination of the two.

Deductive approach

Deductive reasoning starts with theory and works down to premises. The theory is valid if all its premises are valid (Ketokivi and Mantere, 2010). The objective of data collection is to evaluate propositions or test hypotheses to justify the underlining theory.

Within the framework of the deductive strategy, researchers identify the factors of a chosen theory by doing literature reviews, consulting professional experience, and importing factors from other sources. Then, they collect and analyse the data to investigate whether the data comply with the selected theory (Hennink, Hutter, and Bailey, 2020).

Inductive approach

An inductive approach is adopted by a researcher who wants to explore a phenomenon, explain patterns, and ground a theory (Saunders, Lewis, and Thornhill, 2016). Under the inductive approach, a conceptual or theoretical framework is established from empirical observations. Researchers collect and analyse data and its pattern, identify the factors which cause, moderate or mediate the dependent variable, and construct plausible generalisations or ground the theory (Collis and Hussey, 2014; Gray, 2017; Hennink, Hutter, and Bailey, 2020). The inductive strategy is popular in qualitative research (Collis and Hussey, 2014).

Abductive approach

If researchers use the inductive approach to develop a theory, and they subsequently test the theory by collecting additional data (different from the theory-building data),

then the researcher is applying the abductive approach. The advantage of using a qualitative approach is to produce new hypotheses and theories based on research evidence. These hypotheses and theories can be analysed afterwards by careful methodological data analysis, such as quantitative analysis (Timmermans and Tavory, 2012; Janiszewski and van Osselaer, 2022).

Justification for the adaptation abductive approach

Although there are several studies on the Hong Kong airline industry and air travellers' loyalty (Gilbert and Wong, 2003; Lee *et al.*, 2018; Ting *et al.*, 2018; Chow *et al.*, 2022), the research objectives, approaches, and methodology of those studies are different from the current study. It is better to apply the inductive approach – to get information regarding the behavioural loyalty of Hong Kong business and non-business travellers and then employ a deductive approach to verify the relationships. Therefore, the abductive approach is adopted.

3.3.3 Methodological choice

There are three kinds of methodological choices: quantitative, qualitative, and mixed methods.

The quantitative method stresses numeric data and is widely used in deductive research approaches to test hypotheses, which aim to validate and test the proposed theoretical model (Sreejesh, 2014; Gray, 2017; Hair, 2020). It usually employs a highly structured and controlled data collection method like a standardised questionnaire, strictly structured interview, or experiments to avoid undue influence

from the researcher's values and attitudes and thus protect data validity. Probability sampling techniques are utilised frequently under the method. The purpose of the quantitative method is to examine the relationships among variables. It also uses statistical software to implement statistical analysis, such as hypothesis testing, and to generate useful statistical information (Saunders, Lewis, and Thornhill, 2016). Some scholars note that the quantitative method lacks contact with people or field settings and the relationships of variables are undermined by insufficiently rigorous definitions of the variables. Further, variables such as motivation are difficult to define (Gray, 2017).

The qualitative method primarily uses non-numeric, textual, or even visual data with non-standardised and non-probability sampling data collection methods such as loosely structured interviews, focus groups, and even ethnography as the data collection methods. The method relies on an iterative investigate-learn-update research process that grounds, but does not test, a theory (Janiszewski and van Osselaer, 2022). It is an interpretive approach, since researchers need to understand, interpret, and even sympathise with participant messages and feelings. The researchers should be able to gain a rich holistic view of the context of the study, which usually embraces the activities of individuals, groups, or organisations through building trust with the participants (Saunders, Lewis, and Thornhill, 2016; Gray, 2017).

The qualitative research method is described as both "science and art" (Hennink, Hutter, and Bailey, 2020). Despite the method not being experimental, the scientific side of the method refers to the rigorousness of its structure and the application of the

procedures to analyse the textual data. It is an evidence-based method. The art side of the method implies that it is creative and flexible in interpreting, understanding, and unveiling the nature of complex human rational and irrational behaviour. The qualitative method is usually utilised for the conceptualisation of theoretical constructs (Sreejesh, 2014). The result of qualitative research is to construct theories or understand specific contexts and phenomena (Hair, 2020). The weakness of the qualitative method is a lack of predictability, due to usual small sample sizes and nonprobability sampling. The results may not be projectable onto a broader target population (Cooper, 2011).

Mixed methods

There are many discussions on whether research should take quantitative or qualitative approaches (Onwuegbuzie and Leech, 2005). The mixed method combines the quantitative and qualitative methods. The emphasis or the weight between the quantitative and the qualitative depends on the nature of the research and the researcher's preference (Saunders, Lewis and Thornhill, 2016). Applying mixed methods in academic research is common. The crucial point is to illustrate how the qualitative data integrates with the quantitative data (Mann, 2016). Hesse-Biber (2010) identified five reasons for adapting mixed methods. The first is triangulation. The findings in one method can be verified by the other method. The second reason is complementarity. The researcher can gain a deeper understanding of the research topic. The third reason is development. The findings of one method may help the development of the other method. For example, findings from a quantitative method may shape the interview questions in a subsequent qualitative method. The last two

reasons are initiation and expansion. Findings from a mixed method may initiate another research problem or expand the breadth and range of the research problem.

Multiple methods

Simple mixed methods utilise one quantitative and one qualitative method, regardless of their sequence. Complex mixed methods use both methods more than once and by stages (Hesse-Biber, 2010; Saunders, Lewis, and Thornhill, 2016; Patten, 2018). The primary benefit of using multiple methods is to investigate the subject matter step by step. Each step may employ different methods, including various sampling methods (Timmermans and Tavory, 2012).

Justification for the adoption of the simple mixed method

The pragmatists point out that the employment of the research method depends on the nature of the research. Limiting research to a particular method is unnecessary and not optimal (Collis and Hussey, 2014; Saunders, Lewis, and Thornhill, 2016). Teddlie and Tashakkori (2010) highlight that epistemological issues have been the focus of mixed methods since their inception. It is the most appropriate way to generate knowledge from the synergy of bonding the qualitative and quantitative methods together. An in-depth understanding of the reasons and factors is produced by the qualitative method, which can explore new phenomena for the research topic and identify strategies for research implementation. The quantitative method is applied to verify the hypotheses of the concepts and premises of the research model (Tashakkor and Teddlie, 2003; Hesse-Biber, 2010). Qualitative and quantitative methods deepen and broaden the understanding of the research issues, respectively (Patton, 2002a). The mixed method

allows a researcher to justify the legitimacy of qualitative methods by incorporating the quantitative method (Sreejesh, 2014). Palinkas et al. (2011) suggested that the mixed method results in a better understanding of issues within research. Thus, it is preferable.

Applying the qualitative method to define the scope of the investigation, explore the factors, and ground a theory which significant to Hong Kong business and non-business travellers is crucial for the current study. The study applies qualitative research method to explore the factors impacting the behavioural loyalty of Hong Kong air travellers – the service quality of airlines, customer satisfaction, and perceived price fairness. It employs the qualitative data to ground a theory, proposed by Hughes and Sharrock (1997), about the connection between ontology and epistemology. A quantitative method is then used to verify if the relationship among these variables. Such a triangulation process for ascertaining if the findings from the qualitative method corroborate the findings from the quantitative method is of significant benefit to the research (Erzberger and Kelle, 2003; Hesse-Biber, 2010; Sreejesh, 2014).

3.3.4 Nature of the study

Exploratory study

Researchers engaging in exploratory studies aim to ascertain the understanding of issues, observations, and phenomena. Data collection tools under the exploratory study mainly comprise literature reviews, consultation with experts in the field, and in-depth individual and focus group interviews. They are relatively unstructured due to their exploratory nature. The interviewer's understanding and interpretation of the

interviewees' views and feelings are of exceptional importance (Williamson and Johanson, 2013; Collis and Hussey, 2014; Patten, 2018). Exploratory studies are crucial for new and little-known phenomena, and where the available information is limited. They can be conducted by literature research, consulting experts in the field, and *via* other research tools (Patton, 2002b; Cooper, 2011; Gray, 2017). There are three stages of exploratory study: the exploration of the phenomenon, data collection, and analysis and interpretation of the results. The purpose of exploratory studies is to develop hypotheses and not to test them (Cooper, 2011).

Nature of the current study

The current study adopts the exploratory study approach to explore the factors that impact service quality, customer satisfaction, perceived price fairness, and customer behavioural loyalty through the qualitative method. The relationships among variables is then tested with a quantitative method. It is also an abductive approach because the current study uses an inductive approach to ground a theory first and subsequently collects additional information to confirm the framework. The study utilises the epistemological pragmatism philosophical assumptions, takes an inductive research approach and adapts the grounded theory research method to identify factors regarding service quality, customer satisfaction, perceived price fairness, and behavioural loyalty. The grounded theory is tested through a deductive research approach for validation.

3.3.5 Research strategies

A research strategy is a plan of action designed by the researcher to achieve the research goal. There are many options, such as experiments and surveys, which

quantitative method researchers usually adopt. The underlying philosophical assumptions of the research impacts the choice of research strategies (Cassell, 2015).

Data collection: face-to-face and telephone interview

The interview is a versatile research instrument. The sources of information in qualitative research are primarily collected through interviews or focus groups. The researchers gather the descriptions, opinions, feelings, and emotions of the interviewees for further interpretation, investigation, and understanding of the living world of the interviewees (Opdenakker, 2006). The flexibility of the interview structure is an attraction for researchers, who can effectively question various participants in different interview settings (Hitchings and Latham, 2020).

Structured interviews are mainly used in quantitative research. The data collected through the structured interview is equivalent to a questionnaire (Ekinci, 2015). The aim of an unstructured interview is to gain an in-depth understanding and explore the inner feeling and reasoning of the interviewee on the research topic, and no predetermined interview questions are asked (Maylor, 2017).

The current study adapts the semi-structured interview as a data collection tool in the qualitative analysis. Under the semi-structured interview setting, the interviewer has some flexibility to manage the interview content, including the questions, the information used to probe, and the atmosphere. The interviewer controls the sequence of questions, the omission of past questions, and the addition of new questions based on the interview's purpose (Bryman, 2012; Williamson and Johanson, 2013; Hennink, Hutter, and Bailey, 2020). The purpose of the semi-structured interview is to explore

social phenomena from various perspectives in which the researcher is interested (Hair, 2011).

The telephone interview is considered the best choice if there is a pre-existing relationship between the interviewer and the interviewee, a potential safety issue for the researcher, or a long distance between the interviewer and interviewee. The quality of collected data is similar to face-to-face interviews (Cassell, 2015). Given that the interviewer knows all the interviewees and with the current COVID-19 pandemic situation in Hong Kong, the individual telephone interview is a good method for collecting qualitative information.

Data collection: focus group

A Focus group is a research technique that collects data through group interactions on a topic determined by the researcher (Morgan, 1996). Focus groups are widely utilised in qualitative research to probe for an in-depth understanding of the reasoning (why), processes (how), and contexts (when and where) of a particular research topic (Murphy *et al.*, 1998). Some researchers argued that the concept of the focus group is a social space; group members co-construct the group's view on the topic discussed by acquiring, sharing, and contesting knowledge (Wilkinson, 1998a; Lehoux, Poland and Daudelin, 2006).

The strengths of the focus group technique include the feasibility of observing the dynamic of the group members' agreements and disagreements (Morgan, 2012), the provision of broader views, norms, and values existing in the community, the efficiency of identifying a number of issues and collecting a wide range of data (as the

members possess a feeling of partial ownership of the discussion), and the validation of views and opinions by other group members (especially on the inconsistency of a particular member's opinion). These advantages deepen the understanding of the interviewer about the topic discussed (Patton, 1990; Kamberelis and Dimitriadis, 2005; Hennink, 2007; Bryman, 2012; Mann, 2016; Hennink, Hutter, and Bailey, 2020). Weaknesses of the focus group technique include less control of the proceeding by the moderator and the members' potential avoidance of sensitive, personal information or discomfort (Madriz, 2000; Bryman, 2012).

3.4 Research design

The research is composed of two parts. It utilizes the qualitative method to ground the theory first, then employs the quantitative method to verify and quantity the relationships among variables.

3.4.1 Eligibilities of the interviewees and participants

This study uses "interviewee(s)" to address all the participants in the qualitative data collection process and employs "participant(s)" to address all the participants in the quantitative pilot and main test surveys, which adopt the convenience, snowball, and self-administrated online survey method.

The current study investigates the factors impacting the behavioural loyalty of Hong Kong business and non-business travellers. The first requirement is the identity of Hong Kong residents. The participants must have a valid Hong Kong Identity Card (Immigration Department, 2021), whether permanent or temporary. The second

requirement is the experience of air business travel or participation in the air ticket purchase decision for non-business air travel. The emphasis on participation in purchase decision making is crucial according to the definition of behavioural loyalty proposed by Berkowitz, Jacoby, and Chestnut (1978). Therefore, the experience of just joining a group tour is not eligible for participation in the survey. If participants have both business and non-business air travel experience, they will be invited to share these experiences in the different sections of the questionnaire. In addition to the study's objectives, there are further research ethics requirements. The participants must be 18 years old or above, to avoid potential legal issues for minors, and offer their consent for the survey.

3.4.2 Exclusion of COVID-19 pandemic period

The current study investigates the factors impacting the behavioural loyalty of Hong Kong business and non-business travellers. The interviewees and survey participants must be Hong Kong residents over 18 years old and with experience of air travel before 2020. Since the beginning of the COVID-19 pandemic in 2020, it has been difficult to experience air travel due to quarantine requirements, flight restrictions, and the limited supply of passenger air transportation. Even if a survey participant has travelled by air after 2020, the experience is believed to have been negatively influenced by the factors mentioned (Miocic and Trullols, 2020; Springer, 2021; Rita, Moro and Cavalcanti, 2022). Since the current study investigates the factors impacting the behavioural loyalty of Hong Kong air travellers in a normal environment, air travel experience after 2020 is excluded.

3.4.3 Research ethics

Before collecting information, an informed consent form was sent to the interviewees through the WhatsApp social media application before telephone interviews, presented to the interviewees before face-to-face interviews and focus groups, and included in the Qualtrics survey system once the participants accessed the system. The interviewer wore an N95 mask throughout the face-to-face activities, to ensure the safety of the interviewees and the interviewer.

The main points of the informed consent form were explained before the commencement of the interviews or focus groups. It was also displayed on the Qualtrics survey system. The main points were that the interviewees are free to opt out during the interview without any negative consequence. No personal data was to be collected outside of the email address used during the process. The data collected would only be used in this study and would be deleted three months after the successful granting of a DBA degree from the University of Wales Trinity Saint David. The purpose and contributions of the research and potential conflicts of interest were also made known. This was based on the research ethics of voluntary participation, the value of the research, the no harm principle, the confidentiality of personal data, and the conflict of interest principle (Marshall, 2006; Warren, 2010; Hair, 2011; Maylor, 2017; Temple, 2019). The informed consent forms for collecting qualitative and quantitative information were slightly different in the query handling methods. Please refer to Appendices 1 and 3 for details.

3.4.4 Sources of the qualitative data

The qualitative data was sourced through the convenience sampling method, which is the collection of information from participants who are easily accessible to the surveyor (Palinkas et al., 2015). The qualitative data was collected from individual face-to-face interviews, individual telephone interviews, and face-to-face focus groups, mainly conducted in Cantonese mixed with simple English. Such a language style is appropriate to a large portion of Hong Kong air travellers. The interviewer asked general questions during the data collection process and let the interviewee respond freely to collect different ideas from different interviewees. Please refer to Appendix 2 for interview question details. Usually, follow-up questions were asked to probe for a deeper understanding of the interviewees' reasoning. The interview questions were sometimes adjusted to reflect the updated logic whenever a new and reasonable issue appeared. It is a recognised advantage of the localist interviewer and semi-structured interview (Corbin and Strauss, 2008; Qu and Dumay, 2011). Written transcripts were used to record the information in English. As most of the common terms used in the collection process such as check-in, delay, departure, arrival, toilet, food and beverage, baggage etc. are all communicated using English, it was thought better to use English for transcribing. No voice recording was employed because any kind of electronic recording was considered sensitive in the wake of recent Hong Kong social movements. Interviewees were reluctant to agree to the voice recording.

3.4.5 Qualitative data analysis method

The data collection process continued until the data saturation point was reached (Fusch and Ness, 2015). The transcripts were summarized using Microsoft Word. The constant comparative method, which incessantly compares and contrasts data, was

utilised to find the commonalities, differences, and patterns in the collected data (Barbour, 2014). The coding/categorising was processed through Microsoft Excel to observe the relationships among different categories. A grounded theory was the outcome of the qualitative method (Harding, 2019).

3.4.6 Sources of the quantitative data

This study adopts the convenience sampling method, which collects information from participants who are easily accessible to the surveyor (Palinkas et al., 2015). To obtain sufficient sample data points, the participants were invited to introduce new participants, so this study also applied snowball sampling (Marshall, 2006; Cassell, 2015). Only participants with the desired characteristics were invited. No data validity requirement were undermined under convenience and snowball sampling methods (Miles and Huberman, 1994; Patton, 2002a). The questionnaires were distributed through an online channel, The Qualtrics survey system. The system checked the participant's eligibility and air travel experience to ensure the survey's quality. If the participant had both business and non-business air travel experience, the system asked business experience questions first until all business experience questions were completed. The system then began to ask non-business experience questions. There was no confusion about which survey the participant was doing, as the header of every page indicated whether the questions were related to business or non-business air travel experience. For example, the header was “Airline Tangibles (Business Travel)” when asking airline tangibles related questions about the participant’s business air travel experience.

3.4.7 Language of the questionnaire

The informed consent and all the scales adapted in this study were originally written in English. A university English lecturer with a PhD in Applied English Linguistics was invited to comment on the questionnaire for the purpose of the survey. The comments were positive. In Hong Kong, there are two official languages, English and Chinese. The English questionnaire was translated into Chinese to meet a portion of the survey participants' needs. A university Chinese lecturer with a PhD in Chinese Language and Literature was also invited to comment on the translated Chinese questionnaire with reference to the English version questionnaire for survey purposes. The comments were also positive. Participants were able to select their preferred language in the online Qualtrics survey system. Please refer to Appendices 4 and 5 for the English and Chinese versions of the questionnaires.

3.4.8 Confidence Level

Some research, such as medical, requires a confidence level of 99 per cent (Partington, 2002). The current study concerns behavioural loyalty in the business area, which usually requires a 95 per cent confidence level, equivalent to a significance level of 5% or a p-value of 0.05. There is a 5% chance that the true null hypothesis is rejected; it is called a Type I error (Tabachnick, 2013; Levine, 2016). In the current study, 95 per cent is deemed sufficient. Since the SPSS V28 statistical software was used in the current study, the p-value approach was adopted for evaluating the significance level of the null hypothesis, as it is a popular choice due to the standard format of computer output for hypothesis testing (Kazmier, 2003). The p-value is the rejecting area after the test statistic, which is the same as the type I error, i.e. the probability of rejecting the null hypothesis while it is true. Based on a

significant level of 5%, the null hypothesis should be rejected if the p-value is lower than 0.05 (Lakens, 2013; Tabachnick, 2013).

3.4.9 Sample size

Johanson and Brooks (2010) suggest that a sample size of 36 is optimal after considering the confidence interval convergency, consistency, and redundancy. The minimum sample size is 30, but 100 is recommended by Strang (2015) for quantitative data analysis. The sample size suggested by Fugard and Potts (2015) is 110; 150 to 200 is advocated by Polonsky and Waller (2015), while over 200 is postulated by Iacobucci (2010). For factor analysis, 5 to 30 is sufficient, if the sample approximates a normal distribution (Strang, 2015), Hair (2011) recommends 100 or more samples for the validity analysis. After reference to the above studies, a sample size of over 200 was planned for the main test of the current study. It is a conservative number to ensure the reliability and validity of the survey.

Cooper (2011) points out that a sample size of 25 to 100 is sufficient for a pilot test. The current study's pilot test applies snowball sampling of 30% to 40% (60 to 80 cases) of the main test sample size. The purpose of the pilot test is to detect the weaknesses in the design of the research method, such as potential problems with the scales and other administrative issues. SPSS version 28, a statistics software, was utilised to analyse the data collected in the pilot and main survey.

3.5 Summary

The current research adapts the epistemological pragmatism philosophy assumption because the study aims to explore the nature of the knowledge of consumer behaviours, so it belongs to epistemology (Hughes and Sharrock, 1997). Since similar studies investigate people's behaviours and the consumers of different cultures under different environments and are being analysed by different researchers to ground different theories, and there are multiple truths in the knowledge universe that need to be explored with various research philosophies, this study is pragmatic (Collis and Hussey, 2014; Tsang, 2017).

There is no similar study (as of 5 March 2022) applying the same approaches as the current study to the context of Hong Kong, so the nature of the study is exploratory (Patton, 2002; Cooper, 2011). The adaptation of simple mixed methods and abductive approaches to deal with the research problems in an exploratory nature is recommended by various scholars due to the exploration and triangulation benefits (Tashakkor and Teddlie, 2003; Hesse-Biber, 2010; Palinkas *et al.*, 2011; Carnochan *et al.*, 2014; Sreejesh, 2014; Patten, 2018). The majority of the qualitative data collection in this study was accomplished with semi-structured telephone interviews, which is considered the most appropriate method under the COVID-19 pandemic because of the safety issues of both participants and interviewers, and the comfort of the environment when probing for deeper understanding (Sturges and Kathleen J. Hanrahan, 2004; Hennink, Hutter and Bailey, 2020). The quantitative data was collected by a self-administered online survey, the Qualtrics survey system, through a non-probability, convenience snowball sampling method. The sampling method respected the no-harm principle when collecting data, and proved efficient and

economical (Marshall, 2006; Hair, 2011; Maylor, 2017). The chapter ends with a detailed research design. How the qualitative and quantitative data collection and analysis was implemented is discussed in the following two chapters.

Chapter 4: Qualitative analysis

4.1 Introduction

The chapter begins with a description of the qualitative data collection process, which primarily utilised interviews and a focus group. Interviewees were led to discuss their latest flight experiences, factors influencing their satisfaction, their preferred airline characteristics, and their degree of loyalty. Subsequently, the constant sum method was employed to evaluate the relative significance of factors in selecting airlines under different haul times, and a grounded theory was constructed. It is also evidenced that the adaptation of AIRQUAL scales is appropriate – overall service quality, customer satisfaction and perceived price fairness are the impactful factors on airline customer behavioural loyalty.

4.2 Collection of qualitative data

The qualitative data were primarily sourced from three individual face-to-face interviews, seventeen individual telephone interviews and one face-to-face focus group with three interviewees. A total of twenty-three interviewees were involved. The qualitative data became saturated after interviewing twenty individuals. The focus group was arranged to confirm the saturation and explore whether the group dynamic could create new ideas and insights (Patton, 2002a; Bryman, 2012; Krueger, 2015; Hennink, Hutter and Bailey, 2020). During Hong Kong's COVID-19 pandemic period, the maximum number of diners at a table was four. Three interviewees invited me to have a light lunch meeting for the focus group discussion. Since they have both business and non-business air travel experience, they were well eligible to conclude the qualitative data collection process if no further new and relevant information was

revealed to contribute to the development of the grounded theory. The process of collecting qualitative data was completed at the data-saturated point after the focus group discussion (Morgan, 1996; Pidgeon and Henwood, 2004; Reed, 2005b; Bryman, 2012; Saunders, Lewis, and Thornhill, 2016). The whole qualitative data collection process lasted three months – from May to July 2021.

4.3 Demographics of the interviewees

Table 4.1 refers. All interviewees were Hong Kong residents with Hong Kong Identity Cards (Immigration Department, 2021). There were two retirees, and the rest of the participants were employed full-time. Three had customer services experience in airline companies. Ten of them were single, while the others were married. All of them had the experience of purchasing or participating in the air ticket purchase decision-making process. In addition, seven of them held bachelor's degree, thirteen of them had a master's degree, and one of them had a doctoral degree. Only 33.8% of Hong Kong residents attend degree level courses (Census and Statistics Department, 2022). Such good educational backgrounds of interviewees may cause a potential sampling bias, which is a drawback of the snowball sampling method. However, a good educational background is relatively less uncommon amongst air travellers. Another study surveying Hong Kong's air travellers in 2019 found bachelor's degree holders accounted for 58.8% of its respondents (Chow *et al.*, 2022). However, information about Hong Kong air travellers' educational backgrounds is unavailable, and the actual sample bias level cannot be assessed.

Table 4.1 Interviewees' demographics

Age	%	Count
18-25	9%	2
26-35	17%	4
36-45	35%	8
46-55	22%	5
56-65	17%	4
Mean: 40.4	100%	23

Education Background	%	Count
High School	9%	2
Bachelor Degree	30%	7
Master Degree	57%	13
Doctoral Degree	4%	1
	101%	23

Sex	%	Count
Male	52%	12
Female	48%	11
	100%	23

4.4 Last flight experience

Table 4.2 refers. The interviewees were questioned about their last flight experience before the COVID-19 pandemic. The majority (48%) of the trips had a flight duration of between three and six hours, 35% were below three hours, 13% were over twelve hours and 4% were between six and twelve hours. 78% of the interviewees were satisfied with their last flight experience, 13% had no opinion, and 9% were not satisfied with their last flight experience.

Table 4.2 Last trip flight time and experience

Last Trip Flight Time	%	Count
Below 3 hours (Short-Haul)	35%	8
3.01-6 hours (Mid-Haul)	48%	11
6.01-12 hours (Long-Haul)	4%	1
Over 12 hours (Ultra Long-Haul)	13%	3

Last Flight Experience	%	Count
Satisfactory	78%	18
No opinion	13%	3
Unsatisfactory	9%	2
Total	**100%**	23

4.5 Factors influencing air travellers' satisfaction

Table 4.3 refers. Customer satisfaction primarily originated from the airlines' good services at different times, (pre-flight, in-flight, post-flight) and overall services, which accounted for 75.7% of the satisfaction factors. In-flight service was the most

outstanding performer with 56.8% satisfaction factors, while time-related attributes were the second most welcome factor, accounting for 24.3% satisfaction factors. Among the in-flight services, flight attendant service (21.6%) and food and beverages (21.6%) were the two most significant factors that air travellers appreciated.

Most of their dissatisfaction factors were related to aircraft tangibles (30.0%) and in-flight services (30.0%), followed by the pre-flight service (25.0%) factors. It is noted that in-flight services are crucial to customers' satisfaction and dissatisfaction. This finding echoes the results of the studies of An and Noh (2009) and Etemad-Sajadi, Way and Bohrer (2015). The link between service quality and customer satisfaction is strong.

Table 4.3 Satisfaction and dissatisfaction factors

Satisfaction factors	%	Count	**Dissatisfaction factors**	%	Count
Pre-flight service	**10.8%**	**4**	**Pre-flight service**	**25.0%**	**5**
Check-in service	8.1%	3	Pre-boarding service	15.0%	3
Pre-boarding service	2.7%	1	Check-in service	10.0%	2
In-flight service	**56.8%**	**21**	**In-flight service**	**30.0%**	**6**
Flight attendant service	21.6%	8	Flight attendant service	20.0%	4
Food and beverage	21.6%	8	Food and beverage	10.0%	2
Caring to the interviewee	8.1%	3	**Post-flight service**	**10.0%**	**2**
Caring to other passengers	2.7%	1	Baggage claim	5.0%	1
Clean, no smell	2.7%	1	Complaint follow-up	5.0%	1
Post-flight service	**5.4%**	**2**	**Aircraft tangibles**	**30.0%**	**6**
Baggage claim	2.7%	1	Physical environment	5.0%	1
Complaint follow-up	2.7%	1	Carrier size	5.0%	1
Only mentioned overall service	**2.7%**	**1**	Comfort (seating)	5.0%	1
Aircraft tangibles	**2.7%**	**1**	Air quality	5.0%	1
Physical environment	2.7%	1	Congestion (full house)	5.0%	1
Time-related	**24.3%**	**9**	Toilet	5.0%	1
On-time	21.6%	8	**Time-related**	**5.0%**	**1**
Flight time	2.7%	1	Delay	5.0%	1
Total	**100%**	**37**	**Total**	**100%**	**20**

4.6 Behavioural action: reasons for choosing the last flight airline

The interviewees were not given any hints when recalling their reasons for selecting their last flight, they were free to voice whatever they had in mind, and there was no requirement for a fixed number of reasons. Allowing interviewees to express their ideas freely helped discover factors which have not been unveiled before (Bryman and Bell, 2015).

Table 4.4 refers. The responses were diverse. Value for money, which is a perceived price fairness concept, had the highest vote share (13%). However, when categorised, service quality and customer satisfaction components were the most important (71.7%), while price-related components were of secondary importance (23.9%). The gap is significant. From the table below, we can conclude that service quality and price-related factors, which also include the perceived price fairness concept, were significant factors for the interviewees when choosing the airline for their last flight. Many studies have the same conclusion (Bari *et al.*, 2001; Ekiz, Hussain, and Bavik, 2006; Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008; Vlachos and Lin, 2014; Ali, Dey, and Filieri, 2015; Hapsari, Clemes, and Dean, 2017; Kim and Park, 2017; Monoarfa, Usman, and Tausyanah, 2020).

Table 4.4 Behavioural action: reasons for choosing the last flight airline

Reasons for Choosing Last Flight Airline			Count
Service quality and customer satisfaction related:		**71.7%**	**33**
	Flight schedule	11%	5
	On-time	11%	5
	Good overall service	9%	4
	Brand name	9%	4
	Good in-flight service	7%	3
	Loyalty programme	7%	3
	Reliable	4%	2
	Direct flight	4%	2
	Safety	2%	1
	Convenient destination airport location	2%	1
	Comfort (seating)	2%	1
	Flight attendants can speak Cantonese	2%	1
	Non-direct flight	2%	1
Price related:		**23.9%**	**11**
	Ticket price	11%	5
	Value for money	13%	6
Others:	Hong Kong airline	**4.3%**	**2**
	Total	100%	46

4.7 Categorisation of airline services

This question aims to probe whether air travellers would segment airline services into different categories for the researcher to design and select survey scales. More specific scales, such as the Kim and Park (2017) scales, which segment the airline services in detail (reservation, ticketing, check-in, baggage handling, cabin facilities, in-flight service, aircraft operation, and marketing), may be utilised if air travellers could clearly distinguish the airline services.

Table 4.5 refers. When interviewees were asked to categorise airline services, most of them only had an overall service concept (32%) or an in-flight service concept (24%); the other types of services were fragmented. The table below reveals that air travellers may not have a concrete idea of the segmentation of airline services. Their focus is

predominantly on in-flight services. The finding is reasonable given that passengers spend most of their time in flight during air travel.

Table 4.5 Categorisation of airline services

Categorisation of Airline Services	%	Count
Only overall service	32%	12
In-flight	24%	9
Check-in	8%	3
Post-flight	8%	3
Customer service	8%	3
On-time	5%	2
Pre-flight	5%	2
Baggage	3%	1
e-boarding pass	3%	1
Website	3%	1
Ground services	3%	1
	100%	38

4.8 Preferred airline characteristics

Table 4.6 refers. 18 out of 23 interviewees declared preferred airlines, which may not be the same as the airlines chosen for their most recent flight, mainly due to the availability of the destination selection. Service-related factors were the most significant characteristics of the preferred airlines (50.0%) again, while loyalty programmes and price-related factors are also significant (26%).

Table 4.6 Preferred airline characteristics

Preferred Airline Characteristics		%	Count
Service related:		**50.0%**	**21**
	Service	19%	8
	Reliable	17%	7
	Flight schedule	5%	2
	Used to	5%	2
	Comfortable	5%	2
Price related:		**16.7%**	**7**
	Price	10%	4
	Value for money	7%	3
		0%	
Others:		**33.3%**	**14**
	Loyalty programme	26%	11
	Hong Kong airline	7%	3
	Total	100%	42

4.9 Loyalty indicators

Table 4.7 refers. Twelve of the interviewees declared they would use the same airline if the destination were the same. Ten of them would select the same airline even if the destination were different. A robust behavioural loyalty was observed. A plausible reason for the high behavioural loyalty is the high satisfaction rate. Nghiêm-Phú (2019) noted that overall satisfaction is the most significant predictor of passenger loyalty. Attitudinal loyalty is cognition or pleasurable fulfilment that favours a particular entity. Behavioural loyalty brings profitability to airline companies. Still, studies also found that strong behavioural loyalty may not accompany strong attitudinal loyalty (Watson *et al.*, 2015). This was reflected in this study. Only four of the twelve, who intended to choose their last airline for their next trip if the destination is the same, would recommend their preferred airline. Eleven of the interviewees were loyalty programme members, and four of them intended to choose the last airline for the next trip if the destination was the same and if the loyalty programme was still in place. Among these eleven loyalty programme members, nine were loyal to the loyalty programme, as they might consider changing the airline if

the loyalty programme were removed. Price and frequent flyer programs have been identified as key factors in various studies investigating airline choice or loyalty (Dolnicar *et al.*, 2011).

Table 4.7 Loyalty indicators

Loyalty Indicators	%	Count
I intend to choose the last airline for the next trip if the destination is the same	22%	12
I intend to choose the last airline for the next trip if the destination is different	19%	10
Loyal to the loyalty Programme	17%	9
I will not express an opinion on the preferred airline	17%	9
I will recommend the preferred airline when being asked to	15%	8
I will actively recommend the preferred airline	11%	6
	100%	54

4.10 Factors for choosing an airline under different haul time categories

The objective of this section is to identify further factors and rank their relative importance. It will also try to confirm the factors mentioned in the earlier sections that impact service quality, customer satisfaction, perceived price fairness, and behavioural loyalty.

Interviewees were asked to provide factors ranked by importance for selecting an airline for a business trip and a non-business trip separately. It is necessary to draw distinctions between business and leisure travellers when studying the determinants of customer satisfaction and customer loyalty (Jiang and Zhang, 2016). Following Moffitt (2021) 's definitions, both business and non-business trips are sub-divided into four haul times: short-haul (less than three hours flight time), mid-haul (three to six hours flight time), long-haul (six to twelve hours flight time), and ultra-long-haul (more than twelve hours flight time).

From the previous sections, interviewees unveiled many loyalty-related items, such as satisfaction and dissatisfaction factors and the reasons for selecting their last flights. The importance of these items was ranked by the frequency of occurrence from the 23 interviewees' responses. A further step was needed to request each interviewee to disclose the more essential items in their mind. The constant-sum scale, also called the fixed-sum scale, was employed to sort the importance. The constant-sum scale is an effective tool that forces interviewees to decide which items are more important than the others. It is a popular technique for evaluating and quantifying the relative importance of items (Cooper, 2008; Hair, 2011; Sauro, 2018).

Interviewees had a total of ten points to allocate to factors they deemed critical when selecting an airline for each haul time. Many interviewees suggested four factors in a haul time, and less than or more than four factors were allowed. Since all interviewees were free to provide suggestions, one interviewee only suggested factors for short-haul non-business travel. As a result, the total points for the short-haul non-business trip are 230. The total points for other hauls of non-business trips are 220. Only interviewees who had travelled for business purposes were invited to supply the factors for the business trip responses. Ten interviewees have business travel experience and the total points for each haul of a business trip were 100.

4.10.1 Business air travellers

Table 4.8 refers. Flight schedule, safety, and comfort (including a clean and tidy environment) were the three most significant factors for all business trip hauls. Since the majority of interviewees did not need to pay for the air tickets, engaging with

business or meeting business partners on time was essential. Therefore, flight schedule was considered the most critical factor. In addition to meeting the business schedule, safety was the second crucial factor, as Chen, Chang, and Lin (2012) also point out that safety is a priority when travellers select airlines. Interviewees also expected to have a comfortable environment for their stressful business trips.

Flight time, overall service, and ticket price rank sequentially for short-, mid-, and long-haul business trips. Since the trips are not for leisure, interviewees prefer shorter flight times and demand overall quality services. Two interviewees are small private business owners, and they put weight on the ticket price as an important factor.

The loyalty programme was not considered an important factor when the interviewees selected an airline for business trips because a large portion of their companies arrange their flights, and they do not have much choice. Even though a portion of companies allow their employees to select the airlines within a set of criteria and employees can be entitled to the loyalty programme's mileage, they still treat the loyalty programme as a nice-to-have option, rather than a prerequisite of choosing airlines. Nevertheless, they appreciate the chance to earn more mileage on their business trips. On the other hand, one interviewee, an ex-chief financial officer, mentioned that even though their employees had joined loyalty programmes and could earn mileage from their business trips, his company's policy requested employees to convert their mileage into gifts for the luck-draw during his company's annual dinner. He also noted that the company would be willing to drop the mileage from a loyalty programme for a cheaper ticket price. The opinion implies that the

ticket price is vital for corporations and their owners, but not for staff travelling on behalf of their employers.

Table 4.8 Important factors for business air travellers in selecting different haul time flights

Important Factors for Business Air Travellers in Selecting Different Haul Time Flights

Short-haul	%	Points
Flight schedule	25%	25
Safety	14%	14
Comfort (incl. clean and tidy)	10%	10
Flight time	9%	9
Overall service	7%	7
Ticket price	7%	7
Flight frequency	5%	5
Direct flight	5%	5
Brand name	4%	4
On-time	4%	4
Wifi	4%	4
Loyalty programme	3%	3
Movie choices	3%	3
	100%	100

Mid-haul	%	Points
Flight schedule	25%	25
Safety	14%	14
Comfort (incl. clean and tidy)	10%	10
Flight time	9%	9
Overall service	7%	7
Ticket price	7%	7
Flight frequency	5%	5
Direct flight	5%	5
Brand name	4%	4
On-time	4%	4
Wifi	4%	4
Loyalty programme	3%	3
Movie choices	3%	3
	100%	100

Long-haul	%	Points
Flight schedule	22%	22
Safety	16%	16
Comfort (incl. clean and tidy)	12%	12
Flight time	9%	9
Overall service	9%	9
Ticket price	7%	7
Direct flight	5%	5
Brand name	4%	4
On-time	3%	3
Loyalty programme	3%	3
Wifi	3%	3
Flight frequency	3%	3
Movie choices	3%	3
Food and berverage	1%	1
	100%	100

Ultra-long-hual	%	Points
Flight schedule	22%	22
Safety	16%	16
Comfort (incl. clean and tidy)	12%	12
Overall service	10%	10
Flight time	9%	9
Ticket price	7%	7
Direct flight	5%	5
Brand name	4%	4
On-time	3%	3
Wifi	3%	3
Loyalty programme	3%	3
Flight frequency	3%	3
Movie choices	3%	3
	100%	100

4.10.2 Summary of important factors for business trips

Flight schedule, safety, and comfort are the essentials in selecting an airline, while short flight time and quality services are considered important factors. Loyalty programmes are not an important factor when general business travellers select airlines for business trips.

4.10.3 Non-business air travellers

Table 4.9 refers. Ticket price and safety are the two most important factors for selecting all haul-time airlines. As Dolnicar et al. (2011) point out, leisure travellers are strongly influenced by price. For the short and mid-haul trips, interviewees expressed the view that the chance of being involved in an accident is lower than long and ultra-long haul because of shorter flight time. They would instead enjoy lower ticket prices. Nonetheless, the importance gap between these two factors is small. Interviewees are concerned about the flight schedule more than overall services. They concur that short trips usually imply a short flight time. A good flight schedule can offer them more activity time at the destination, while overall service levels are relatively less valuable due to the short flight time.

For the long and ultra-long-haul, interviewees interpret that longer flight time implies higher risk exposure, so safety is their first concern. Ticket price and overall service are equally critical as a longer flight time translates to a higher ticket price and requires more frequent services. The gap between safety and ticket price widened, which means safety was much more critical than it was in short and mid-haul trips. The demand for various kinds of quality services is strong for the long-haul and ultra-long-haul trips. The total percentage of overall service, comfort (seating, clean and tidy) and food and beverage is 33% for the long-haul trips, which is higher than safety (24%). The same item percentage total is 42% for the ultra-long-haul trips, which is higher than the sum of safety and ticket price (38%).

Table 4.9 Important factors for non-business air travellers in selecting different haul time flights

Important Factors for Non-business Air Travellers in Selecting Different Haul Time Flights

Short-haul	%	Points
Ticket price	25%	58
Safety	23%	54
Flight schedule	13%	30
Overall service	6%	13
Flight time	4%	10
Flight frequency	4%	10
Convenient airport location	4%	10
Comfort (incl. clean and tidy)	3%	8
On-time	3%	7
Food and berverage	3%	6
Reliable	2%	5
Brand name	2%	5
Movie choices	1%	3
Good online ticket booth	1%	3
Direct flight	1%	3
Carrier size	1%	3
Value for money	1%	2
	100%	230

Mid-haul	%	Points
Ticket price	22%	49
Safety	22%	48
Flight schedule	13%	29
Overall service	9%	19
Comfort (incl. clean and tidy)	5%	11
Food and berverage	5%	10
Flight time	4%	9
Flight frequency	4%	8
On-time	3%	7
Brand name	2%	5
Reliable	2%	5
Convenient airport location	3%	6
Direct flight	1%	3
Good online ticket booth	1%	3
Carrier size	1%	3
Movie choices	1%	3
Value for money	1%	2
	100%	220

Long-haul	%	Points
Safety	24%	52
Ticket price	16%	35
Overall service	16%	35
Flight schedule	9%	20
Food and berverage	7%	16
Comfort (incl. clean and tidy)	6%	14
Comfort (seating)	4%	9
Flight time	4%	8
Movie choices	2%	5
Brand name	2%	5
Reliable	2%	5
Flight frequency	2%	4
On-time	2%	4
Value for money	1%	3
Carrier size	1%	3
Convenient airport location	1%	2
	100%	220

Ultra-long-hual	%	Points
Safety	23%	51
Ticket price	15%	32
Overall service	15%	32
Comfort (incl. clean and tidy)	14%	31
Food and berverage	7%	15
Comfort (seating)	6%	13
Flight schedule	5%	11
Flight time	5%	10
Brand name	2%	5
Movie choices	2%	4
On-time	2%	4
Value for money	1%	3
Carrier size	1%	3
Reliable	1%	3
Convenient airport location	1%	2
Choics of stop/connection location	0%	1
	100%	220

4.10.4 Summary of important factors for the non-business trips

The longer the flight time, the more significant the safety and various kinds of service factors. The shorter the flight time, the more critical the ticket price and flight

schedule factors. As usual, the ticket price is a valid concern for all haul-time non-business air travellers.

4.11 Grounded theory

In general, service quality has a strong relationship with customer satisfaction. Service quality, customer satisfaction, safety, and ticket price are the main factors by which customers selected their last flight airline.

Due to the unavailability of the destination flight of a specific airline, the preferred airline may not be the same as the interviewee's last flight airline. The interviewees characterise their preferred airline with quality service, reasonable price, and an attractive loyalty programme. However, the travellers may just be loyal to the loyalty programme. The attitudinal loyalty of the interviewees was not vivid, but the behavioural loyalty is robust.

Because of technological advances, especially on the internet and artificial intelligence areas, travellers do not spend much time on person-to-person contact in air travel until they are aboard. Therefore, the in-flight service, which includes the cabin crew services, food and beverages, and entertainment, as well as aircraft tangibles such as a clean and comfortable environment, are crucial to impressing air travellers.

Most of the travellers (21 out of 23 interviewees) purchased air tickets through the internet, either through search engines or directly from the airline. Even though some

of them are loyalty programme members, they still looked for other air ticket information, such as flight schedule, flight frequency, price, and incentives. Safety was another critical factor. All travellers recognise that safety should have the highest priority because no one wants to have an aircraft accident. However, the interpretation of safety is different from person to person. Some allege that all airlines must pass the safety requirements from the regulatory authorities, so the safety level for all airlines is similar. Some observe that certain airlines have worse accident records than others. However, safety is a legitimate concern, especially for long and ultra-long-haul trips.

4.11.1 Business travellers

Flight schedule, safety, comfort, flight time and overall service are valuable factors for business travellers on different haul-time flights. Price is not a significant concern for business travellers unless they are also the owners of their businesses. The flight schedule is the most critical determinant, as they need to complete their business activities within the time constraints. Even though some interviewees can decide the airlines they take within their employers' permitted scope, they still consider the flight schedule first, rather than the mileage they can earn. Besides busy business activities, they would like to enjoy quality service and a comfortable environment.

4.11.2 Non-business air travellers

In contrast, price, safety, flight schedule, overall service and comfort are significant factors in sequence for non-business travellers of various haul-time flights. Young travellers aged 18 to 28 without much air travel experience are variety seekers (Oliver, 2010). They are more willing to try new airlines, so they are not entirely behavioural loyal. Mature travellers, 29 years old or above, have accumulated some

experience with different airlines and are relatively behavioural loyal to their preferred airline. Price is a major concern, especially for interviewees with young families.

4.12 Conclusion of the qualitative data analysis and scales selection

The qualitative data analysis found that the link between quality service and customer satisfaction is strong. Perceived price fairness in terms of value for money has a positive impact on Hong Kong air travellers' purchase decisions. Service quality, especially in terms of in-flight services (personnel related), comfortable environment (aircraft tangibles related), flight schedule, and punctuality (empathy related), and ticket price (image related) are all significant factors in building customers' behavioural loyalty. They are the measures of service quality under the AIRQUAL scales. The adaptation of AIRQUAL scales for gauging service quality matches the grounded theory from this qualitative analysis. The impact of the loyalty programme is not clear in the qualitative analysis because it is a major factor for choosing the last flight and the preferred airline characteristics, but it is not privileged in factors for choosing an airline under different haul times for business and non-business trips. This may result from the limitation of allocating points in the constant sum scales, combined with relatively less mileage earning capacity for non-frequent flyers. The current study will further investigate the matter through the scales of loyalty programme satisfaction and perceived benefits. The results of the qualitative analysis synchronise the rationale of AIRQUAL scale adaptation given in Chapter 2.

4.13 Summary

The chapter starts with the collection of qualitative data. They were collected through 17 telephone and three face-to-face interviews and a 3-person focus group. Service quality, which comprises various service items, is ranked as the most critical factor. The loyalty programme factor also appeared with moderate significance. The interviewees were requested to apply the constant sum method to unveil the essential factors for selecting airlines under different haul-time at the end of the interviews. Flight schedule, safety, and comfort are the most prioritised items for business air travellers. In contrast, ticket price (encompasses the concept of perceived price fairness concept), safety, and flight schedule are the top three factors for non-business air travellers. However, loyalty programme factors did not stand out under the constant sum method, reflecting its relatively less influential nature.

The adaptation of AIRQUAL scales as the measure of overall service is reconfirmed in the grounded theory of this qualitative analysis as many items disclosed by the interviewees are the same as or similar to the AIRQUAL scales. Factors of service quality, customer satisfaction, and perceived price fairness are also evidenced as important factors governing air travellers' behavioural loyalty. The AIRQUAL model and the impacts of service quality, customer satisfaction, and perceived price on air travellers' behavioural intention will be triangulated in the next chapter, which deals with quantitative analysis.

Chapter 5: Quantitative analysis

5.1 Introduction

This chapter utilises a quantitative method to analyse the impact of overall service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies.

The chapter commences with scales adaptation. Then the chapter briefly describes the pilot test result and related enhancements for the main test. The main test in the discussion section is the vital content in this chapter. The discussion section is primarily divided into two parts based on business air travellers' and non-business air travellers' data. The section begins with elaboration and testing of various kinds of validity and reliability of data and constructs, as well as the assumptions of the parametric data and linear regressions, followed by research objectives and research questions. Hypothesis testing of various models comprising the AIRQUAL model, customer satisfaction model, repurchase intention model, and repurchase intention with loyalty programme factors model, and the mediation effect for business and non-business air travellers are presented separately. The chapter concludes with a general model for the behavioural loyalty of Hong Kong business and non-business air travellers.

5.2 Quantitative data analysis

A total of 337 air travellers provided valuable information for the quantitative analysis from August to October 2022. 182 of them had both business and non-business air travel experiences.

The current study utilises the AIRQUAL scale because it is created for measuring the service quality of airlines. AIRQUAL has been validated by various researchers (Jacobson and Martinez, 1974; Robledo, 2001; Chang and Yeh, 2002; Ekiz, Hussain and Bavik, 2006; Nadiri, Hussain, Haktan Ekiz, et al., 2008; Oliver, 2010; Wu and Cheng, 2013; Alotaibi, 2015; Abdel Rady, 2018; Farooq et al., 2018; Fananiar, Widjaja, and Tedjakusuma, 2020; Pascual and Cain, 2021). Furthermore, 15 out of the adapted 20 AIRQUAL scales were revealed by the interviewees in the qualitative data collection process, and the other five have similar characteristics to the qualitative data collected.

In addition to AIRQUAL, scales measure overall service quality, customer satisfaction, perceived price fairness, loyalty programme perceived benefits, loyalty programme satisfaction, and consumer loyalty are also needed. These scales are adapted and validated by diverse academicians (Cronin, Brady, and Hult, 2000; McCollough, Berry, and Yadav, 2000; Chen, 2008; Chen and Chang, 2008; Nadiri, Hussain, Haktan Ekiz, et al., 2008; Brodie, Whittome, and Brush, 2009; Saha and Theingi, 2009; Mimouni-Chaabane and Volle, 2010; Kim et al., 2013; Patterson and Macqueen, 2021). Please refer to Appendix 4 for the survey questionnaire.

5.3 Pilot test

The purpose of the pilot test was to check for any potential issues, such as the questionnaire design, data collection operation, and theoretical framework (Williamson and Johanson, 2013; Kumar, 2014; Adams, 2019).

Minor changes were made in the main test questionnaire, including a change of tense from present tense to past tense in the loyalty programme question of the eligibilities checking section. A reminder was added for the loyalty questions (questions 40 to 45): assuming the airline still exists. A change was made to the wording from “air transportation” to “air travel” in questions 42 and 43 for clarification of passenger, not goods, transportation. An error message was also set to remind participants if they have input the travelling year as 2020 or after.

The pilot test result was encouraging except for the number of latent factors in the overall construct validity, which was due to the small sample size (Iacobucci, 2010; Fugard, and Potts, 2015), and the issue was resolved in the main test.

5.4 Main test

5.4.1 Demographics of the main test participants

A total of 337 air travellers, including 172 males and 165 females, participated in the main test. 208 of them had business travel experience, and 311 of them had non-business travel experience (including participation in an air ticket purchase decision-

making experience). 182 of them had both experiences. Table 5.1 and Table 5.2 show the demographics of business and non-business air travellers separately.

Table 5.1 Business participants' demographics

Age	N	%	**Education**	N	%
18 to 25	30	14.4	Primary School	0	0
26 to 35	41	19.7	Secondary School	35	16.8
36 to 45	38	18.3	Higher Diploma / HKQF Level 4	16	7.7
46 to 55	49	23.6	Bachelor's Degree / HKQF Level 5	97	46.6
56 to 65	42	20.2	Master's degree / HKQF Level 6	48	23.1
66 or above	8	3.8	Doctoral Degree / HKQF Level 7	12	5.8
Total	208	100.0	Total	208	100.0
			Sex: male: 124 (59.6%), female: 84 (40.4%)		

Table 5.2 Non-business participants' demographics

Age	N	%	**Education**	N	%
18 to 25	59	19.0	Primary School	1	.3
26 to 35	69	22.2	Secondary School	58	18.6
36 to 45	48	15.4	Higher Diploma / HKQF Level 4	26	8.4
46 to 55	71	22.8	Bachelor's Degree / HKQF Level 5	146	46.9
56 to 65	58	18.6	Master's degree / HKQF Level 6	67	21.5
66 or above	6	1.9	Doctoral Degree / HKQF Level 7	13	4.2
Total	311	100.0	Total	311	100.0
			Sex: male: 158 (50.8%), female: 153 (49.2%)		

Only 33.8% of Hong Kong residents attended degree level courses (Census and Statistics Department, 2022). Such good interviewee educational backgrounds of business air travellers (75.5% had a bachelor's degree or higher) and non-business air-travellers (72.6% had a bachelor's degree or higher) may indicate a potential bias in sampling, which is a drawback of the snowball sampling method. However, the actual

situation is unknown because Hong Kong air travellers' educational background information is unavailable. A good educational background of air travellers is not uncommon. A study surveyed Hong Kong's air travellers in 2019 and found bachelor's degree holders accounted for 58.8% of its respondents (Chow et al., 2022).

5.4.2 Validity and reliability of data

Validity and reliability ensure the research findings are accurate, credible, and statistically significant. The confirmation of validity and reliability ensures that the right tools collect the right data (Strang, 2015).

Validity

Validity implies the research tools can collect the information the researcher intends to collect. It determines whether the operationalisation of the data-collecting tools adequately reflects the concepts the researcher wants to measure. Validity can be categorised as internal and external validity. Internal validity focuses on whether the measures can collect the data the researcher intends to collect. It comprises content validity, face validity, construct validity, predictive validity, and concurrent validity. Content validity is an issue if the assessment truly samples the intended contents. Face validity probes if the measurements are related to the research subject. Construct validity checks if the measurement really investigates the constructs of the theory under research. Predictive validity investigates whether the measurement will predict future performance. Concurrent validity determines if the measurement truly reflects the current performance. External validity analyses if the results of a sample can be generalised to the population. It can be subdivided into population validity, which assesses to what extent the sample represents the target population, and ecological

validity, which measures if the study findings can still be valid under different environments (Adcock and Collier, 2001; Burns and Burns, 2008; Betancourt *et al.*, 2009; Hair, 2011; Saunders, Lewis, and Thornhill, 2016; Adams, 2019; Bryman, 2019).

Among the validities mentioned above, predictive validity, face validity, content validity, and construct validity gained the most attention from business researchers (Burns and Burns, 2008; Cooper, 2011).

Predictive validity

Predictive validity refers to whether a measurement will predict future performance. The current study investigates the factors impacting Hong Kong business and non-business air travellers' behavioural loyalty to airline companies. It is a research gap as there has not been this kind of study before, so there is no real case to evaluate the predictive validity. The current study utilises well-known scales such as the AIRQUAL scales, which are specially designed for gauging the overall service quality of an airline and are widely tested in other similar studies in North Cyprus, Saudi Arabia, Malaysia, Indonesia, Pakistan, United Kingdom, Germany, France, and the United States of America, (Bari *et al.*, 2001; Ekiz, Hussain, and Bavik, 2006; Nadiri, Hussain, Haktan Ekiz, *et al.*, 2008; Ali, Dey, and Filieri, 2015; Alotaibi, 2015; Farooq *et al.*, 2018; Nedunchezhian and Thirunavukkarasu, 2018; Monoarfa, Usman, and Tausyanah, 2020; Izwan *et al.*, 2021). Since AIRQUAL only measures the factors that contribute to service quality provided by airlines, this study also adopts the scales for probing overall service quality, customer satisfaction, perceived price fairness, perceived loyalty programme benefits, the satisfaction of loyalty programmes, and

consumer behavioural loyalty from other studies (Cronin, Brady and Hult, 2000; McCollough, Berry and Yadav, 2000; Chen, 2008; Nadiri, Hussain, Haktan Ekiz, et al., 2008; Brodie, Whittome, and Brush, 2009; Saha and Theingi, 2009; Mimouni-Chaabane and Volle, 2010; Kim et al., 2013). These scales have been revalidated by Kim et al. (2013) and Hapsari, Clemes, and Dean (2017). The predictive validity is believed to be sound.

Face validity

Face validity probes if the measurements appear to reflect the content of the concept under study (Burns and Burns, 2008; Hair, 2011; Bryman and Bell, 2015). The primary constructs of the current study are AIRQUAL, service quality, customer satisfaction, perceived price fairness, and behavioural loyalty in the context of Hong Kong with the contents of business and non-business air travellers. All scales are adapted from various studies of the airline industry. Most importantly, they have been tested and validated; their face validities appear to be good.

Content validity

Content validity investigates if a measurement really samples the universe of all relevant items under study (Burns and Burns, 2008; Cooper, 2011; Adams, 2019). The contents of the current study are the business and non-business air travellers in Hong Kong. Participants need to fulfil the eligibility requirements for participation in the survey. The research method is simple and direct and there is no issue with content validity.

Construct validity

Construct validity assesses how well measurements gauge the variability of constructs of the underlying concept or theory (Burns and Burns, 2008; Cooper, 2011; Hair, 2011; Bryman and Bell, 2015; Saunders, Lewis, and Thornhill, 2016). However, some underlying factors may not be observable. Latent factors are one such case, but can be detected by statistical measures, such as inter-item correlations. Scales or items probing for similar underlying factors should have high inter-item correlations, which is an indication of convergent validity. Scales or items probing for the different underlying factors should have low inter-item correlations, which is an indication of discriminant validity (Burns and Burns, 2008; Cooper, 2011; Hair, 2011; Bryman and Bell, 2015; Adams, 2019).

5.4.3 Factor Analysis

Factor analysis is a widely applied method to check convergent and discriminant validities, which ensures construct validity. There are two types of factor analysis: explanatory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA is explanatory in nature. It aims to reduce the number of variables into a manageable set of scales (Moore, 2012). CFA aims to confirm if the factors or constructs perform as predicted by the theoretical model under research through regression analysis (Gaag *et al.*, 2006; Burns and Burns, 2008). Although the principles of EFA are sound, an operationalised method is needed to implement the task. Principal Component Analysis is one of the solutions. It employs a statistical method to achieve the purpose of the EFA. The PCA in SPSS is based on eigenvalues to select factors. The eigenvalue is the amount of common variance a factor explains. It represents the number of variables (scales) explained by a factor. Since a valid factor should at least

represent a variable, only factors with an eigenvalue greater than 1 are considered valid factors. This is known as Kaiser's rule (Bryman and Cramer, 2004; Burns and Burns, 2008). To maximise the differences among variables to enhance the discriminant validity, i.e. increase the loading of highly-loaded variables and decrease the loading of lowly-loaded variables, the varimax rotation, a widely used form of orthogonal rotation (Bryman and Cramer, 2004; Burns and Burns, 2008), is adopted.

Validity test for combined constructs

To check the discriminant and convergent validity of constructs, checking the constructs of dependent variables and independent variables was necessary. The SPSS v28 is employed for Principal Component Analysis with varimax rotation and extracting eigenvalues of 1 or higher; a loading value of less than 0.3 was ignored. There are two groups of independent variables. The AIRQUAL model's independent variables include airline tangibles, personnel, empathy and image, and the behavioural model and loyalty programme's independent variables comprise customer satisfaction, perceived price fairness and loyalty programme. The dependent variable group is composed of overall service quality and repurchase intention. This dependent-independent validity checking categorization is adapted from Khuong (2014).

The AIRQUAL model of both business and non-business air travellers has four constructs; airline tangibles, personnel, empathy, and image. Four latent factors were found by the SPSS factor analysis with the same construct's scales primarily converging in the same latent factor column despite the presence of some cross-loading situations. The major cross-loading values are shown in the following Table 5.3 and Table 5.4.

Table 5.3 Rotated component matrix - AIRQUAL (business air travellers)

Rotated Component Matrix

AIRQUAL (business air travellers)	Component 1	2	3	4
Airline tangibles				
The aircraft is clean and modern-looking	.701			
Quality of catering served on the plane	.758			
Cleanliness of the plane toilets	.719			
Cleanliness of the plane seats	.767			
The comfort of the plane seats	.740			
Quality of air-conditioning in the planes	.627			
Personnel				
Employees' general attitude		.571		
Whether airline personnel gave exact answers to my questions		.772		
Whether personnel showed personal care equally to everyone		.774		
Employees had the knowledge to answer your questions		.785		
The empathy of the airline personnel		.632		
Awareness of airline personnel of their duties		.623		
Error-free reservations and ticketing transaction		.382	.545	
Empathy				
Punctuality of the departures and arrivals			.670	
Compensation schemes in case of loss or hazards			.564	
Care paid to passengers' luggage			.727	
Number of flights to satisfy passengers' demands			.714	
Image				
Availability of low-price ticket offerings				.877
Consistency of ticket prices with given service				.677
Image of the airline company	.524			.330

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

Table 5.4 Rotated component matrix - AIRQUAL (non-business air travellers)

AIRQUAL (Non-business air travellers)	Component 1	2	3	4
Airline tangibles				
The aircraft is clean and modern-looking		.768		
Quality of catering served on the plane		.763		
Cleanliness of the plane toilets		.764		
Cleanliness of the plane seats		.810		
The comfort of the plane seats		.798		
Quality of air-conditioning in the planes		.747		
Personnel				
Employees' general attitude	.722			
Whether airline personnel gave exact answers to my questions	.771			
Whether personnel showed personal care equally to everyone	.752			
Employees had the knowledge to answer your questions	.749			
The empathy of the airline personnel	.765			
Awareness of airline personnel of their duties	.758			
Error-free reservations and ticketing transaction	.544			
Empathy				
Punctuality of the departures and arrivals			.749	
Compensation schemes in case of loss or hazards			.782	
Care paid to passengers' luggage			.691	
Number of flights to satisfy passengers' demands			.728	
Image				
Availability of low-price ticket offerings				.897
Consistency of ticket prices with given service				.749
Image of the airline company	.419	.444		.389

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

The behavioural model and loyalty programme independent variables comprise customer satisfaction, perceived price fairness, and loyalty programme. They behaved well, as shown in the following Table 5.5 and Table 5.6, although some cross-loading cases were found.

Table 5.5 Rotated component matrix - customer satisfaction, perceived price fairness, loyalty programme (business air travellers)

	Component		
	1	2	3
Customer satisfaction			
I had a satisfying experience flying with this airline		.775	
I did the right thing when I chose to fly with this airline		.789	
I normally have a pleasant flight with this airline		.784	
Overall, this airline provides a very satisfying experience		.862	
Loyalty programme			
I saved money			.795
I discovered new destinations (products)			.834
I was treated better than other customers	.462		.493
The advantages I received, being a member of this programme met my expectation	.633		.454
All in all, I was satisfied with this program	.607		.455
Perceived price fairness			
Considering the ticket price I paid for the airline, I believe that the airline offers excellent services	.788		
Compared to what I have given up (including money, energy, time, and effort), the overall service of this airline is excellent	.816		
Overall, this airline offers good value for money	.766		
Overall, this airline's services and goods are valuable	.756		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 5.6 Rotated component matrix - customer satisfaction, perceived price fairness, loyalty programme (non-business air travellers)

	Component		
	1	2	3
Customer satisfaction			
I had a satisfying experience flying with this airline	.827		
I did the right thing when I chose to fly with this airline	.807		
I normally have a pleasant flight with this airline	.850		
Overall, this airline provides a very satisfying experience	.876		
Loyalty programme			
I saved money		.620	.414
I discovered new destinations (products)		.687	.443
I was treated better than other customers		.824	
The advantages I received being a member of this programme met my expectation		.853	
All in all, I was satisfied with this program		.847	
Perceived price fairness			
Considering the ticket price I paid for the airline, I believe that the airline offers excellent services			.819
Compared to what I have given up (including money, energy, time, and effort), the overall service of this airline is excellent			.736
Overall, this airline offers good value for money			.764
Overall, this airline's services and goods are valuable	.625		.545

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

The independent variables group include the scales from overall service quality and repurchase intention. All scale loadings, as shown in Table 5.7 and Table 5.8, accurately align to their own latent factor column.

Table 5.7 Rotated component matrix - overall service quality and consumer loyalty-repurchase intention (business air travellers)

	Component	
	1	2
Overall service quality		
The staff of this airline deliver superior services	.687	
Overall, the in-flight facilities in this airline are excellent	.764	
This airline has convenient reservation and ticketing systems	.743	
This airline offers an excellent security system	.790	
I feel safe when I fly with this airline	.695	
This airline offers excellent baggage handling services	.758	
Consumer Loyalty-Repurchase Intention		
I consider this airline company my first choice for air transportation		.846
I will consider this airline company more for air travel in the next few years		.850
I intend to fly with this airline again in the future		.834
Overall, given the other choices of airline companies, I will remain flying with this airline		.851

Table 5.8 Rotated component matrix - overall service quality and consumer loyalty-repurchase intention (non-business air travellers)

	Component	
	1	2
Overall service quality		
The staff of this airline deliver superior services	.749	
Overall, the in-flight facilities in this airline are excellent	.783	
This airline has convenient reservation and ticketing systems	.723	
This airline offers an excellent security system	.833	
I feel safe when I fly with this airline	.763	
This airline offers excellent baggage handling services	.770	
Consumer Loyalty-Repurchase Intention		
I consider this airline company my first choice for air transportation		.837
I will consider this airline company more for air travel in the next few years		.864
I intend to fly with this airline again in the future		.854
Overall, given the other choices of airline companies, I will remain flying with this airline		.858

There are five cross-loading scales with higher loadings under alternative factors instead of the designed factors. They are “Error-free reservations and ticketing transactions” under the personnel factor of Table 5.3. “The advantages I received, being a member of this program met my expectation” and “All in all, I was satisfied with this program” under the loyalty programme factor of Table 5.5, and “Overall, this airline’s services and goods are valuable” under the perceived price fairness factor of Table 5.6. However, these four cases happen in either the business air travellers or non-business air travellers categories but not both. Theoretically, it may not be sound that one scale is under a particular factor in the business air travellers category, while the same scale is under another factor in the non-business air travellers category. For example, the “All in all, I was satisfied with this [loyalty] program” is entirely under the loyalty programme factor in the non-business air travellers category, while it has a higher loading under the perceived price fairness factor than in the originally designed loyalty programme factor in the business air travellers category. The theoretical consideration is crucial in selecting the underlying factor in the factor analysis (Costello and Osborne, 2005; Howard, 2016). In addition, the minimum loading of these four scales under the original AIRQUAL factors is 0.382, which is greater than the cut-off loading level of 0.3 adopted by Costello and Osborne (2005) and 0.32 suggested by Tabachnick (2007). It is better to keep these four scales under the originally designed factors. The fifth scale, “Image of the airline company”, under the image factor, has higher loadings under air tangibles and personnel factors in both business and non-business air travellers categories (Table 5.3 and Table 5.4). But it is preferable to keep it under the image factor as the scale is directly asking about the airline company's image. The selection of factors should also

consider the interpretability of the factor (Suhr, 2006). In addition, the largest difference between the loading values of the designed factor scales and the alternative factor scales is 0.194, which is less than the requirement of 0.2 to reject the original factor proposed by Howard (2016).

As alleged by Gaag et al. (2006), some items are influenced by more than one dimension, double and triple loadings may not point to a diffuse item but to a complex model of causation. Furthermore, the result will be more vivid if the data is strong, which means uniformly high communalities without cross-loadings (Costello and Osborne, 2005). But this is not the usual case in social science. For example, there are high cross-loadings between customer satisfaction and overall service quality, attitudinal and behavioural loyalty. Furthermore, the source of information is another consideration. If the source is diversified, then a lower cutoff of loading size should be applied (Tabachnick, 2007).

Overall, the combined construct validity is satisfactory despite the presence of some cross-loading situations. The cross-loading situations may be caused by the nature of the data, the small sample size, similar concepts, heterogeneity of the source of information, or the scales that share the loadings (Costello and Osborne, 2005; Gaag *et al.*, 2006; Howard, 2016).

Validity test for individual constructs

The SPSS v28 is used for Principal Component Analysis with varimax rotation and extracting the eigenvalue of 1 or higher. The criteria are: 1) the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is greater than or equal to 0.5; 2) Bartlett's

Test of Sphericity is at least significant at 0.05 level, and the number of latent factors is one because the individual constructs are being tested (Tabachnick, 2007; Burns and Burns, 2008; Collis and Hussey, 2014). The significance of Bartlett's Test of Sphericity test means the variables under the test correlate to one another, which is a good characteristic for variables under the same latent factor (Burns and Burns, 2008).

Table 5.9 and Table 5.10 show the results of the test of the validity of individual constructs of both business and non-business air travellers. All constructs' categories are satisfactory except for the Loyalty Programme Satisfaction constructs, which have a KMO value of 0.50 and are considered marginally acceptable. A lack of sphericity could have led to the erroneous acceptance of the F-test (Armstrong, 2017).

Table 5.9 Individual constructs validity (business air travellers)

Business air travellers	No. of scales	N	KMO	Bartlett's Test of Sphericity Sign. level	No. of latent factor(s)
AIRQUAL constructs					
Airline tangibles	6	208	.864	<0.001	1
Personnel	7	208	.901	<0.001	1
Empathy	4	208	.754	<0.001	1
Image	3	208	.610	<0.001	1
Other constructs					
Overall service quality	6	208	.890	<0.001	1
Customer satisfaction	4	208	.808	<0.001	1
Perceived price fairness	4	208	.813	<0.001	1
Behavioural behaviour	4	208	.829	<0.001	1
Loyalty programme – perceived benefit	3	142	.640	<0.001	1
Loyalty programme – satisfaction	2	142	.500	<0.001	1

Table 5.10 Individual constructs validity (non-business air travellers)

Non-business air travellers	No. of scales	N	KMO	Bartlett's Test of Sphericity Sign. level	No. of latent factor(s)
AIRQUAL constructs					
Airline tangibles	6	311	.902	<0.001	1
Personnel	7	311	.927	0.000	1
Empathy	4	311	.814	<0.001	1
Image	3	311	.604	<0.001	1
Other constructs					
Overall service quality	6	311	.914	<0.001	1
Customer satisfaction	4	311	.831	<0.001	1
Perceived price fairness	4	311	.806	<0.001	1
Behavioural behaviour	4	311	.858	<0.001	1
Loyalty programme – perceived benefit	3	203	.676	<0.001	1
Loyalty programme – satisfaction	2	203	.500	<0.001	1

Reliability

Reliability is to gauge how consistent is the information-collecting instrument in producing the measured result if the data collection proceeds again for different samples or in different timings or environments (Betancourt *et al.*, 2009; Saunders, Lewis and Thornhill, 2016; Bryman, 2019). In other words, how stable the measures are over time or the degree to which a study can be replicated (Bryman and Bell, 2015). A measure is considered reliable if the instrument can produce the same result every time in the same situation. Reliability is only a sufficient condition but not a necessary condition for validity (Strang, 2015). For example, if a weight scale consistently overweighs a litre of water by 0.1 kg, it is reliable, but it is not a valid measure.

Reliability is influenced by many factors. The length of the assessment instrument and the scoring objectivity are popular examples (Burns and Burns, 2008). Cronbach's alpha is a common measure of internal reliability. Burns and Burns (2008) and

Bryman and Bell (2015) postulate that a level higher than 0.7 is acceptable and higher than 0.8 is excellent.

Table 5.11 shows the reliabilities of all the scales adapted in the current study. Most of the scales are significantly reliable as their Cronbach's Alphas are significantly higher than the required 0.7, and the majority are higher than 0.8. The individual construct's Cronbach's Alpha will improve by less than 0.03 if one of the scales is deleted in the asterisked constructs. Considering the improvement is insignificant, the original set of scales will be adopted without adjustment.

Table 5.11 Constructs reliability

		Business air travellers		Non-business air travellers	
Reliability of constructs	No. of scales	N	Highest Cronbach's Alpha Achieved	N	Highest Cronbach's Alpha Achieved
No. of questions before deletion					
AIRQUAL constructs					
Airline tangibles	6	208	.872	311	.923
Personnel	7	208	.878*	311	.930*
Empathy	4	208	.769	311	.837
Image	3	208	.721	311	.741*
Other constructs					
Overall service quality	6	208	.879	311	.912
Customer satisfaction	4	208	.887	311	.907
Perceived price fairness	4	208	.886	311	.891
Behavioural behaviour	4	208	.917	311	.939
Loyalty programme – perceived benefit	3	142	.716*	203	.789
Loyalty programme – satisfaction	2	142	.855	203	.902

* Insignificant improvement of less than 0.03 increase in Cronbach's Alpha will result if one of the scales in the construct is deleted.

Summary of the validity and reliability section

From the above validity and reliability sections, the scales' combined and individual convergent and discriminant validity, as well as their reliability, are satisfactory. Since all the scales in the current study are adapted from various studies, their validity and reliability have been validated.

5.4.4 Data analysis

Composite score

After affirming the number of constructs and related scales, composite constructs will be developed for further data analysis. A construct composite represents all the scales under the same construct (Polonsky and Waller, 2015). Many approaches are available for developing composite constructs; the most popular method is to take an average of all the scale scores under the same construct (Burns and Burns, 2008). The current study utilises this averaging method. Table 5.12 shows the summary statistics for the composite scores.

Table 5.12 Descriptive statistics of business and non-business air travellers composites

	Business air travellers			Non-business air travellers		
	N	Mean	SD	N	Mean	SD
Airline tangibles	208	4.03	0.57	311	3.84	0.65
Personnel	208	4.12	0.53	311	3.96	0.63
Empathy	208	3.91	0.58	311	3.79	0.64
Image	208	3.80	0.65	311	3.88	0.64
Overall service quality	208	4.03	0.53	311	3.89	0.63
Customer satisfaction	208	4.10	0.58	311	3.99	0.63
Perceived price fairness	208	3.84	0.61	311	3.79	0.65
Customer loyalty-repurchase intention	208	3.92	0.75	311	3.82	0.72
Loyalty programme perceived benefits	142	3.48	0.71	203	3.46	0.75
Loyalty programme satisfaction	142	3.80	0.70	203	3.62	0.80

Since not every air traveller is a loyalty programme member, the number of samples in the loyalty programme-related constructs is fewer than in the others.

Nature of tests

Parametric tests and nonparametric tests are the two kinds of significance tests. Parametric tests are primarily applied for continuous data, and nonparametric tests are mainly used with nominal and ordinal data. Parametric tests have more strict requirements: the observations must be independent, a participant's choice will not affect other participants' choices; the observations must be drawn from populations which are normally distributed; these populations' variances are the same; and the scales should be at least interval (Cooper, 2011). The data collected in the current study meet the requirements of the parametric tests. Linear regression analysis and related significant tests belong to the parametric tests, and these analyses and tests form the essential analytical tools in the current study.

Assumptions of multiple/simple linear regressions

The assumptions of simple/multiple linear regression are that the dependent variable must be a continuous quantitative variable. The composite constructs in the current study fulfil this requirement. There is no perfect multicollinearity between the independent variables, i.e., the Pearson correlation coefficient should not be higher than 0.9 for multiple linear regression (no multicollinearity). The residuals are uncorrelated, i.e. no autocorrelation (independence), normally distributed (normality), and the variance of residual is the same for any value of the independent variable (homoscedasticity). The relationship between the dependent variable and each of the

independent variables is linear (linearity) (Burns and Burns, 2008; Cooper, 2011; Collis and Hussey, 2014).

Correlations between variables

The correlation coefficient reveals the relationship between two quantitative variables, especially the movement directions and strength of any linear association between them. However, it only describes a relationship between the two variables, not causality (Weiers, 2005; Field, 2013).

Before starting any tests or regressions, a researcher needs to have a prime idea of how closely related the variables under the study are. If they do not correlate at all, the researcher should have second thoughts about the models and underlying theoretical framework. It is expected that variables have a high Pearson correlation coefficient, notably for those measuring similar constructs (Weiers, 2005; Cooper, 2011).

The correlations between variables for the business and non-business travellers' categories are satisfactory, as disclosed in Table 5.13 and

Table 5.14. For the variables in the business air travellers category, the Pearson correlations range from 0.356 to 0.809 with an average of 0.562, which is a medium level of correlation (Collis and Hussey, 2014). For the variables in the non-business air travellers category, the Pearson correlations range from 0.321 to 0.846 with an average of 0.556, which is also a medium level of correlation. It is observed that loyalty programme-related variables have relatively low correlation coefficients with other variables in both business and non-business air travellers categories. If they are excluded from the calculation of average correlation, the correlations are stronger.

It is evidenced that the two categories of variables are highly significant and are suitable for further investigation.

Table 5.13 Business air travellers: variables Pearson correlation coefficient

Business air travellers	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
Airline Tangibles (V1)	1.000									
Personnel (V2)	.602**	1.000								
Empathy (V3)	.566**	.642**	1.000							
Image (V4)	.571**	.593**	.526**	1.000						
Overall Service Quality (V5)	.722**	.709**	.680**	.744**	1.000					
Customer Satisfaction (V6)	.682**	.701**	.586**	.655**	.809**	1.000				
Loyalty Programme Perceived Benefits (V7)	.380**	.374**	.368**	.490**	.406**	.356**	1.000			
Loyalty Programme Satisfaction (V8)	.418**	.480**	.367**	.463**	.548**	.473**	.618**	1.000		
Perceived Price Fairness (V9)	.493**	.575**	.463**	.636**	.658**	.629**	.572**	.677**	1.000	
Consumer Loyalty-Repurchase Intention (V10)	.509**	.510**	.446**	.573**	.628**	.687**	.457**	.486**	.668**	1.000

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

Table 5.14 Non-business air travellers: variables Pearson correlation coefficient

Non-business air travellers	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
Airline Tangibles (V1)	1.000									
Personnel (V2)	.699**	1.000								
Empathy (V3)	.551**	.652**	1.000							
Image (V4)	.483**	.616**	.517**	1.000						
Overall Service Quality (V5)	.763**	.772**	.639**	.610**	1.000					
Customer Satisfaction (V6)	.720**	.749**	.611**	.557**	.846**	1.000				
Loyalty Programme Perceived Benefits (V7)	.321**	.325**	.342**	.420**	.422**	.389**	1.000			
Loyalty Programme Satisfaction (V8)	.333**	.343**	.465**	.403**	.445**	.428**	.722**	1.000		
Perceived Price Fairness (V9)	.559**	.604**	.492**	.620**	.670**	.663**	.574**	.524**	1.000	
Consumer Loyalty-Repurchase Intention (V10)	.589**	.592**	.424**	.543**	.698**	.717**	.482**	.490**	.626**	1.000

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

Planning of the linear regressions

The following information in this section applies to both business and non-business travellers' categories.

The general model of linear simple/multiple regression is:

Dependent variable = β0 + β1 Independent variable 1 + β2 Independent variable 2 + β3 Independent variable 3 + … + e

β0 is the intercept or the constant of the regression model;

β1 to βN are the regression coefficients; N is the number of independent variables

e is the residual term.

The current study adapts AIRQUAL scales to measure the overall service quality of an airline. A multiple linear regression is needed to verify if AIRQUAL is a valid model for Hong Kong air travellers despite various studies having validated the model.

The AIRQUAL model is:

- Overall service quality = β0 + β1 Airline tangibles + β2 Personnel + β3 Empath + β4 Image + e

After validating the overall service quality, a simple linear regression will test the relationship between the dependent variable, customer satisfaction, and the independent variable, overall service quality.

The customer satisfaction model is:

- Customer satisfaction = β0 + β1 Overall service quality + e

The second multiple linear regression tests the relationship between the dependent variable, repurchase intention, and the independent variables, namely overall service quality, customer satisfaction, and perceived price fairness.

The repurchase intention model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + e

In addition, other related variables, the perceived benefits of the loyalty programme and the customer satisfaction derived from the loyalty programme, will also be

explored to examine the impact on behavioural repurchase intention because they are popular topics in airline industry research.

The repurchase intention with the loyalty programme factors model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + β4 Loyalty programme-perceived benefits + β5 Loyalty programme-customer satisfaction + e

5.4.5 Validation of linear regression assumptions

Check for normality

The inspection for normality can be assessed graphically through the predicted probability plot (P-P plot) of the regression standardised residual. The dots in the P-P plot should be close to the straight diagonal line to show normality (Burns and Burns, 2008; Bajpai, 2009). Please refer to Appendix 7 for the 8 P-P plots of all regression models. Most dots are close enough to the straight diagonal line in each plot; the normality in each model is observed.

Since the current study also applies parametric tests, i.e., significant tests, not a regression analysis, for the existence of the behavioural loyalty of Hong Kong business and non-business air travellers, verifying the normality of individual variables is mandatory.

Without involving regression models, another more formal way to check the normality is to examine the kurtosis and skewness of the data. Regarding a normal

distribution, kurtosis measures whether the data are peaked or flat, while skewness inspects if the data lack symmetry (National Institute of Standards and Technology, 2012). The acceptable range of kurtosis is between -10 to +10, while the acceptable range for skewness is -3 to +3 for normally distributed data (Griffin and Steinbrecher, 2013).

For business air travellers, Table 5.15 below shows that the range of skewness is from -0.437 to 0.227, and kurtosis is from -0.394 to 0.430. For non-business air travellers, Table 5.16 below shows that the range of skewness is from -0.114 to -0.677, and kurtosis is from -0.268 to 1.542. They are considered normally distributed.

Table 5.15 Skewness and Kurtosis of business air travellers

Business air travellers	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Airline Tangibles	208	-.002	.169	-.335	.336
Personnel	208	-.061	.169	-.394	.336
Empathy	208	-.156	.169	-.051	.336
Image	208	.042	.169	-.359	.336
Overall Service Quality	208	.157	.169	-.384	.336
Customer Satisfaction	208	-.243	.169	.296	.336
Loyalty Programme Perceived Benefits	142	.227	.203	-.208	.404
Loyalty Programme Satisfaction	142	-.277	.203	-.030	.404
Perceived Price Fairness	208	-.072	.169	-.263	.336
Consumer Loyalty-Repurchase Intention	208	-.437	.169	.430	.336

Table 5.16 Skewness and Kurtosis of non-business air travellers

Non-Business Travellers	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Airline Tangibles	311	-.114	.138	-.268	.276
Personnel	311	-.453	.138	1.362	.276
Empathy	311	-.258	.138	1.030	.276
Image	311	-.510	.138	1.542	.276
Overall Service Quality	311	-.263	.138	.432	.276
Customer Satisfaction	311	-.125	.138	-.226	.276
Loyalty Programme Perceived Benefits	203	-.415	.171	1.004	.340
Loyalty Programme Satisfaction	203	-.677	.171	1.517	.340
Perceived Price Fairness	311	-.190	.138	.073	.276
Consumer Loyalty-Repurchase Intention	311	-.219	.138	.042	.276

Check for homoscedasticity

The homoscedasticity can be checked through the scatterplot of regression standardised residual and regression standardised predicted value. The distribution of the residual should have no specific pattern (Burns and Burns, 2008; Bajpai, 2009).

Refer to Appendix 8: scatterplots of all regression models. From the eight scatterplots, the standardised residuals have a mean of 0, as depicted by the horizontal lines. Despite a few outliers, no conspicuous pattern was observed for the distribution of the standardised residuals between the value of -2 to + 2. The homoscedasticity assumption for all models of business and non-business air travellers below is confirmed.

Check for linearity

The linearity between the dependent variable and each independent variable can be visualised through the dependent variable and the independent variable scatters plot. It

also can be verified if the distribution of the residuals is normal and fulfils the homoscedasticity (Burns and Burns, 2008). Due to the fulfilments of the normality and homoscedasticity having been confirmed, the linearity between the dependent variables and independent variables in all the models mentioned in the previous discussion is validated.

Check for autocorrelation

Although the current study is not a time-series analysis, it is safe to check the Durbin-Watson statistic, which is a test designed to check the autocorrelation or serial correlation. Autocorrelation implies that the value of the dependent variable (at period t) depends on the previous value of that dependent variable (at period t-1). The Durbin-Watson statistic ranges from 0 to 4; the acceptable range of the Durbin-Watson stat is between 1 and 3. Close to zero indicates a positive autocorrelation, while close to 4 indicates a negative autocorrelation (Saunders, Lewis, and Thornhill, 2016).

As per Table 5.17, all models do not have an autocorrelation problem. Most of the models' Durbin-Watson stats are close to 2, which is within the acceptable range.

Table 5.17 Check for autocorrelation: Durbin-Watson statistic

Regression models	Durbin-Watson	
	Business air travellers	Non-business air travellers
AIRQUAL	1.956	1.913
Customer satisfaction model	2.128	2.013
Repurchase intention model	2.156	2.040
Repurchase intention model with loyalty programme factors	2.133	2.023

Check for multicollinearity

The multicollinearity can be inspected by the correlation coefficient matrix or formally by the Variance Inflation Factor (VIF) and Tolerance level. The VIF is based on the R square, the percentage of the dependent variable explained by the independent variable. However, the VIF model only includes all independent variables of the original model and chooses one independent variable as the dependent variable to run the multiple linear regression (Lakens, 2013). For example, in the AIRQUAL model, the dependent variable, overall airline service quality, is ignored. The VIF of airline tangibles is the $1/(1-R^2)$ of multiple linear regression, in which airline tangibles is the dependent variable while personnel, empathy, and image are the independent variables. Tolerance is an indicator of the amount of variability of a particular independent not explained by the other independent variables. The formula is $1-R^2$, which is the inverse of VIF (Pallant, 2013). The VIF should be less than 10, while the Tolerance level should be greater than 0.1 (Burns and Burns, 2008).

After examining the statistics of Table 5.18, there is no multicollinearity in all models, as both their Tolerance and VIF are within the acceptable ranges.

Table 5.18 Collinearity statistics for all models

Summary of collinearity statistics for all models	Business air travellers		Non-business air travellers	
	Tolerance	VIF	Tolerance	VIF
AIRQUAL	0.462 to 0.563	1.776 to 2.163	0.360 to 0.595	1.680 to 2.778
Customer satisfaction model *a simple regression model	N. A. *	N. A. *	N. A. *	N. A. *
Repurchase intention model	0.308 to 0.540	1.852 to 3.246	0.263 to 0.519	1.928 to 3.797
Repurchase intention with loyalty programme factors model	0.293 to 0.575	1.741 to 3.409	0.242 to 0.450	2.222 to 4.140

At this point, all the assumptions of the quantitative variables, parametric tests and regression models have been verified. The next step is to analyse the data.

5.5 Discussion

5.5.1 Hypothesis testing for the existence of behavioural loyalty

Please refer to sections 1.8 and 1.9 for research objectives and their relationships with the research questions. To answer research question one: Does the behavioural loyalty of Hong Kong business and non-business travellers exist? A hypothesis testing whether the repurchase intention exists in Hong Kong business and non-business travellers is needed. Due to the set-up of the survey questionnaire, which comprises a 5-point Likert scale with a neutral value of 3, the correct hypothesis is if the mean of

the repurchase intention is greater than 3. If the mean is less than 3, the customers dislike the airline company.

H0: μ of repurchase intention ≤ 3

H1: μ of repurchase intention > 3

In this study, H0 denotes the null hypothesis, H1 represents the alternative hypothesis, and μ refers to the population mean.

The t distribution is the proper basis for deciding the standardized test statistic if the distribution of the sample mean is normal but the population mean is unknown (Kazmier, 2003). One sample t-test is employed to test the null hypothesis if the mean of a specific sample differs from the mean of the population or particular value only by chance (Black, 2012; Berenson, 2020). It is a parametric test. Since all composites in this study have been verified eligible for the parametric test, a one-tailed (or one-sided) one-sample t-test with 95% of significance level is utilised.

To answer research question two: how significant is behavioural loyalty for these air travellers? A measure of the effect size, Cohen's d, is employed to evaluate the degree of the existence of behavioural loyalty. It can be applied to probe for the effect size of a one-sample t-test (Lakens, 2013). For Cohen's d value, the effect size is considered small if the value is between 0.2 to 0.5, medium if the value is between 0.5 to 0.8, large if the value is between 0.8 to 1.2, and very large if the value is greater than 1.2 (Lakens, 2013; Peng and Chen, 2014; Bowring *et al.*, 2021).

5.5.2 For business air travellers

From Table 5.19 to Table 5.21 below, the sample mean of the repurchase intention is 3.918, which is higher than the neutral value of 3; the standard deviation is 0.747, and the p-value for the one-tailed and two-tailed test is less than 0.001. Therefore, the null hypothesis is rejected. It implies the mean of the repurchase intention is significantly greater than 3. Business air travellers' behavioural loyalty does exist. Cohen's d value of 0.747 indicates the effect size is medium and the degree of behavioural loyalty is intermediate.

Table 5.19 Business air travellers: descriptive statistics for repurchase intention

One-sample statistics	N	Mean	Std. Deviation	Std. Error Mean
Consumer Loyalty-Repurchase Intention	208	3.918	.747	.051

Table 5.20 Business air travellers: one-sample t-test for repurchase intention

One-sample test							
			Significance			95% Confidence Interval of the Difference	
Test Value = 3	t	df	One-Sided p	Two-Sided p	Mean Difference	Lower	Upper
Consumer Loyalty-Repurchase Intention	17.721	207	<.001	<.001	.918	.81611	1.020

Table 5.21 Business air travellers: effect size for repurchase intention

			90% Confidence Interval	
Cohen's d	Standardizer	Point Estimate	Lower	Upper
Consumer Loyalty-Repurchase Intention	.747	1.229	1.048	1.408

5.5.3 For non-business travellers

For Table 5.22 to Table 5.24, the sample mean of the repurchase intention is 3.819; the standard deviation is 0.722, and the p-value for the one-tailed and two-tailed tests is less than 0.001. Therefore, the null hypothesis is rejected. It implies the mean of the repurchase intention is significantly greater than 3. Behavioural loyalty of non-business travellers does exist. Cohen's d value of 0.722 indicates the effect size and the degree of behavioural loyalty is intermediate.

Table 5.22 Non-business air travellers: descriptive statistics for repurchase intention

One-sample statistics	N	Mean	Std. Deviation	Std. Error Mean
Consumer Loyalty-Repurchase Intention	311	3.819	.722	.041

Table 5.23 Non-business air travellers: one-sample t-test for repurchase intention

One-sample test							
			Significance			95% Confidence Interval of the Difference	
Test Value = 3	t	df	One-Sided p	Two-Sided p	Mean Difference	Lower	Upper
Consumer Loyalty-Repurchase Intention	20.005	310	<.001	<.001	.819	.739	.900

Table 5.24 Non-business air travellers: effect size for repurchase intention

			90% Confidence Interval	
Cohen's d	Standardizer	Point Estimate	Lower	Upper
Consumer Loyalty-Repurchase Intention	.722	1.134	0.991	1.276

5.5.4 Hypothesis testing for the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business air travellers

For the betterment of the presentation of this section, the following consolidated tables were prepared.

Table 5.25 Business air travellers: ANOVA tables for various models

Business Air Travellers		Sum of Squares	df	Mean Square	F	Sig.
AIRQUAL Model	Regression	43.005	4	10.751	151.800	<.001
	Residual	14.377	203	.071		
	Total	57.382	207			
Customer satisfaction model	Regression	45.671	1	45.671	390.854	<.001
	Residual	24.071	206	.117		
	Total	69.742	207			
Repurchase intention model	Regression	65.292	3	21.764	88.235	<.001
	Residual	50.319	204	.247		
	Total	115.611	207			
Repurchase intention model with loyalty programme factors model	Regression	40.775	5	8.155	30.860	.000
	Residual	35.939	136	.264		
	Total	76.715	141			

Table 5.26 Business air travellers: regression coefficients of various models

Business Air Travellers		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
AIRQUAL	(Constant)	.343	.158		2.174	.031
	Airline Tangibles	.265	.045	.285	5.930	<.001
	Personnel	.190	.051	.192	3.717	<.001
	Empathy	.187	.044	.207	4.270	<.001
	Image	.291	.038	.359	7.661	<.001
Customer satisfaction model	(Constant)	.505	.183		2.757	.006
	Overall Service Quality	.892	.045	.809	19.770	<.001
Repurchase intention model	(Constant)	-.304	.276		-1.102	.272
	Overall Service Quality	.063	.118	.044	.532	.595
	Customer Satisfaction	.532	.104	.413	5.128	<.001
	Perceived Price Fairness	.466	.077	.379	6.032	<.001
Repurchase intention with the loyalty programme factors model	(Constant)	-.253	.356		-.711	.478
	Overall Service Quality	-.029	.153	-.020	-.187	.852
	Customer Satisfaction	.546	.132	.415	4.129	<.001
	Perceived Price Fairness	.442	.111	.363	3.976	<.001
	Loyalty Programme Perceived Benefits	.128	.080	.123	1.592	.114
	Loyalty Programme Satisfaction	-.022	.093	-.020	-.233	.816

Table 5.27 Business air travellers: various regression models summary

Business Air Travellers	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
AIRQUAL	.866	.749	.745	.266130	1.956
Customer satisfaction model	.809	.655	.653	.341834	2.128
Repurchase intention model	.752	.565	.558	.496649	2.156
Repurchase intention model with the loyalty programme factors model	.729	.532	.514	.514062	2.133

The AIRQUAL model

The current study adapts AIRQUAL scales to measure the overall service quality of an airline. Multiple linear regression statistics were used to answer research question three: is AIRQUAL a valid model for measuring the airline companies' service quality for Hong Kong business travellers?

The AIRQUAL model is:

- Overall service quality = β0 + β1 Airline tangibles + β2 Personnel + β3 Empath + β4 Image + e

F-test, t-test, standardized regression coefficient, and adjusted R square are the core measures to be applied in the following analysis.

F-tests probe whether all independent variables together significantly explain the variability observed in the dependent variable in a regression. In other words, if all the independent variables' regression coefficients are equal to zero. If the p-value of the model is significant, the H0 is rejected. The model has at least one non-zero regression coefficient of the independent variable, and at least one of the independent variables adds significant prediction for the dependent variable (Sharma, 2006; Levine, 2016).

H0: $\beta 1 = \beta 2 = \beta 3 = \ldots = \beta N = 0$

H1: At least one $\beta i \neq 0$

From Table 5.25, the F test tells us that at least one of the regression coefficients (βi) of independent variables in the AIRQUAL model is not zero as the p-value (<0.001) is significant, which means at least one of the independent variables contributes to the ARIQUAL model.

To assess whether a significant linear relationship exists between the dependent variable and each of the independent variables, a t-test of the regression coefficient βi is needed (Kazmier, 2003; Bajpai, 2009). Because the regression coefficient can be positive or negative, a two-tailed test of the hypothesis for each independent variable is essential:

H0: $\beta i = 0$

H1: $\beta i \neq 0$

The regression coefficient, βi, is the slope of the dependent variable with a particular independent variable, assuming all other independent variables are unchanged. It

indicates the increase in the dependent variable *per* one unit increase in the particular independent variable when holding all other independent variables constant (Bajpai, 2009; Black, 2012). The standardized regression coefficient indicates the number of standard deviation units increased in the dependent variable given one standard deviation unit change in a particular independent variable. It is a unit-free measure of individual contributions from individual independent variables (Burns and Burns, 2008). It is useful if the units of the independent variables differ from the dependent variable (Pallant, 2020). The current study employs composite variables in the linear regression models. The variables are transformed from a 5-point Likert scale, so there is no unit problem. Since the usage of the (non-standardised) regression coefficient is more direct and intuitive, it will be used to analyse the t-test of the regression coefficient of each independent variable.

From Table 5.26, the individual t values for all independent variables, airline tangibles, personnel, empathy, and image, significantly differ from zero as all p-values are less than 0.05, indicating that all independent variables are valid variables and contribute to the AIRQUAL model. Images with beta 0.291 and airline tangibles with beta 0.265 are the most influential factors for the overall airline services, as disclosed by their regression coefficients. If the image composite increases by 1 unit, the overall airline service quality will increase by 0.291 units.

R square indicates the percentage of the variation in the independent variable explained by the variation of independent variables. When the number of independent variables increases, the explanatory power of the multiple linear regression model can only increase. Adding more factors to the model will explain more changes in the

independent variable (Sharma, 2006; Levine, 2016). To unveil the real explanatory power of a multiple linear regression model, the adjusted R square should be employed. The adjusted R square will impose a penalty on the increase in explanatory power to produce a net explanatory power figure. If the difference between the R square and the adjusted R square is large, it signals the existence of useless independent variables (McEvoy, 2018). The adjusted R square is particularly useful when comparing two models with the same dependent variable but a different number of independent variables (Bajpai, 2009).

As per the adjusted R square from Table 5.27, all independent variables explain 74.5% of the overall airline service quality variance, which is considered good explanatory power.

After validating the AIRQUAL model for overall service quality, a simple linear regression will test the relationship between the dependent variable, customer satisfaction, and the independent variable – overall service quality.

The customer satisfaction model

To answer research question four: what is the relationship between overall service quality and customer satisfaction for business air travellers? A simple linear regression between customer satisfaction (dependent variable) and the overall service quality (independent variable) is needed.

The customer satisfaction model is:

- Customer satisfaction = β0 + β1 Overall service quality + e

From Table 5.25, the F test shows that at least one of the regression coefficients (βi) of independent variables in the customer satisfaction model is not zero as the p-value (<.001) is significant, which means at least one of the independent variables contributes to the customer satisfaction model. From Table 5.26, the individual t-value for the only independent variable, overall service quality, is significant. This indicates that the independent variable is valid and contributes to the customer satisfaction model. Suppose the overall service quality composite increases by 1 unit; the overall airline service quality will increase by 0.892 units. In that case, the influence of the overall service quality on customer satisfaction is powerful. As per the adjusted R square from Table 5.27, the independent variable explains 65.3% of the overall airline service quality variance, which is considered good explanatory power.

The repurchase intention model

To answer research question five: how do overall service quality, customer satisfaction and perceived price fairness impact the behavioural repurchase intention of Hong Kong business travellers? Another multiple linear regression needs to be run.

The repurchase intention model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + e

From Table 5.25, the F test shows that at least one of the regression coefficients (βi) of independent variables in the repurchase intention model is not zero as the p-value (<.001) is significant, which means at least one of the independent variables contributes to the repurchase intention model. From Table 5.26, the individual t values for independent variables, customer satisfaction and perceived price fairness are all significant. However, the overall service quality is not significant. Theoretically, overall service quality is crucial to customer satisfaction and hence repurchase intentions. It is proved that the impact of the overall service intention is partially mediated by customer satisfaction in the Mediation effect section on the next page. As per the adjusted R square from Table 5.27, the independent variable explains 55.8% of the overall airline service quality variance, which is considered moderate explanatory power.

The repurchase intention with the loyalty programme factors model

Loyalty programme is a popular topic in the literature surrounding the customer loyalty of airline companies. In addition, other related variables, the perceived benefits of the loyalty programme, and the customer satisfaction derived from the loyalty programme, will also be explored for the impact on the behavioural repurchase intention.

The repurchase intention with the loyalty programme factors model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + β4 Loyalty programme-perceived benefits + β5 Loyalty programme-customer satisfaction + e

From Table 5.25, the F-test of the above model is significant as the p-value is 0.000, which means at least one of the regression coefficients is non-zero. However, Table 5.26 indicates that only the customer satisfaction and perceived price fairness independent variables pass the t-test. The result shows that the loyalty programme perceived benefits and satisfaction are not significant for business air travellers' repurchase intention. This result echoes the findings of Jiang and Zhang (2016) and Watson et al. (2015)

Mediation effect

Research question four: what is the relationship between overall service quality and customer satisfaction for business air travellers? This has been answered partially with The repurchase intention model. The profound concept is that good overall service quality creates customer satisfaction. Together with perceived price fairness, this leads to repurchase intention. It has already been proved and it is logical that a strong correlation exists between overall service and customer satisfaction, but why is the overall service quality not valid in the repurchase intention model?

A mediation effect generally means that an independent variable X affects a dependent variable Y through a mediator M. It plays a crucial role in causality analysis (Jiang *et al.*, 2021). Many scholars utilize a graph, as shown in Figure 5.1, to depict the relationships.

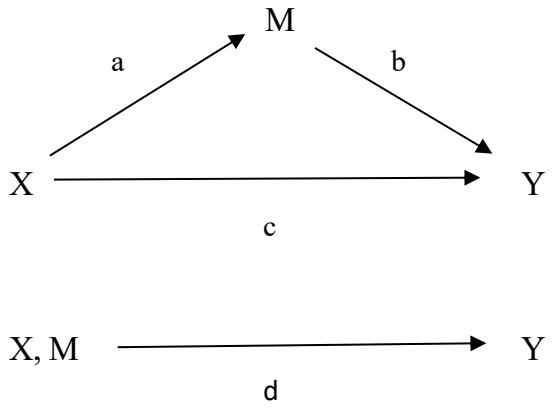


Figure 5.1 Business air travellers: an exploration of the mediation effect

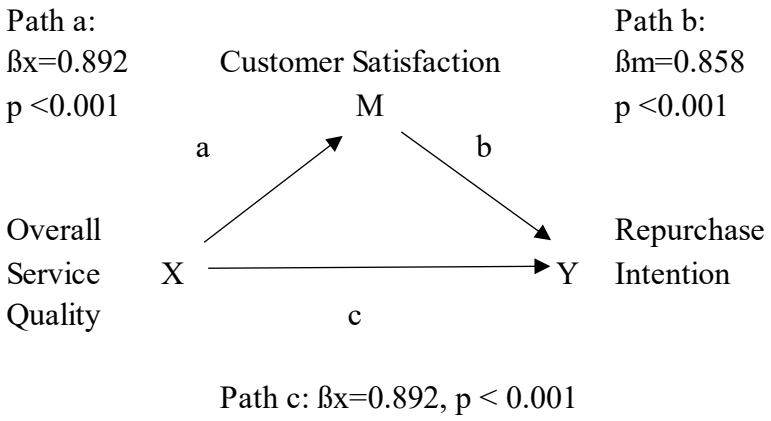
Statistically, there is a valid association between X and M (path a), M and Y (path b) and X and Y (path c). However, when M and X are presented together as independent variables on a regression with dependent variable Y (path d), the regression coefficient of X may become insignificant in the case of a complete mediation effect or become smaller when compared with path c's coefficient in the case of a partial mediation effect (Baron and Kenny, 1986; Dudley, Benuzillo, and Carrico, 2004; Huang and Pan, 2016; Caner and Servet, 2020; Jiang *et al.*, 2021).

With reference to Figure 5.2, the customer satisfaction model (path a), the overall service quality (X, an independent variable) has a high regression coefficient of 0.892 with customer satisfaction (M, a dependent variable), and the model (F-test) and coefficients (t-tests) are valid. In another regression (path b), where customer satisfaction (M) is an independent variable and repurchase intention (Y) is a dependent variable, another high regression coefficient of 0.858 is recorded, and the model (F-test) and coefficients (t-tests) are valid. In the third regression (path c), where the overall service quality (X) is an independent variable and repurchase intention (Y) is a dependent variable, a high regression coefficient of 0.892 is recorded, and the model (F-test) and coefficients (t-tests) are valid. In the fourth

regression (path d), when the overall service quality (X) and customer satisfaction (M) are put together as the independent variables and regress with the dependent variable, repurchase intention (Y), the regression coefficient of the overall service quality (X) decreases to 0.296 from 0.892 in path c. The regression coefficient of customer satisfaction is 0.667, which dominates the impacts on the repurchase intention. A partial mediation effect is observed.

That the overall service quality contributes to repurchase intention through a partial mediation effect explains why it has been excluded from the repurchase intention model. Therefore, the full answer to research question four is overall service quality influences customer satisfaction heavily through a direct effect, but customer satisfaction partially mediates overall service quality's impact on repurchase intention completely. Customer satisfaction is a mediator to the overall service quality.

Business air travellers



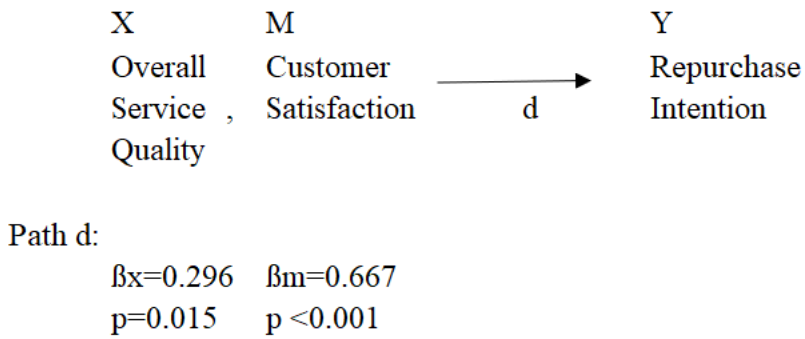


Figure 5.2 Business air travellers: mediation effect between overall service quality and customer satisfaction

Summary of section 5.5.4

This section investigates the impacts of service quality, customer satisfaction, and perceived price fairness on Hong Kong business air travellers' behavioural loyalty to airline companies. The AIRQUAL model, composed of 4 factors (airline tangibles, personnel, empathy and image), is adopted. The model has been proven to be valid in the current study. The contributions of the four factors to the overall service quality in descending order of regression coefficients are image (0.291), airline tangibles (0.265), personnel (0.190) and empathy (0.187).

The correlation between overall service quality and customer satisfaction is highly positive, with a Pearson correlation coefficient of 0.807. However, customer satisfaction partially mediates the overall service quality impact on repurchase intention. As a result, only customer satisfaction and perceived price fairness directly impact repurchase intention. Ranked by the regression coefficient, customer satisfaction has a greater impact than perceived price fairness on repurchase intention. A one unit increase in customer satisfaction will increase repurchase intention by

0.532 units, while a one unit increase in perceived price fairness will only enhance repurchase intention by 0.466 units.

5.5.5 Hypothesis testing for the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong non-business air travellers

The following consolidated tables are developed for convenient reference.

Table 5.28 Non-business air travellers: ANOVA tables for various models

Non-Business Air Travellers		Sum of Squares	df	Mean Square	F	Sig.
AIRQUAL Model	Regression	90.010	4	22.502	200.859	<.001
	Residual	34.281	306	.112		
	Total	124.291	310			
Customer satisfaction model	Regression	89.005	1	89.005	777.474	<.001
	Residual	35.374	309	.114		
	Total	124.379	310			
Repurchase intention model	Regression	92.001	3	30.667	135.195	<.001
	Residual	69.638	307	.227		
	Total	161.639	310			
Repurchase intention model with loyalty programme factors model	Regression	73.817	5	14.763	70.456	<.001
	Residual	41.280	197	.210		
	Total	115.097	202			

Table 5.29 Non-business air travellers: regression coefficients of various models

Non-Business Air Travellers		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
AIRQUAL	(Constant)	.050	.141		.357	.722
	Airline Tangibles	.387	.042	.395	9.251	<.001
	Personnel	.310	.050	.308	6.156	<.001
	Empathy	.138	.041	.139	3.400	<.001
	Image	.156	.039	.157	4.046	<.001
Customer satisfaction model	(Constant)	.690	.120		5.764	<.001
	Overall Service Quality	.846	.030	.846	27.883	<.001
Repurchase intention model	(Constant)	.149	.185		.804	.422
	Overall Service Quality	.270	.083	.236	3.238	.001
	Customer Satisfaction	.421	.083	.370	5.101	<.001
	Perceived Price Fairness	.248	.058	.222	4.278	<.001
Repurchase intention with the loyalty programme factors model	(Constant)	-.162	.218		-.744	.458
	Overall Service Quality	.222	.099	.189	2.231	.027
	Customer Satisfaction	.464	.098	.411	4.729	<.001
	Perceived Price Fairness	.191	.074	.171	2.587	.010
	Loyalty Programme Perceived Benefits	.089	.066	.089	1.353	.178
	Loyalty Programme Satisfaction	.071	.060	.076	1.194	.234

Table 5.30 Non-business air travellers: various regression models summary

Non-Business Air Travellers	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
AIRQUAL	.851	.724	.721	.334	1.913
Customer satisfaction model	.846	.716	.715	.33835	2.013
Repurchase intention model	.754	.569	.565	.47627	2.040
Repurchase intention model with the loyalty programme factors model	.801	.641	.632	.45776	2.023

The AIRQUAL model

Multiple linear regression can answer research question six: is AIRQUAL a valid model for measuring the airline companies' service quality for Hong Kong non-business travellers?

The AIRQUAL model is:

- Overall service quality = $\beta 0 + \beta 1$ Airline tangibles + $\beta 2$ Personnel + $\beta 3$ Empath + $\beta 4$ Image + e

F-test is engaged in investigating if all independent variables together significantly explain the variability observed in the dependent variable in a regression.

H0: $\beta 1 = \beta 2 = \beta 3 = \ldots = \beta N = 0$

H1: At least one $\beta i \neq 0$

From Table 5.28, the F test tells that at least one of the regression coefficients (βi) of independent variables in the AIRQUAL model is not zero as the p-value (<.001) is significant, which means at least one of the independent variables contributes to the ARIQUAL model.

To assess whether a significant linear relationship exists between the dependent variable and each of the independent variables, a t-test of the regression coefficient βi is needed (Kazmier, 2003; Bajpai, 2009). Because the regression coefficient can be positive or negative, a two-tailed test of the hypothesis for each independent variable is necessary:

H0: $\beta i = 0$

H1: $\beta i \neq 0$

From Table 5.29, The individual t values for all independent variables (airline tangibles, personnel, empathy, and image) are all significant, indicating that all independent variables are valid variables and contribute to the AIRQUAL model. Airline tangibles with a beta of 0.387 and personnel with a beta of 0.310 are the most influential factors for overall airline services quality, as disclosed by their regression coefficients. If the airline tangibles composite increases by one unit, the overall airline service quality increases by 0.387 units. As per the adjusted R square from Table 5.30, all independent variables explain 72.1% of the overall airline service quality variance, which is considered excellent explanatory power.

After validating the AIRQUAL model for overall service quality, a simple linear regression can test the relationship between the dependent variable, customer satisfaction, and the independent variable, overall service quality.

The customer satisfaction model

To answer research question seven: what is the relationship between overall service quality and customer satisfaction for non-business air travellers? A simple regression between customer satisfaction (dependent variable) and the overall service quality (independent variable) is needed.

The customer satisfaction model is:

- Customer satisfaction = $\beta 0 + \beta 1$ Overall service quality + e

From Table 5.28, the F test indicates that at least one of the regression coefficients (βi) of independent variables in the customer satisfaction model is not zero as the p-value (<0.001) is significant. This means at least one of the independent variables contributes to the customer satisfaction model. From Table 5.29, The individual t value for the only independent variable, overall service quality, is significant. This indicates that the independent variable is valid and contributes to the customer satisfaction model. Suppose the overall service quality composite increases by one unit; the overall airline service quality will be increased by 0.846 units. In that case, the influence of the overall service quality on customer satisfaction is strong. As per the adjusted R square from Table 5.30, the independent variable explains 71.5% of the overall airline service quality variance, which is considered good explanatory power.

The repurchase intention model

A further multiple linear regression can answer research question eight: how do overall service quality, customer satisfaction and perceived price fairness impact the behavioural repurchase intention of Hong Kong non-business travellers?

The repurchase intention model is:

- Repurchase intention = $\beta 0 + \beta 1$ Overall service quality + $\beta 2$ Customer satisfaction + $\beta 3$ Perceived price fairness + e

From Table 5.28, the F test shows that at least one of the regression coefficients (βi) of independent variables in the repurchase intention model is not zero as the p-value is significant (<0.001), which means at least one of the independent variables contributes to the repurchase intention model. From Table 5.29, the individual t values for independent variables, overall service quality, customer satisfaction, and perceived price fairness are all significant. Customer satisfaction contributes to the repurchase intention most, as indicated by the beta of 0.421. As presented in Table 5.30, 56.5% of the variance of the repurchase intention can be explained by the three independent variables together.

The repurchase intention with the loyalty programme factors model

Loyalty programmes are a popular topic in the literature surrounding the customer loyalty of airline companies. In addition, other related variables, the perceived benefits of the loyalty programme, and the customer satisfaction derived from the loyalty programme will also be explored for the impact on behavioural repurchase intention.

The repurchase intention with the loyalty programme factors model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + β4 Loyalty programme-perceived benefits + β5 Loyalty programme-customer satisfaction + e

From Table 5.28, the F-test of the above model is significant as the p-value is less than 0.001, which means at least one of the regression coefficients is non-zero. However, from Table 5.29, only the overall service quality, customer satisfaction, and perceived price fairness independent variables pass the t-test. The perceived benefits and satisfaction of the loyalty programme are not significant, which signal insignificant impacts of the loyalty programme factors on the behavioural loyalty of non-business air travellers. The result also synchronizes with the findings of Jiang and Zhang (2016) and Watson et al. (2015).

Mediation effect

Research question seven has been answered primarily in the customer satisfaction model section: what is the relationship between overall service quality and customer satisfaction for non-business air travellers? The primary concept is that good overall service quality will create customer satisfaction. Together with perceived price fairness, it will lead to repurchase intention. It has already been validated and it is logical that a strong correlation exists between overall service and customer satisfaction.

In the repurchase intention model of business air travellers, the regression coefficient of overall service quality is insignificant due to the partial mediation effect. However, the regression coefficient of overall service quality is significant in the repurchase intention model of non-business air travellers. There is no obvious sign of a mediation effect, but it is desirable to explore if customer satisfaction is still a mediator of overall service quality in the non-business air traveller data.

With reference to Figure 5.3, the customer satisfaction model (path a), the overall service quality (X, an independent variable) has a high regression coefficient of 0.846 with customer satisfaction (M, a dependent variable), and the model (F-test) and coefficients (t-tests) are valid. In another regression (path b), where customer satisfaction (M) is an independent variable and repurchase intention (Y) is a dependent variable, another high regression coefficient of 0.817 is recorded, and the model (F-test) and coefficients (t-tests) are valid. In the third regression (path c), where the overall service quality (X) is an independent variable and repurchase intention (Y) is a dependent variable, a high regression coefficient of 0.796 is recorded, and the model (F-test) and coefficients (t-tests) are valid. In the fourth regression (path d), when the overall service quality (X) and customer satisfaction (M) are put together as the independent variables and regress with the dependent variable, repurchase intention (Y), both the overall service quality (X) and the customer satisfaction (M) are still significant as the p-value is less than 0.001. Since the regression coefficient of overall service drops from 0.796 in path c to 0.366 in path d, a partial mediation effect is detected (Baron and Kenny, 1986; Dudley, Benuzillo, and Carrico, 2004; Huang and Pan, 2016; Caner and Servet, 2020; Jiang *et al.*, 2021)

The regression coefficient of overall service quality for business air travellers in Figure 5.2 drops significantly from 0.892 in path a to 0.296 in path d. In contrast, the regression coefficient of overall service quality for non-business air travellers in Figure 5.3 decreases moderately from 0.846 in path a to 0.366 in path d. It is noticed that the partial mediation effect in non-business air travellers is smaller than its counterpart in business air travellers.

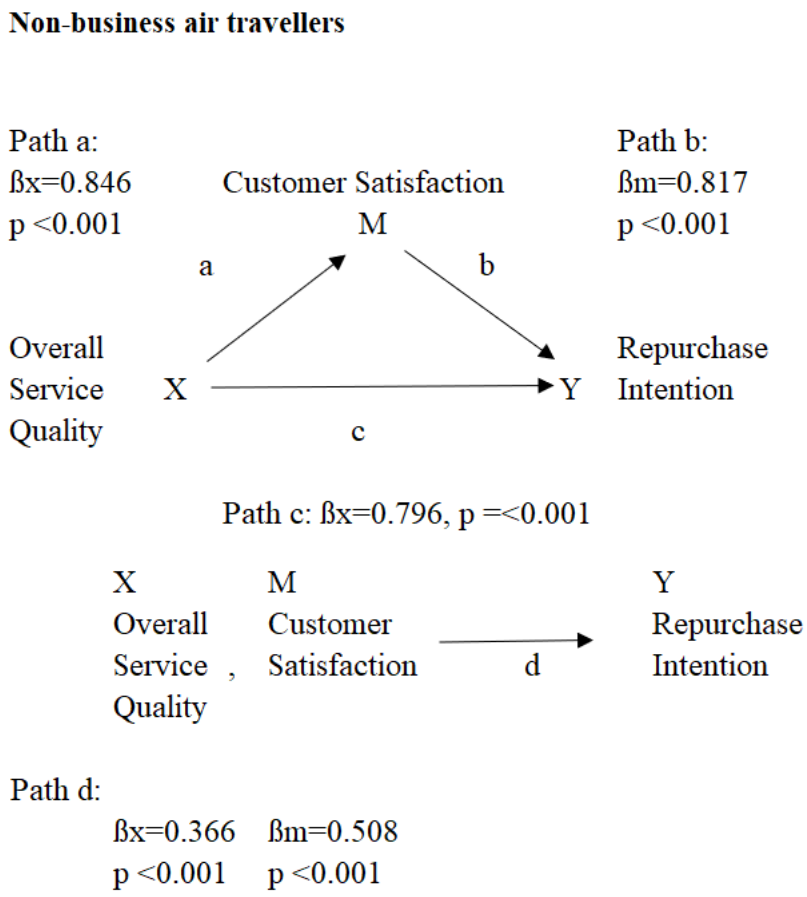


Figure 5.3 Non-business air travellers: an exploration of the mediation effect

Summary of section 5.5.5

This section investigates the impacts of service quality, customer satisfaction and perceived price fairness on Hong Kong business travellers' behavioural loyalty to

airline companies. The AIRQUAL model, composed of four factors (airline tangibles, personnel, empathy, and image), is adopted. The AIRQUAL model has been proven to be valid in the current study. The contributions of the four factors to the overall service quality in descending order of regression coefficients are airline tangibles (0.387), personnel (0.310), image (0.156), and empathy (0.138).

Like the situation in business air travellers, the correlation between overall service quality and customer satisfaction is highly positive, with a Pearson correlation coefficient of 0.846. Customer satisfaction partially mediates the overall service quality impact on repurchase intention. However, the impact is smaller than the situation in business air travellers. Ranked by the regression coefficient, customer satisfaction has the largest impact (0.421) on non-business travellers' repurchase intention, followed by the overall service quality (0.270), and perceived price fairness (0.248). The impact of loyalty programmes on repurchase intention is insignificant.

5.6 Comparison of findings – business and non-business air travellers

For convenience, the following table provides a brief comparison of findings relating to business and non-business air travellers.

Table 5.31 Comparison of findings – business and non-business air travellers

		Business Air Travellers		Non-business Air Travellers	
		T	Sig.	t	Sig.
Consumer Loyalty-Repurchase Intention		17.721	<.001	20.005	<.001
Cohen's d value		.747		.722	
		Beta	Sig.	Beta	Sig.
AIRQUAL	(Constant)	.343	.031	.050	.722
	Airline Tangibles	.265	<.001	.387	<.001
	Personnel	.190	<.001	.310	<.001
	Empathy	.187	<.001	.138	<.001
	Image	.291	<.001	.156	<.001
Customer satisfaction model	(Constant)	.505	.006	.690	<.001
	Overall Service Quality	.892	<.001	.846	<.001
Repurchase intention model	(Constant)	-.304	.272	.149	.422
	Overall Service Quality	.063	.595	.270	.001
	Customer Satisfaction	.532	<.001	.421	<.001
	Perceived Price Fairness	.466	<.001	.248	<.001
Repurchase intention with the loyalty programme factors model	(Constant)	-.253	.478	-.162	.458
	Overall Service Quality	-.029	.852	.222	.027
	Customer Satisfaction	.546	<.001	.464	<.001
	Perceived Price Fairness	.442	<.001	.191	.010
	Loyalty Programme Perceived Benefits	.128	.114	.089	.178
	Loyalty Programme Satisfaction	-.022	.816	.071	.234

Table 5.31 refers. Business air travellers have stronger repurchase intentions (Cohen's d of 0.747) than non-business air travellers (0.722). In terms of overall service quality contributions (AIRQUAL model), business air travellers rank image (beta of 0.291) as the most important, followed by airline tangibles (0.265), personnel (0.190), and empathy (0.187), while non-business air travellers place the highest value on air tangibles (0.387), personnel (0.310), image (0.156), and empathy (0.138). Business air travellers have a stronger linkage (0.892) between overall service quality and customer satisfaction than non-business air travellers (0.846). For both the business and non-business air traveller categories, the impact of overall service quality is partially mediated by customer satisfaction. However, the partial mediation effect of business air travellers is more notable than the non-business air travellers' as the overall service quality factor is not significant in the repurchase intention model. However, it is significant for non-business air travellers in the same model. Loyalty programmes' impacts are not significant contributors to repurchase intention for either business or non-business air travellers.

5.7 A general model for the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies

Figure 5.4 depicts a general model for the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies. Airline tangibles, personnel, empathy, and image are the valid and vital factors that contribute to the overall service quality of an airline company. AIRQUAL is a valid model for Hong Kong air travellers. Perceived loyalty programme benefits and the satisfaction derived from loyalty programmes are not significant contributors to airline customers' behavioural loyalty. Overall service quality strongly develops customer satisfaction. It contributes

to customer repurchase intention indirectly through the partial mediator of customer satisfaction in the case of business air travellers, and through both a direct effect and a partial mediation effect for non-business air travellers. Customer satisfaction and perceived price fairness also are the valid contributors to the repurchase intention.

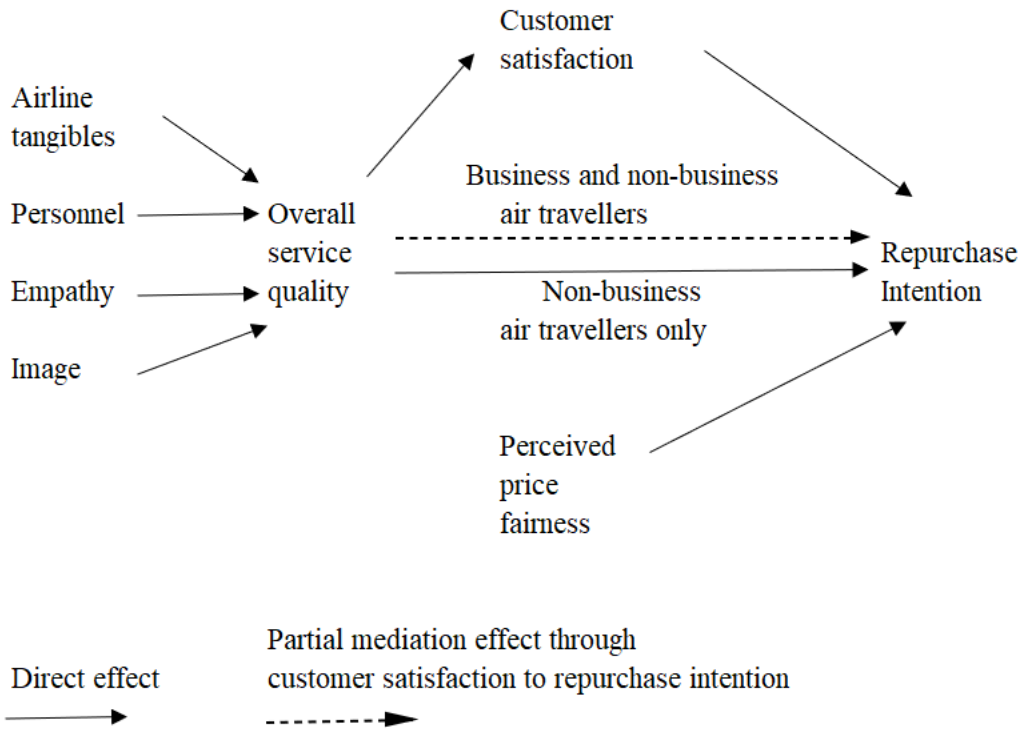


Figure 5.4 General model for the behavioural loyalty of Hong Kong business and non-business air travellers

5.8 Summary

This chapter is devoted to applying a quantitative method designed in Chapter 3 to analyse the impact of overall service quality, customer satisfaction and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies.

The online survey was distributed through a convenience snowball sampling method, which was considered essential under the COVID-19 environment. 208 and 311 responses for business and non-business air travel experience were collected and used in the main test, respectively.

The main test section commences with an overview of various kinds of validity, and the predictive, face, content, and constructs validity are individually discussed. The SPSS v28 was used for Principal Component Analysis with varimax rotation and extracting of an eigenvalue of 1 or higher. All constructs' validity and reliability are proven to be sound. A composite score with the average value of scales under a construct is employed for the hypothesis testing. Before the tests, the parametric data characteristics and the assumptions of linear regression were confirmed.

The source of the hypotheses originates from the research questions derived from the research objectives. Since the current study investigates two categories of data, the hypotheses testing of various models comprising the AIRQUAL model, customer satisfaction model, repurchase intention model and repurchase intention with loyalty programme factors model and the mediation effect for business air travellers and non-business air travellers are processed separately. The AIRQUAL model was validated, and so was the customer satisfaction model, which hypothesises good service quality leads to high customer satisfaction. The repurchase intention model, consisting of three independent variables (overall service quality, customer satisfaction, and perceived price fairness) was also confirmed. A partial mediation effect was detected. Customer satisfaction partially mediates the overall service quality's impact on business and non-business air travellers' repurchase intention. The partial mediation

effect of business air travellers is stronger than that of non-business air travellers'. Loyalty programme factors do not contribute to air travellers' behavioural loyalty. This synchronises with the findings of Jiang and Zhang (2016) and Watson et al. (2015).

The chapter concludes with a general model for the behavioural loyalty of Hong Kong business and non-business air travellers to airline companies, which specifies the factors' contributions and paths to the repurchase intention. The implications of these research outcomes are discussed in the next chapter.

Chapter 6: Conclusion and Recommendations

6.1 Introduction

This chapter provides a summary of the previous five chapters to illustrate the continuous logic flow, which offers readers a thorough understanding of the rationale of the current study. The emphasis is on the important findings of each chapter. The chapter concludes with the research's contributions, managerial implications, limitations, and recommendations for future research direction.

6.2 Background of the research

The aviation industry is a significant contributor to global economic prosperity. The aviation industry, directly and indirectly, supported 65.5 million jobs around the globe and added USD 2.7 trillion (3.6%) to the world's gross domestic product (GDP) in 2016 (International Civil Aviation Organization, 2019). In Hong Kong, the air transportation sector contributed 10.2 % of Hong Kong's GDP in 2017 (IATA Economics, 2019). Therefore, the industry is critical to Hong Kong's economy, and updated research is needed. Competition between airline operators was fierce before 2020.

During the COVID-19 period, the number of flights decreased by 71.1%, from 744,197 to 214,921 (Civil Aviation Department of Hong Kong, 2021). Passenger traffic dropped 98.6% to 0.8 million, while aeroplane movements fell 66.2% to 127,760 (Hong Kong International Airport, 2021). Some airlines were forced to close routes. Some were forced to close their entire operations.

From the second quarter of 2022, the Hong Kong government started alleviating COVID-19 pandemic measures. In the background, a third runway was completed and came into use on 8 July 2022. The capacity of the Hong Kong International Airport has been doubled (Hong Kong International Airport, 2022a). The drastic increase in capacity will reduce aircraft parking times, decrease parking costs, and increase aircraft usage efficiency (Scott & Associates Limited, 2015; Wang et al., 2017). The airport is an attractive hub for both new and existing airlines. Hong Kong people, unable to travel since the beginning of the COVID-19 pandemic due to long quarantine periods, unaffordable related accommodation expenses, and expensive ticket prices, have become desperate to resume worldwide travel. As the pandemic recedes into history, the expanded facilities, reduced operating costs, and the demand for air travel will create an enormous air travel market. Airlines are formulating their revival plans and strategies for the head-on competition ahead. Winning air travellers' behavioural loyalty is of utmost importance to the success of the airline business.

6.3 The significance of the research

Understanding the factors impacting air travellers' repurchasing behaviour is critical. The current study provides airlines with updated information and insights into building and maintaining Hong Kong air travellers' behavioural loyalty. Suppose the airlines utilise the finding of this study, air travellers' preferences would be satisfied, which, in turn, would benefit both airlines and Hong Kong air travellers. Since the tourism industry often involves cross-border travel, the prosperity of the Hong Kong tourism industry will also enhance other areas' economies. It is a win-win situation for the global economy.

6.4 The aim and objectives of the current study

The current study aims to investigate the impact of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business travellers to airline companies. The emphasis is on behavioural loyalty within the context of Hong Kong air travellers. The objectives are:

- To investigate the degree of behavioural loyalty of Hong Kong business and non-business air travellers to airline companies.
- To analyse the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business air travellers to airline companies.
- To discuss the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong non-business air travellers to airline companies.

The first objective is vital. If behavioural loyalty is absent, airlines should put their resources and efforts into reducing ticket prices. If the degree of behavioural loyalty is significant, airline companies should formulate strategies to promote behavioural loyalty as the cost of acquiring a new customer is higher than retaining an existing customer (Reichheld and Sasser, 1990; Kotler, 2017). This objective investigates if behavioural loyalty exists and how significant it is.

The second and third objectives investigate the influential power of service quality, customer satisfaction, and perceived price fairness that contribute to the behavioural

loyalty of Hong Kong air travellers. Therefore, this study provides updated and good information and recommendations to airline companies operating in Hong Kong.

6.5 Theoretical framework

This study adopts an epistemological pragmatism philosophy assumption because it aims to unveil knowledge – investigating Hong Kong air travellers' behavioural loyalty – which is intangible and co-created by the minds of the participants and the researcher. The results, therefore, may be different from those derived from other countries (Hughes and Sharrock, 1997; Cassell, 2015; Saunders, Lewis, and Thornhill, 2016).

Behavioural loyalty emphasises repeated purchases and directly impacts firms' profitability (Oliver, 1999; Chaudhuri and Holbrook, 2001; Tashakkor and Teddlie, 2003; Park, Robertson, and Wu, 2005; Saha and Theingi, 2009; Rajaguru, 2016). For a profit-seeking enterprise, behavioural loyalty brings profit to the business, so it is a top priority.

A significant portion of consumer behaviour studies validate that quality service, customer satisfaction, and perceived price fairness are the major contributors to consumers' behavioural loyalty (Bei and Chiao, 2001; Forgas *et al.*, 2010; Lee, Illia, and Lawson-Body, 2011; Wong and Musa, 2011; Curry and Gao, 2012; Asadi, Pool, and Jalilvand, 2014; Ko, 2016; Farooq *et al.*, 2018; Zietsman, Mostert, and Svensson, 2019; Dsilva *et al.*, 2020; Sarpong, 2021; Shen and Yahya, 2021). Therefore, these factors are the focus of the current study.

Even though service quality is critical, the selection of the proper measure of service quality is also essential. There are several popular measurements of service quality, such as the SEVRQUAL, SEVRPERF, and AIRQUAL models. SEVRQUAL is an expectancy disconfirmation model, which stresses the disagreement between a consumer's expectations and the experience. SEVRPERF transcends SEVRQUAL by removing the expectation element for higher efficiency and predictability. However, these two models are not industry-specific (Parasuraman, Zeithaml, and Berry, 1988; Oliver, Rust, and Varki, 1997; Sureshchandar, Rajendran, and Kamalanabhan, 2001; Carrillat, Jaramillo, and Mulki, 2007). The airline industry is unique because the consumption experience is divided into several episodes (booking air tickets, check-in, in-flight, and claiming baggage etc.). Unlike most consumer experiences, air travellers can have momentary expectations regarding different consumption stages, and each episode influences the travellers' perception of overall service quality (Chang and Yeh, 2002; Farooq et al., 2018). It is therefore better to utilise a model which is designed for the airline industry. AIRQUAL is tailor-made for the airline industry. It contains scales of airline tangibles, personnel, empathy, and image, and it has been validated across various studies (Bari *et al.*, 2001; Nadiri, Hussain, Ekiz, *et al.*, 2008; Alotaibi, 2015; Abdel Rady, 2018; Fananiar, Widjaja, and Tedjakusuma, 2020). The scales of overall service quality, customer satisfaction, perceived price fairness, loyalty programme satisfaction, and perceived benefits and repurchase intentions are also adapted from various studies (Cronin, Brady, and Hult, 2000; McCollough, Berry, and Yadav, 2000; Chen, 2008; Nadiri, Hussain, Haktan Ekiz, et al., 2008; Brodie, Whittome, and Brush, 2009; Saha and Theingi, 2009; Mimouni-Chaabane and Volle, 2010; Kim et al., 2013).

6.6 Research methodology

Since there is no similar study categorising Hong Kong air travellers into business and non-business and focusing on their behavioural loyalty towards airline companies, the current study adopts the simple mixed research method. The first stage is to apply the qualitative method to ground a theory through semi-structured interviews and focus groups to unveil the behavioural antecedents. It was found that the identified factors for service quality are similar to those in the AIRQUAL model. There is a strong linkage between service quality and customer satisfaction. Service quality, customer satisfaction, and perceived price fairness are the impactful factors influencing Hong Kong air travellers' behavioural loyalty. The second stage uses the quantitative method to triangulate the grounded theory (Tashakkor and Teddlie, 2003; Hesse-Biber, 2010). It validated that service quality, customer satisfaction, and perceived price fairness are the primary factors impacting Hong Kong air travellers' behavioural loyalty towards airline companies.

6.7 The findings

6.7.1 From qualitative analysis

The qualitative data analysis indicates that service quality, especially in terms of in-flight services (personnel related), comfortable environment (aircraft tangibles related), flight schedule and punctuality (empathy related), and ticket price (image related), are all significant factors affecting customers' behavioural loyalty. They are the measures of service quality under the AIRQUAL scales. The adaptation of AIRQUAL scales for gauging service quality matches the grounded theory from the

qualitative analysis. In addition, attitudinal loyalty has been shown to be weaker, but both business and non-business air travellers show a certain degree of behavioural loyalty.

The impact of the loyalty programme is not clear in the qualitative analysis because it figured significantly in interviewees given reasons for choosing their last flight and the preferred airline characteristics. However, it was not a privileged factor for respondents choosing an airline under different haul times for business and non-business trips through a constant sum question given at the end of the interviews. Business air travellers allocated more points to the flight schedule, while non-business air travellers tend not benefit much from their sporadic air travel.

6.7.2 From quantitative analysis

The first research objective was to investigate the degree of behavioural loyalty of Hong Kong business and non-business air travellers to airline companies. One-sample t-test was employed to test the hypothesis. It was found that behavioural loyalty exists in both business and non-business Hong Kong air travellers. The effect size is measured by Cohen's d value, indicating that business and non-business Hong Kong air travellers have an intermediate degree of behavioural loyalty towards their airline companies.

The second objective was to analyse the impacts of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business air travellers to airline companies. The current study adopts the AIRQUAL model as the measurement to gauge the service quality, and the result is satisfactory.

It was discovered that all the AIRQUAL scales are valid in quantifying the impact of airline tangibles, personnel, empathy, and image of airlines on the overall service quality. The adjusted R square is high at 0.792. Image is the most impactful factor with a beta of 0.291, followed by airline tangibles (0.265), personnel (0.190), and empathy (0.187).

After validating the AIRQUAL model, the next step was to investigate the link between overall service quality and customer satisfaction. It was observed that the relationship is highly significant, and one unit increase in overall service quality contributes 0.892 units of increase in customer satisfaction.

The repurchase intentions model of the second objective aimed to put overall service quality, customer satisfaction, and perceived price fairness together as the independent variables, with behavioural intention as the dependent variable, to test if the model is valid. It was noticed that customer satisfaction with a beta of 0.532, and perceived price fairness (0.466) are valid measures with both p-values less than 0.001. However, since the p-value of overall service quality is 0.595, its impact is not significantly different from zero. The finding is strange as it is logical that good overall service quality should lead to high customer satisfaction and create behavioural intention (Oliver, 1999; McMullan and Gilmore, 2008; ben Akpoyomare, Kunle Adeosun, and Ganiyu, 2018; Gong and Yi, 2018). A mediation effect could be a plausible answer to the phenomenon. A test of the mediation effect employed by various studies was proceeded, and it was proved that customer satisfaction partially mediates the overall service quality's impact on the behavioural intention (Baron and

Kenny, 1986; Dudley, Benuzillo and Carrico, 2004; Huang and Pan, 2016; Caner and Servet, 2020; Jiang *et al.*, 2021).

The third objective was to discuss the impacts of service quality, customer satisfaction and perceived price fairness on the behavioural loyalty of Hong Kong non-business air travellers to airline companies. The research method and structure were the same as the second objective, and the result is similar.

AIRQUAL was tested to ensure it was a valid model to reveal the impacts of airline tangibles (with a beta of 0.387), personnel (0.310), empathy (0.138), and image (0.156) on the overall service quality of airlines with an adjusted R squared of 0.721.

The link between overall service quality and customer satisfaction is highly significant, with an overall service quality beta of 0.846. Unlike the situation in business air travellers, the independent variable of overall service quality, customer satisfaction, and perceived price fairness are all valid with p-values of 0.001 or less. Customer satisfaction contributes most (with a beta of 0.421) to the behavioural intention, followed by overall service quality (0.270), and perceived price fairness (0.248). However, the impact of overall service quality on behavioural intention is small. It induced a test of mediation effect, as was done in the business air travellers' scenario. It also proved that customer satisfaction partially mediates the impact of overall service quality on behavioural intention, but the partial mediation effect was weaker than that in the case of business air travellers.

Since loyalty programmes are a popular method of securing air travellers' behavioural loyalty, the repurchase intention with the loyalty programme factors model (based on the repurchase intention model with additional independent variables of loyalty programme perceived benefit and loyalty programme satisfaction) was run. The additional independent variables were tested as insignificant with a p-value far greater than 0.05 in both business and non-business air travellers. Loyalty programmes, therefore, do not contribute to Hong Kong air travellers' behavioural loyalty. The result also synchronizes with the findings of Jiang and Zhang (2016) and Watson et al. (2015); loyalty programme factors do not significantly contribute to air travellers' behavioural loyalty.

6.8 Managerial implication

From the findings of objective one, Hong Kong air travellers have an intermediate degree of behavioural loyalty towards their airline companies. This finding has crucial operational implications. If behavioural loyalty does not exist, airline companies have no incentive to allocate budgets aimed at earning their customers' behavioural loyalty. The best business strategy is to reduce operating costs to provide a foundation to compete on ticket price. However, behavioural loyalty does exist with an intermediate degree, and airline companies should invest more resources into luring their customers to repurchase their services.

6.8.1 For business air travellers' segment

From the findings of the second objective, it was proved that there is a strong linkage between service quality and business air travellers' satisfaction. Quality service is a

prerequisite for customer satisfaction. The factors contributing to service quality (in descending order) are image, airline tangibles, personnel, and empathy.

The availability of low-price tickets, the consistency of ticket prices with given services, and the overall image of the airline company are all factors constructing the airline image. Consistency of ticket prices with given services does not mean the ticket price must be minimised. Instead, business air travellers are willing to pay a higher price for better services. Allocating resources to build an airlines' image is therefore considered a good business strategy. Factors concerning the airline tangibles are the cleanliness and comfort of aircraft, their seats, and air conditioning. Quality of catering service is included in the airline tangibles under the AIRQUAL scale. Items in the airline tangibles are primarily related to the in-flight services. The airline tangibles are the basic requirements for a proper airline operation. Employees' knowledge, service effectiveness, and general attitude are personnel issues that entail proper selection and training of employees. Empathy comprises punctuality and frequency of flights, as well as baggage handling. These factors are noteworthy but sometimes out of the control of airline companies.

Service quality, customer satisfaction, and perceived price fairness are the central constructs of the behavioural loyalty of air travellers towards airline companies in the current study. Customer satisfaction is the most crucial factor contributing to behavioural intention, while perceived price fairness is the next important factor for business air travellers. It was verified that customer satisfaction partially mediates the effect of service quality on behavioural loyalty. Perceived price fairness measures the degree of value for money. In this regard, airline companies should enhance their

operational efficiency to curtail their operating costs, gaining a cost advantage at a similar price level to outperform their competitors.

The loyalty programme was invalidated as a contributor to Hong Kong business air travellers' behavioural loyalty towards airline companies. From the quantitative analysis, Hong Kong business air travellers demand high service quality. From the qualitative analysis, their priority is meeting business trip goals, and mileage rewards are not a prerequisite for their trips. Especially if they can earn lots of mileage in daily consumption, rather than air travel.

6.8.2 For non-business air travellers' segment

From the findings of the third objective, it was revealed that there is a significant relationship between service quality and business air travellers' satisfaction. Quality service is an antecedent of customer satisfaction. Airline tangibles contribute most to overall service quality, followed by personnel, empathy, and image. Non-business air travellers basically demand a clean and comfortable in-flight environment (air tangibles) and reasonable services in general (personnel). The weights put on empathy and image factors were not as heavy as in the case of business air travellers.

Unlike business air travellers, who view the image of an airline as the most relevant factor for service quality, non-business air travellers focus on the essential elements that airline companies provide, such as the cleanliness and comfort of seats and toilets, satisfactory air conditioning, catering services (airline tangibles), and reasonable general services (personnel). The provision of overall quality service to non-business air travellers requires the proper selection and training of airline staff.

The current study's findings prove that the behavioural loyalty of Hong Kong non-business air travellers towards airline companies is significantly impacted by service quality, customer satisfaction, and perceived price fairness. Test results show that customer satisfaction partially mediates the effect of service quality on behavioural loyalty. Customer satisfaction is the most significant factor contributing to behavioural intention, followed by overall service quality and perceived price fairness. Since customer satisfaction is derived from quality services, factors enhancing service quality are of utmost importance in attracting non-business travellers' behavioural loyalty.

The loyalty programme was invalidated again for contributing to Hong Kong non-business air travellers' behavioural loyalty towards airline companies.

6.9 Recommendations

An airline's clientele is composed of business and non-business air travellers. Service quality leads to customer satisfaction, contributing most to the behavioural loyalty of Hong Kong business and non-business air travellers. Under the AIRQUAL model, business air travellers are most concerned with an airlines' image (with a beta of 0.291), followed by airline tangibles (0.265), personnel (0.190), and empathy (0.187). Non-business air travellers focus on airline tangibles (0.387), personnel (0.310), empathy (0.138), and image (0.156) to determine the overall service of airlines. From a strategic point of view, managements should emphasise improving airline tangibles and personnel. These two factors were ranked first and second in non-business air

travellers and second and third in the business air travellers categories with high value betas. Image and empathy are the next two factors to polish. For the practicality of the recommendations, the categorisation of the following items may not identical to AIRQUAL's, but the individual items are much the same.

6.9.1 Tangibles

Building a clean and comfortable cabin environment is not so difficult, and more attention should be paid to seats, toilets, and air conditioning. These items are the prerequisites of quality service, and delivering these basic requirements well does not demand a large budget or resource allocation. They are the hygiene factors in Herzberg's two-factor theory of motivation. If the quality of these items is low, the customer may not feel satisfied and may not be motivated to repurchase the service from the airline (Holston-Okae and Mushi, 2018; Hur, 2018). Negative disconfirmation will be created. Airlines must implement measures to ensure the quality of these items.

6.9.2 Services

Due to advances in information technology, customers often purchase air tickets through online channels. They are responsible for their input, while airline companies should ensure their online sales platforms are error-free. IT managers should take up the task. Customer service, catering services, and employees' general attitude and knowledge demand the proper selection and training of employees. The training department and human resource managers should be responsible and accountable for the tasks. Proper allocations of budgets to these areas are also essential. Many airline

employees changed their careers during the COVID-19 period in Hong Kong, and recruiting quality employees is a new challenge for the airline industry.

6.9.3 Image

Advertisements, customer satisfaction, service quality, and social responsibility can affect corporate image (Hu, Kandampully, and Juwaheer, 2009; Song, Ruan, and Park, 2019). In addition to service quality and customer satisfaction, building an image can effectively be accomplished through advertisements and sponsorship of social responsibility programmes. The availability of low-price tickets depends on the nature of the airline companies. Regardless of whether they are LCCs or FSCs, airline companies should secure an image that implies their service quality is consistent with ticket prices.

6.9.4 Other factors

The punctuality and frequency of flights, as well as the baggage service, may not be fully controlled by the airlines, especially in some congested or slot-control airports (Brueckner and Luo, 2014). Enhancement of these items demands substantial coordination with internal and external parties. Potentially, a large budget is required (Zou and Hansen, 2014). Management should be cautious of items under this category, and a detailed cost-benefit analysis should be implemented before acting.

6.10 Contribution

Behavioural loyalty has been a popular research topic since the 1950s (Oliver, 1999) because of its crucial contribution to a firm's bottom line. Many studies have

investigated the behavioural loyalty of air travellers towards airline companies globally, but there has been no similar study focusing on the context of Hong Kong and categorizing travellers into business and non-business segments. The current study fills this research gap and provides valuable managerial implications and recommendations to airline companies worldwide, especially for those who have flights connecting Hong Kong with the rest of the world.

The current study discovered the existence of a partial mediation effect between overall service quality and customer satisfaction in the airline industry. Customer satisfaction partially mediates the impact of overall service quality on the behavioural intention of Hong Kong business and non-business air travellers. It contributes to the academic work specialising in air travellers' behavioural loyalty towards airline companies and provides a foundation for future research on similar topics.

The AIRQUAL model is tailor-made to gauge the overall service quality of airline companies. It has become increasingly popular since its devising in 2001 (Bari *et al.*, 2001). The current study is a pioneer work that applies and validates the model in the context of Hong Kong air travellers. Such an application and validation will attract other researchers' attention to the model's adaptation, promotion, and moderation. It is expected that the debate about AIRQUAL, SERVQUAL and SERVPERF will be intensified. Thus, the current research contributes to the academic discussion of consumer behaviour.

Hong Kong and the world are still suffering from COVID-19 pandemic, although the mortality rate is dropping. Within such an environment, little research has tried to

discover the current behavioural intention of air travellers – especially Hong Kong air travellers. Although it might seem that requesting participants to recall their air travel experiences before 2020 asks too much of their memories, it is their most recent experiences that are of interest. Therefore, the current study provides the airline industry and academics with updated information on Hong Kong air travellers' attitudes towards behavioural intentions.

The location of Hong Kong International Airport makes it reachable to half of the world's population with a 5-hour flight time or less (Hong Kong International Airport, 2020). Airline companies will benefit from the currency of the information and recommendations of this study. Air travellers will also benefit from this research because the enhancement of airlines' services brings their operations closer to the needs of travellers and enhances their satisfaction. Hong Kong and the global economy will gain substantially from this research as the better provision of airline services will create demand for the tourism industry in Hong Kong and around the world, enhancing Hong Kong's economy and global economic activities.

6.11 Limitations and future research direction

From the interviews of participants during the collection of qualitative data, it was observed that the participants with heavy financial burdens, such as young families with large mortgages, tended to place competitive ticket prices as one of the highest priorities when selecting airlines and put less emphasis on overall service quality. Due to the avoidance of collecting private financial information and to maintain adherence to the research ethics, the current study did not probe into the private financial matters

of the participants. Nevertheless, it is a legitimate factor to be investigated in future research.

The current study only concerns the factors influencing Hong Kong air travellers' behavioural intentions. It may not be generalisable to other parts of the world. Future research is needed to explore air travellers' behavioural loyalty in different geographic areas, especially under the AIRQUAL model.

The current research primarily focuses on the impact of service quality, customer satisfaction, and perceived price fairness on the behavioural loyalty of Hong Kong business and non-business airline customers. The number of factors is limited. Although revealing the partial mediation effect is a significant contribution of the study, more factors, such as the moderation effects due to the composition of airline companies (i.e., percentage of FSC and LCC), and the dominance of a particular airline, should be explored further.

The current study requested participants to recall their air travel experiences before 2020. Albeit the information collected being the most current, their memories may be incomplete. Further investigation to update air travel experiences to after the COVID-19 pandemic is necessary. Moreover, the current study utilises a cross-sectional survey approach, and the effect of time was not examined. Longitudinal research to reflect the change in air travellers' attitudes and behavioural intentions would be a fascinating research topic.

Appendices

Appendix 1: Informed consent form for collecting qualitative data

Informed Consent Form

Research Topic: Behavioural Loyalty of Airline Customers

Dear participant,

Thank you very much for participating in this interview/focus group for the captioned topic! We would like to inform you that participation in this study is entirely voluntary. You are free to decide not to participate or fully withdraw from this research data collection process without any negative consequence. Collected data will only be used in the captioned study; your name and your private information will be kept confidentially and will not be disclosed without your consent. There are no known risks, discomfort or any negative consequence during or after this data collection process associated with this study.

The objective of this study is to identify factors which may affect the behavioural loyalty of airline customers. This study is expected to contribute to society by improving airline services provided to the general public. Airline companies may benefit from this study for better provision of their services and hence the behavioural loyalty offered by their customers. You and other airline customers may also benefit from such improvement of services that precisely meet customers' needs.

Should you have any queries, please do not hesitate to let us know before the interview/focus group starts, during the focus group discussion or before the completion of this study. Kindly please sign your consent with full knowledge of the nature and purpose of the procedures. A copy of this consent form will be given to you for your reference.

_____

Name: Date:

Mr William Lai, DBA student of the University of Wales Trinity Saint David
Contact information: regwl@yahoo.com.hk

Appendix 2: Interview and focus group discussion questionnaire

This questionnaire indicates the framework and direction of questions; discussions of the related topic are sometimes situational. The following is the last questionnaire; questions were adjusted whenever new concerns appeared.

1. Demographic information: sex, age range, education level, industry, position.
2. What airline did you take for your last flight? How long was the flight time?
3. What was the purpose of your last flight?
4. How did you feel about your previous flight experience?
5. Why did you choose the airline for your last flight?
6. What things made you feel good on your last flight? What things made you feel bad on your last flight?
7. Will you choose the same airline for your next flight? Why?
8. What factors can make you change your decision in the last question?
9. How can the airline encourage you to continue buying air tickets from it in the future?
10. Please rank the most important factors in selecting an airline company for your private trip.
11. Please rank the most important factors in selecting an airline company for your business trip.
12. If you had travelled with your family member and bore 50% or more of the total air ticket fare, would you change your preferred airline? What if you only need to pay for yourself or just you and your spouse?
13. What are the important factors for selecting an airline for your short, mid, long-and ultra-long-haul trip? Please allocate points to indicate their corresponding importance. You have 10 points to allocate.
14. How do you categorise an airline's services provided to its customers?
15. How did you purchase your air ticket on your last flight? Will you use the same method to purchase next time?
16. Will you recommend your preferred airline to your friends? Are there any conditions for your recommendation?
17. How can an airline company increase its sales?

Appendix 3: Informed consent form for collecting quantitative data

Informed Consent
Research Topic: Behavioural Loyalty of Hong Kong Airline Customers

Dear participant,

Thank you very much for participating in this online survey for the captioned topic! We would like to inform you that participation in this study is completely voluntary. You are free to decide not to participate or fully withdraw from this research data collection process without any negative consequences to you. The data collected will only be used in the captioned study. Your private information, i.e. your email address, will be kept confidentially and will not be disclosed without your consent. After the completion of the whole research, data used to identify a particular participant, i.e. your email address, will only be kept for a maximum period of 3 months and will be deleted permanently afterwards. There are no known risks, discomfort or negative consequences to you during or after this data collection process.

The objective of this study is to identify factors which may affect the behavioural loyalty of airline customers. This study is a partial fulfilment of the award of the degree of Doctor of Business Administration (DBA) for the undersigned researcher. This study is expected to contribute to society by improving airline services provided to the general public. Airline companies may benefit from this study for better provision of their services and hence the behavioural loyalty offered by their customers. You and other airline customers may also benefit from such improvement in services which meets customers' needs more precisely.

Should you have any queries, please do not hesitate to contact me.

Mr William Lai, DBA student of the University of Wales Trinity Saint David
Contact information: william.kwlai@uwhkma.com.hk

Thank you very much for your participation!

Appendix 4: Survey questionnaire (English version)

Section A: Approval of the Informed Consent and Checking of Eligibilities

	Yes	No
Do you understand and agree to the above informed consent and agree to proceed with the survey?	○	○
Do you have a valid Hong Kong Identity Card?	○	○
Are you 18 years old or above?	○	○
Did you have experience in business air travel before the COVID-19 pandemic (2020)?	○	○
Were you a member of the airline loyalty program during the above business air travel, for example, Asia Mileages, Marco Polo Club or the airline customers club, etc.?	○	○
Did you purchase air tickets or involve in the air ticket purchase decision making for your non-business air travel before the COVID-19 pandemic (2020)?	○	○
Were you a member of the airline loyalty program during the above non-business air travel, for example, Asia Mileages, Marco Polo Club or the airline customers club, etc.?	○	○

Section B: Demographics

Your age range is:

- ○ 18 to 25
- ○ 26 to 35
- ○ 36 to 45
- ○ 46 to 55
- ○ 56 to 65
- ○ 66 or above

Sex:

- ○ Male
- ○ Female

The highest academic qualification you have attained:

- ○ Primary School
- ○ Secondary School / Yi Jin Diploma
- ○ Higher Diploma / Associate Degree / Advanced Diploma / HKQF Level 4
- ○ Bachelor Degree / Bachelor Honour Degree / HKQF Level 5
- ○ Master Degree / HKQF Level 6
- ○ Doctoral Degree / HKQF Level 7

Please provide your email address

Please provide the following information:

Please renter your email address:

Industry / Career:

Position:

Section C: Business Air Travel Background Information and questionnaire

Please recall your last business air travel before the COVID-19 (2020).
When did you have the business trip?

- ○ 2019
- ○ 2018
- ○ 2017
- ○ 2016
- ○ 2015
- ○ 2014
- ○ 2013
- ○ 2012
- ○ 2011
- ○ 2010 or before

Business air travel :
Which airline did you take?

Airline Tangibles (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
1. The aircraft is clean and modern-looking	○	○	○	○	○
2. Quality of catering served on the plane	○	○	○	○	○
3. Cleanliness of the plane toilets	○	○	○	○	○
4. Cleanliness of the plane seats	○	○	○	○	○
5. The comfort of the plane seats	○	○	○	○	○
6. Quality of air-conditioning in the planes	○	○	○	○	○

Personnel (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
7. Employees' general attitude	○	○	○	○	○
8. Whether airline personnel gave exact answers to my questions	○	○	○	○	○
9. Whether personnel showed personal care equally to everyone	○	○	○	○	○
10. Employees had the knowledge to answer your questions	○	○	○	○	○
11. The empathy of the airline personnel	○	○	○	○	○
12. Awareness of airline personnel of their duties	○	○	○	○	○
13. Error-free reservations and ticketing transaction	○	○	○	○	○

Empathy (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
14. Punctuality of the departures and arrivals	○	○	○	○	○
15. Compensation schemes in case of loss or hazards	○	○	○	○	○
16. Care paid to passengers' luggage	○	○	○	○	○
17. Number of flights to satisfy passengers' demands	○	○	○	○	○

Image (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
18. Availability of low price ticket offerings	○	○	○	○	○
19. Consistency of ticket prices with given service	○	○	○	○	○
20. Image of the airline company	○	○	○	○	○

Overall Service Quality (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
21. The staff of this airline deliver superior services	○	○	○	○	○
22. Overall, the in-flight facilities in this airline are excellent	○	○	○	○	○
23. This airline has convenient reservation and ticketing systems	○	○	○	○	○
24. This airline offers an excellent security system	○	○	○	○	○
25. I feel safe when I fly with this airline	○	○	○	○	○
26. This airline offers excellent baggage handling services	○	○	○	○	○

Customer Satisfaction (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
27. I had a satisfying experience flying with this airline	○	○	○	○	○
28. I did the right thing when I chose to fly with this airline	○	○	○	○	○
29. I normally have a pleasant flight with this airline	○	○	○	○	○
30. Overall, this airline provides a very satisfying experience	○	○	○	○	○

Loyalty Programme Perceived Benefits (Business Air Travel)
Loyalty programmes such as Asia Mileages, Marco Polo Club or any airline customers club
During the above business air travel:

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
31. I saved money	○	○	○	○	○
32. I discovered new destinations (products)	○	○	○	○	○
33. I was treated better than other customers	○	○	○	○	○

Loyalty Programme Satisfaction (Business Air Travel)
Loyalty programmes such as Asia Mileages, Marco Polo Club or any airline customers club
During the above business air travel:

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
34. The advantages I received, being a member of this program met my expectation	○	○	○	○	○
35. All in all, I was satisfied with this program	○	○	○	○	○

Perceived Price Fairness (Business Air Travel)

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
36. Considering the ticket price I paid for the airline, I believe that the airline offers excellent services	○	○	○	○	○
37. Compared to what I have given up (including money, energy, time and effort), the overall service of this airline is excellent	○	○	○	○	○
38. Overall, this airline offers good value for money	○	○	○	○	○
39. Overall, this airline's services and goods are valuable	○	○	○	○	○

Consumer Loyalty- WOM (Business Air Travel)

Assume the airline you took is still under normal operation.

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
40. I intend to say positive things about this airline to other people	○	○	○	○	○
41. I intend to encourage relatives and friends to fly with this airline	○	○	○	○	○

Consumer Loyalty-Repurchase intention (Business Air Travel)

Assume the airline you took is still under normal operation.

	Strongly agree / Very good	Somewhat agree / good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
42. I consider this airline company my first choice for air travel	○	○	○	○	○
43. I will consider this airline company more for air travel in the next few years	○	○	○	○	○
44. I intend to fly with this airline again in the future	○	○	○	○	○
45. Overall, given the other choices of airline companies, I will remain flying with this airline	○	○	○	○	○

Is there any further experience sharing? (Business Air Travel)

Section D: Non-Business Air Travel Background Information and questionnaire

Please recall your last Non-business air travel before the COVID-19 (2020).
When did you have the Non-business trip?

- ○ 2019
- ○ 2018
- ○ 2017
- ○ 2016
- ○ 2015
- ○ 2014
- ○ 2013
- ○ 2012
- ○ 2011
- ○ 2010 or before

Non-Business air travel :
Which airline did you take?

Airline Tangibles (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
1. The aircraft is clean and modern-looking	○	○	○	○	○
2. Quality of catering served on the plane	○	○	○	○	○
3. Cleanliness of the plane toilets	○	○	○	○	○
4. Cleanliness of the plane seats	○	○	○	○	○
5. The comfort of the plane seats	○	○	○	○	○
6. Quality of air-conditioning in the planes	○	○	○	○	○

Personnel (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
7. Employees' general attitude	○	○	○	○	○
8. Whether airline personnel gave exact answers to my questions	○	○	○	○	○
9. Whether personnel showed personal care equally to everyone	○	○	○	○	○
10. Employees had the knowledge to answer your questions	○	○	○	○	○
11. The empathy of the airline personnel	○	○	○	○	○
12. Awareness of airline personnel of their duties	○	○	○	○	○
13. Error-free reservations and ticketing transaction	○	○	○	○	○

Empathy (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
14. Punctuality of the departures and arrivals	○	○	○	○	○
15. Compensation schemes in case of loss or hazards	○	○	○	○	○
16. Care paid to passengers' luggage	○	○	○	○	○
17. Number of flights to satisfy passengers' demands	○	○	○	○	○

Image (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
18. Availability of low price ticket offerings	○	○	○	○	○
19. Consistency of ticket prices with given service	○	○	○	○	○
20. Image of the airline company	○	○	○	○	○

Overall Service Quality (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
21. The staff of this airline deliver superior services	○	○	○	○	○
22. Overall, the in-flight facilities in this airline are excellent	○	○	○	○	○
23. This airline has convenient reservation and ticketing systems	○	○	○	○	○
24. This airline offers an excellent security system	○	○	○	○	○
25. I feel safe when I fly with this airline	○	○	○	○	○
26. This airline offers excellent baggage handling services	○	○	○	○	○

Customer Satisfaction (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
27. I had a satisfying experience flying with this airline	○	○	○	○	○
28. I did the right thing when I chose to fly with this airline	○	○	○	○	○
29. I normally have a pleasant flight with this airline	○	○	○	○	○
30. Overall, this airline provides a very satisfying experience	○	○	○	○	○

Loyalty Programme Perceived Benefits (Non-Business Air Travel)
Loyalty programmes such as Asia Mileages, Marco Polo Club or any airline customers club
During the above non-business air travel:

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
31. I saved money	○	○	○	○	○
32. I discovered new destinations (products)	○	○	○	○	○
33. I was treated better than other customers	○	○	○	○	○

Loyalty Programme Satisfaction (Non-Business Air Travel)
Loyalty programmes such as Asia Mileages, Marco Polo Club or any airline customers club
During the above non-business air travel:

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
34. The advantages I received, being a member of this program met my expectation	○	○	○	○	○
35. All in all, I was satisfied with this program	○	○	○	○	○

Perceived Price Fairness (Non-Business Air Travel)

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
36. Considering the ticket price I paid for the airline, I believe that the airline offers excellent services	○	○	○	○	○
37. Compared to what I have given up (including money, energy, time and effort), the overall service of this airline is excellent	○	○	○	○	○
38. Overall, this airline offers good value for money	○	○	○	○	○
39. Overall, this airline's services and goods are valuable	○	○	○	○	○

Consumer Loyalty- WOM (Non-Business Air Travel)
Assume the airline you took is still under normal operation.

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
40. I intend to say positive things about this airline to other people	○	○	○	○	○
41. I intend to encourage relatives and friends to fly with this airline	○	○	○	○	○

Consumer Loyalty-Repurchase intention (Non-Business Air Travel)
Assume the airline you took is still under normal operation.

	Strongly agree/ Very good	Somewhat agree/ Good	Neither agree nor disagree / Neutral	Somewhat disagree / Bad	Strongly disagree / Very bad
42. I consider this airline company my first choice for air travel	○	○	○	○	○
43. I will consider this airline company more for air travel in the next few years	○	○	○	○	○
44. I intend to fly with this airline again in the future	○	○	○	○	○

45. Overall, given the other choices of airline companies, I will remain flying with this airline	○	○	○	○	○

Is there any further experience sharing? (Non-Business Air Travel)

Appendix 5: Survey questionnaire (Chinese version)

知情同意書
研究課題：航空公司顧客的行為忠誠度

尊敬的參與者：

非常感謝您參與是次網上問卷調查！參與這項研究，完全是自願的。您可以自由 決定不參與，或完全退出此研究數據收集過程，這不會使您有任何負面後果。問 卷所收集的資料和數據，將只用於是次研究，您的個人資料（例如你的電郵地址 ）將會保密。在未經您的同意下，我們不會透露任何個人資料。在整個研究完成 後，當中用於識別特定參與者的個人資料（如電郵地址），最多會保存3個月，之 後即永久刪除。對參與者而言，在本研究數據收集過程期間或之後，是不會構 成已知風險、造成不安或負面後果的。

本研究的目的，是為找出可能影響航空公司顧客行為忠誠度的因素，同時是下述研究生攻讀的工商管理博士（DBA）學位課程之部分畢業要求。這項研究有望讓 航空公司向公眾提供更佳的服務，從而貢獻社會。此外，航空公司有機會透過這 項研究，得知如何提供更好的服務，繼而顧客便可能增加自己的行為忠誠度，終 令航空公司受益。您和其他航空公司的顧客，也可能因這種能對準客戶需要的改 良服務而受惠。

如您有任何疑問，請隨時告知。非常感謝你的參與！

黎貫榮（William Lai）
University of Wales Trinity Saint David
工商管理博士學位課程學生

聯繫方式：
william.kwlai@uwhkma.com.hk

A 部：知情同意書的批准和資格檢查

	是	否
您是否同意並理解上述知情同意書，並同意繼續進行調查？	○	○
你是否持有有效的香港身份證？	○	○
您是否已年滿 18 歲或以上？	○	○
在 2019冠狀病毒病大流行(2020 年）之前，您有商務航空旅程經驗嗎？	○	○
在以上的商務航空旅程時，您是否這航空公司忠誠計劃的會員，例如亞洲萬里通、馬可孛羅會或這航空公司客戶會？	○	○
在 2019冠狀病毒病大流行（2020 年）之前，您是否曾為非商務航空旅行購買機票，或參與購買機票的決策？	○	○
在以上的非商務航空旅行時，您是否這航空公司忠誠計劃的會員，例如亞洲萬里通、馬可孛羅會或這航空公司客戶會？	○	○

Section B: Demographics

您的年齡範圍:

- ○ 18 - 25
- ○ 26 - 35
- ○ 36 - 45
- ○ 46 - 55
- ○ 56 - 65
- ○ 66 歲或以上

性別:

- ◯ 男
- ◯ 女

你的最高學歷程度是：

- ◯ 小學
- ◯ 中學 / 毅進文憑
- ◯ 高級文憑 / 副學士 / 高等文憑 / 香港資歷架構第4級
- ◯ 學士學位 / 榮譽學士學位 / 香港資歷架構第5級
- ◯ 碩士學位 / 香港資歷架構第6級
- ◯ 博士學位 / 香港資歷架構第7級

請提供您的電子郵件地址

請輸入以下資料：

請再次輸入您的電子郵件地址：

行業/職業：

職位：

ection C: Business Air Travel Background Information and questionnaire

請回想一下，您在 2019冠狀病毒病大流行(2020) 之前的最後一次商務航空旅程。
你出差的年份是:

- ◯ 2019
- ◯ 2018
- ◯ 2017
- ◯ 2016
- ◯ 2015
- ◯ 2014
- ◯ 2013
- ◯ 2012
- ◯ 2011
- ◯ 2010 or before

商務航空旅程：
你選的是哪家航空公司？

航空公司的設施(商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
1. 飛機乾淨且外觀現代	○	○	○	○	○
2. 機上餐飲質素	○	○	○	○	○
3. 飛機廁所的清潔度	○	○	○	○	○
4. 飛機座位的清潔度	○	○	○	○	○
5. 飛機座椅的舒適度	○	○	○	○	○
6. 飛機空調質素	○	○	○	○	○

人員(商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
7. 員工一般的態度	○	○	○	○	○
8. 航空公司人員能準確地回答我的問題	○	○	○	○	○
9. 人員對每個人都表現出同等的個人關懷	○	○	○	○	○
10. 員工具有知識以回答我的問題	○	○	○	○	○
11. 航空公司人員的同理心	○	○	○	○	○
12. 航空公司人員對其職責的認識	○	○	○	○	○
13. 預訂和票務交易無誤	○	○	○	○	○

同理心 (商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
14. 準時出發和到達	○	○	○	○	○
15. 損失或危險的賠償方案	○	○	○	○	○
16. 照顧旅客行李	○	○	○	○	○
17.航班的數量能滿足旅客需求	○	○	○	○	○

形象(商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
18. 有低廉價錢的機票可供選擇	○	○	○	○	○
19. 票價與服務匹配	○	○	○	○	○
20. 航空公司形象	○	○	○	○	○

整體服務質素 (商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
21. 這家航空公司的員工提供優質的服務	○	○	○	○	○
22. 總的來說，這家航空公司的機上設施非常好	○	○	○	○	○
23. 這家航空公司有方便的預訂和票務系統	○	○	○	○	○
24. 這家航空公司提供出色的保安系統	○	○	○	○	○
25. 當我乘坐這家航空公司的航班時，我會有安全感	○	○	○	○	○
26. 這家航空公司提供出色的行李處理服務	○	○	○	○	○

顧客滿意度 (商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
27. 我在這家航空公司的航程中獲得了令人滿意的體驗	○	○	○	○	○
28. 我選擇乘坐這家航空公司是正確的	○	○	○	○	○
29. 在乘坐這間航空公司的航班後，我通常都會有愉快的體驗	○	○	○	○	○
30. 總的來說，這家航空公司提供了令人非常滿意的體驗	○	○	○	○	○

忠誠度計劃帶所來的好處(商務航空旅程)
忠誠計度劃: 例如亞洲萬里通、馬可孛羅會或任何航空公司客戶會
在上述的商務航空旅程中：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
31. 我省了錢	○	○	○	○	○
32. 我發現新的目的地（產品）	○	○	○	○	○
33. 我受到的待遇比其他顧客好	○	○	○	○	○

忠誠度計劃的滿意度(商務航空旅程)
忠誠計度劃: 例如亞洲萬里通、馬可孛羅會或任何航空公司客戶會
在上述的商務航空旅程中：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
34. 成為這個計劃的成員後，我得到的好處能符合我的期望	○	○	○	○	○
35. 總而言之，我對這個計劃很滿意	○	○	○	○	○

價格公平感知(商務航空旅程)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
36. 相對於我付出的機票價錢，我認為航空公司提供的服務非常好	○	○	○	○	○
37. 與我所放棄的（包括金錢、精力、時間和精力）相比，這家航空公司的整體服務非常好	○	○	○	○	○
38. 總體而言，這家航空公司物有所值	○	○	○	○	○
39. 總的來說，這家航空公司的服務和商品很有價值	○	○	○	○	○

消費者忠誠度--口口相傳(商務航空旅程)
假設在這旅程中的航空公司依然正常地營運：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
40. 我打算告訴他人關於這家航空公司的正面評價	○	○	○	○	○
41. 我打算鼓勵親朋好友乘坐這家航空公司的航班	○	○	○	○	○

消費者忠誠度--再次購買意向 (商務航空旅程)
假設在這旅程中的航空公司依然正常地營運：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
42. 我認為這家航空公司是我航空旅程的首選	○	○	○	○	○
43. 在未來幾年的航空旅程，我會更多考慮這家航空公司	○	○	○	○	○
44. 我打算以後再選這家航空公司	○	○	○	○	○
45. 總的來說，如要選擇航空公司的話，我將繼續乘坐這家航空公司的航班	○	○	○	○	○

還有什麼意見嗎？(商務航空旅程)

請回想一下，您在 2019冠狀病毒病大流行 (2020) 之前的最後一次非商務航空旅行，而且在這次旅行中你有參與購買機票的決策。
非商務航空旅遊的年度是?

- ◯ 2019
- ◯ 2018
- ◯ 2017
- ◯ 2016
- ◯ 2015
- ◯ 2014
- ◯ 2013
- ◯ 2012
- ◯ 2011
- ◯ 2010 or before

非商務航空旅遊
你選的是哪家航空公司？

航空公司的設施(非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
1. 飛機乾淨且外觀現代	◯	◯	◯	◯	◯
2. 機上餐飲質素	◯	◯	◯	◯	◯
3. 飛機廁所的清潔度	◯	◯	◯	◯	◯
4. 飛機座位的清潔度	◯	◯	◯	◯	◯
5. 飛機座椅的舒適度	◯	◯	◯	◯	◯
6. 飛機空調質素	◯	◯	◯	◯	◯

人員(非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
7. 員工一般的態度	◯	◯	◯	◯	◯
8. 航空公司人員能準確地回答我的問題	◯	◯	◯	◯	◯
9. 人員是否對每個人都表現出同等的個人關懷	◯	◯	◯	◯	◯
10. 員工有知識回答我的問題	◯	◯	◯	◯	◯
11. 航空公司人員的同理心	◯	◯	◯	◯	◯
12. 航空公司人員對其職責的認識	◯	◯	◯	◯	◯
13. 預訂和票務交易無誤	◯	◯	◯	◯	◯

同理心(非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
14. 準時出發和到達	○	○	○	○	○
15. 損失或危險的賠償方案	○	○	○	○	○
16. 照顧旅客行李	○	○	○	○	○
17.滿足旅客需求的航班數量	○	○	○	○	○

形象(非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
18. 有低廉價錢的機票可供選擇	○	○	○	○	○
19. 票價與服務匹配	○	○	○	○	○
20. 航空公司形象	○	○	○	○	○

整體服務質素 (非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
21. 這家航空公司的員工提供優質的服務	○	○	○	○	○
22. 總的來說，這家航空公司的機上設施非常好	○	○	○	○	○
23. 這家航空公司有方便的預訂和票務系統	○	○	○	○	○
24. 這家航空公司提供出色的保安系統	○	○	○	○	○
25. 當我乘坐這家航空公司的航班時，我會有安全感	○	○	○	○	○
26. 這家航空公司提供出色的行李處理服務	○	○	○	○	○

顧客滿意度((非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
27. 我在這家航空公司的航程中獲得了令人滿意的體驗	○	○	○	○	○
28. 我選擇乘坐這家航空公司是正確的	○	○	○	○	○
29. 在乘坐這間航空公司的航班後，我通常都會有愉快的體驗	○	○	○	○	○
30. 總的來說，這家航空公司提供了令人非常滿意的體驗	○	○	○	○	○

忠誠度計劃帶所來的好處(非商務航空旅遊)
忠誠計度劃: 例如亞洲萬里通、馬可孛羅會或任何航空公司客戶會
在上述的非商務航空旅遊中：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
31. 我省了錢	○	○	○	○	○
32. 我發現新的目的地（產品）	○	○	○	○	○
33. 我受到的待遇比其他顧客好	○	○	○	○	○

忠誠度計劃的滿意度(非商務航空旅遊)
忠誠計度劃: 例如亞洲萬里通、馬可孛羅會或任何航空公司客戶會
在上述的非商務航空旅遊中：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
34. 成為這個計劃的成員後，我得到的好處能符合我的期望	○	○	○	○	○
35. 總而言之，我對這個計劃很滿意	○	○	○	○	○

價格公平感知(非商務航空旅遊)

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
36. 相對於我付出的機票價錢，我認為航空公司提供的服務非常好	○	○	○	○	○
37. 與我所放棄的（包括金錢、精力、時間和精力）相比，這家航空公司的整體服務非常好	○	○	○	○	○
38. 總體而言，這家航空公司物有所值	○	○	○	○	○
39. 總的來說，這家航空公司的服務和商品很有價值	○	○	○	○	○

消費者忠誠度-口口相傳(非商務航空旅遊)
假設在這旅程中的航空公司依然正常地營運：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
40. 我打算告訴他人關於這家航空公司的正面評價	○	○	○	○	○
41. 我打算鼓勵親朋好友乘坐這家航空公司的航班	○	○	○	○	○

消費者忠誠度--再次購買意向 (非商務航空旅遊)
假設在這旅程中的航空公司依然正常地營運：

	非常同意 / 非常好	同意 / 好	中立的 / 中性的	不同意 / 差	非常不同意 / 非常差
42. 我認為這家航空公司是我航空旅遊的首選	○	○	○	○	○
43. 在未來幾年的航空旅遊，我會更多考慮這家航空公司	○	○	○	○	○
44. 我打算以後再選這家航空公司	○	○	○	○	○
45. 總的來說，如要選擇航空公司的話，我將繼續乘坐這家航空公司的航班	○	○	○	○	○

還有其他經驗可供分享嗎？(非商務航空旅遊)

Appendix 6: Regression models

The AIRQUAL model is:

- Overall service quality = β0 + β1 Airline tangibles + β2 Personnel + β3 Empath + β4 Image + e

The customer satisfaction model is:

- Customer satisfaction = β0 + β1 Overall service quality + e

The repurchase intention model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + e

The repurchase intention with the loyalty programme factors model is:

- Repurchase intention = β0 + β1 Overall service quality + β2 Customer satisfaction + β3 Perceived price fairness + β4 Loyalty programme-perceived benefits + β5 Loyalty programme-customer satisfaction + e

Appendix 7: Normality checks for all regression models

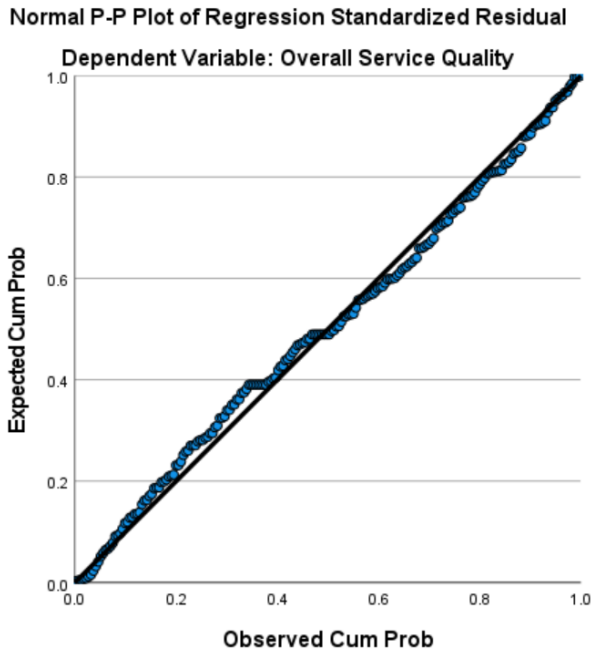


Figure 7.1 Business air travellers: P-P plot of AIRQUAL model

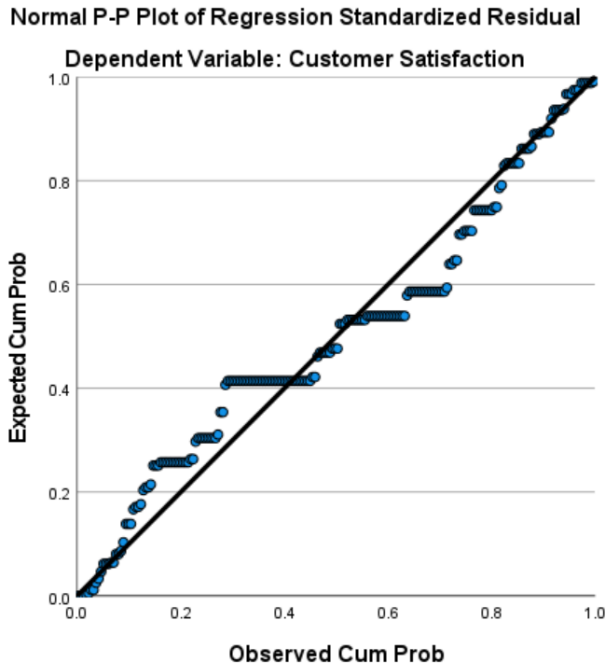


Figure 7.2 Business air travellers: P-P plot of customer satisfaction model

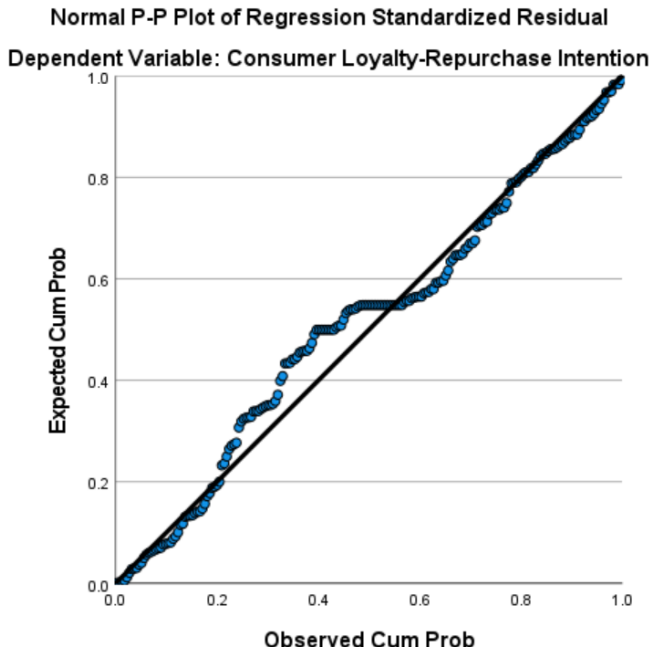


Figure 7.3 Business air travellers: P-P plot of repurchase intention model

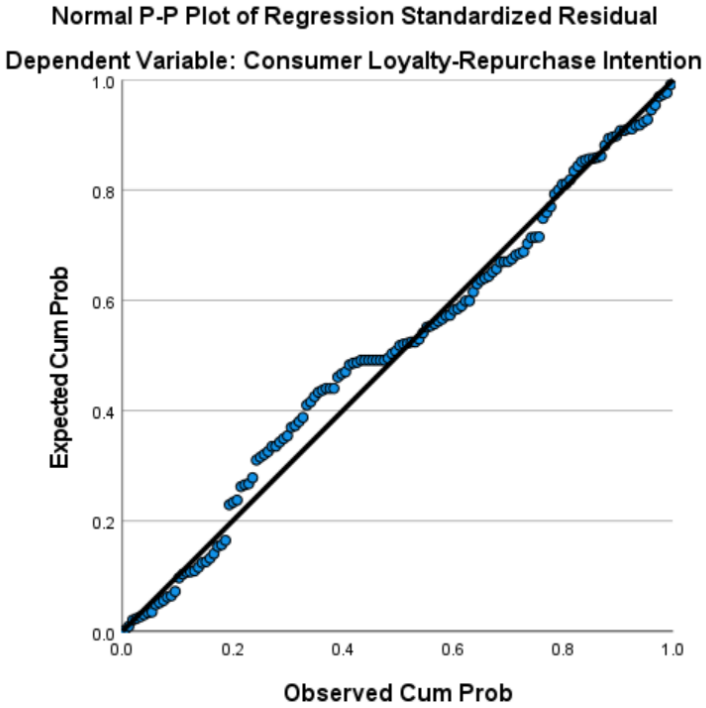


Figure 7.4 Business air travellers: P-P plot of repurchase intention and loyalty programme factors model

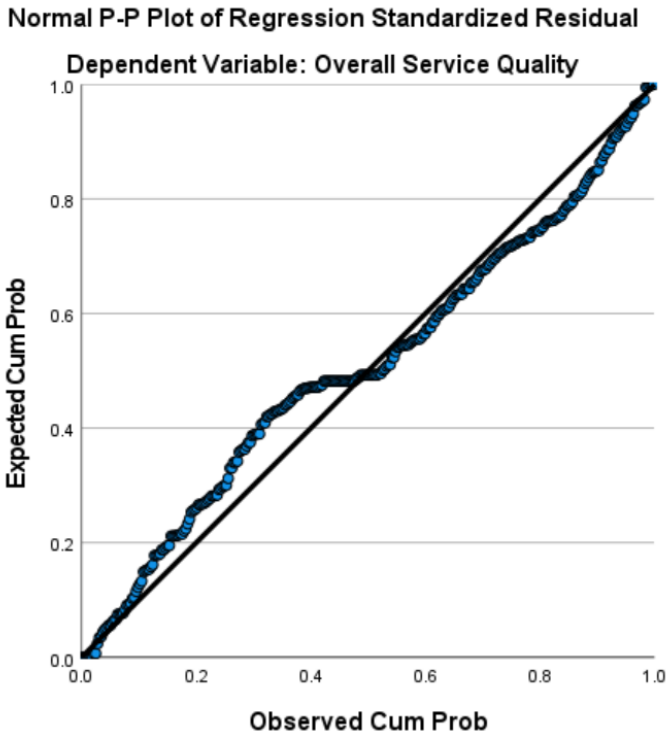


Figure 7.5 Non-business air travellers: P-P plot of AIRQUAL model

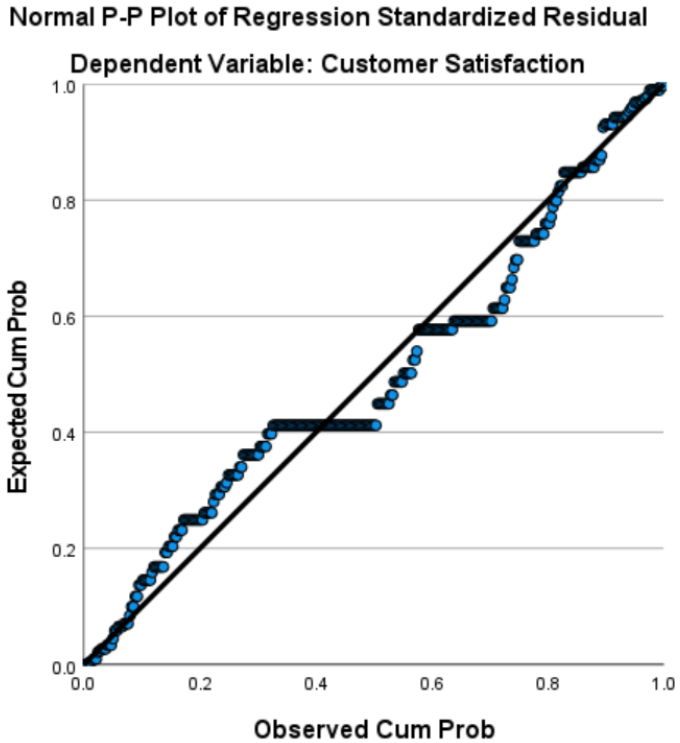


Figure 7.6 Non-business air travellers: P-P plot of customer satisfaction model

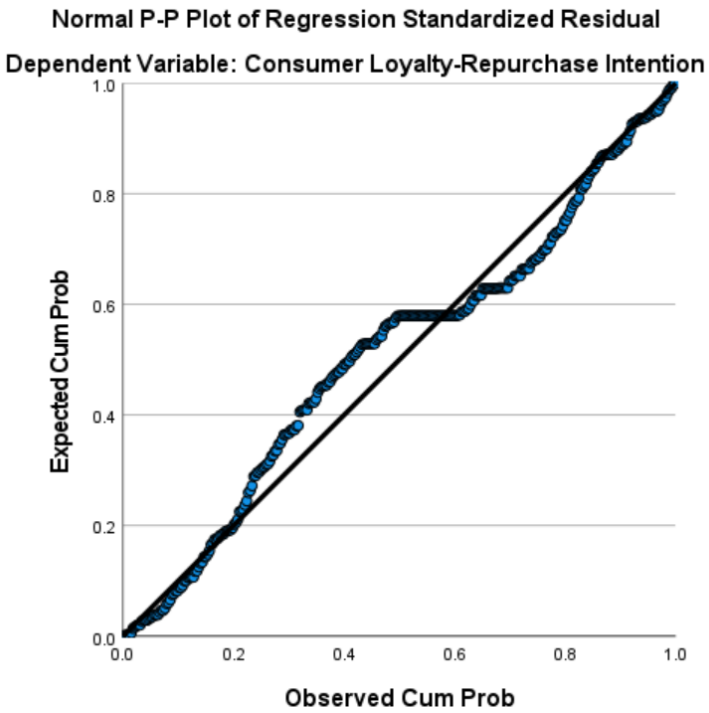


Figure 7.7 Non-business air travellers: P-P plot of repurchase intention model

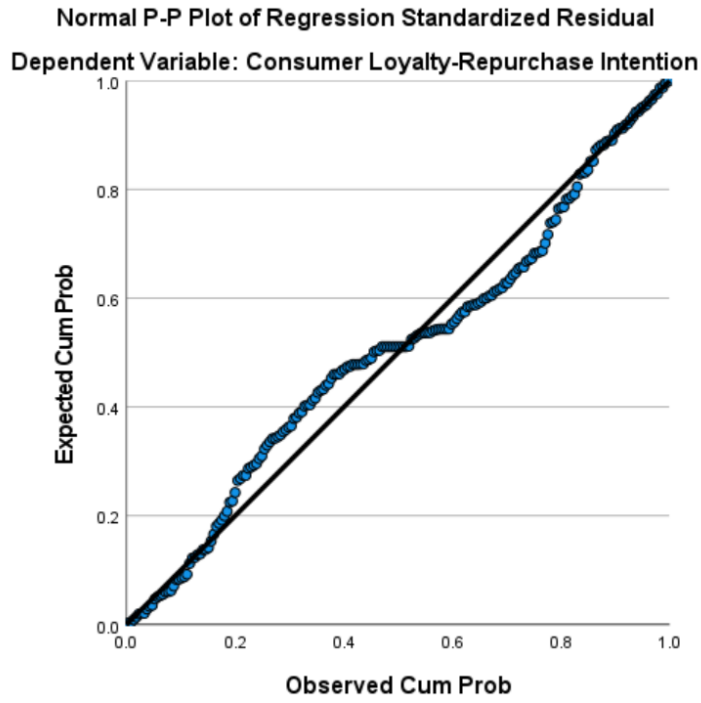


Figure 7.8 Non-business air travellers: P-P plot of repurchase intention and loyalty programme factors model

Appendix 8: Homoscedasticity checks: scatter plots of all regression models

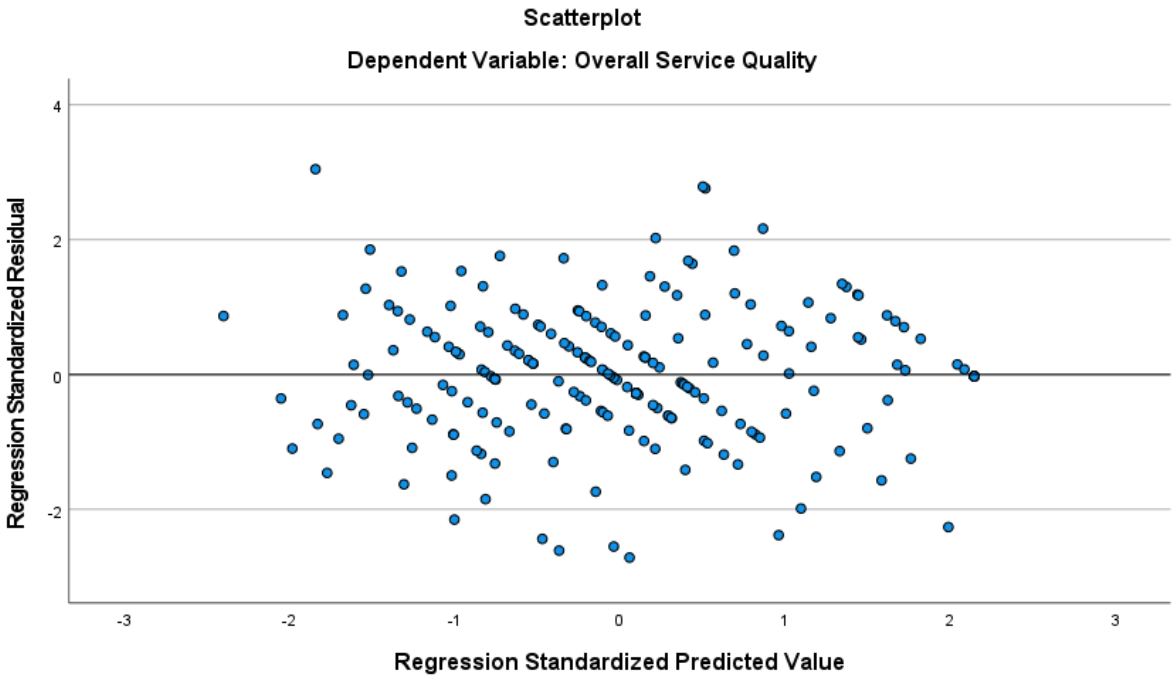


Figure 7.9 Business air travellers: AIRQUAL model standardised residual plot

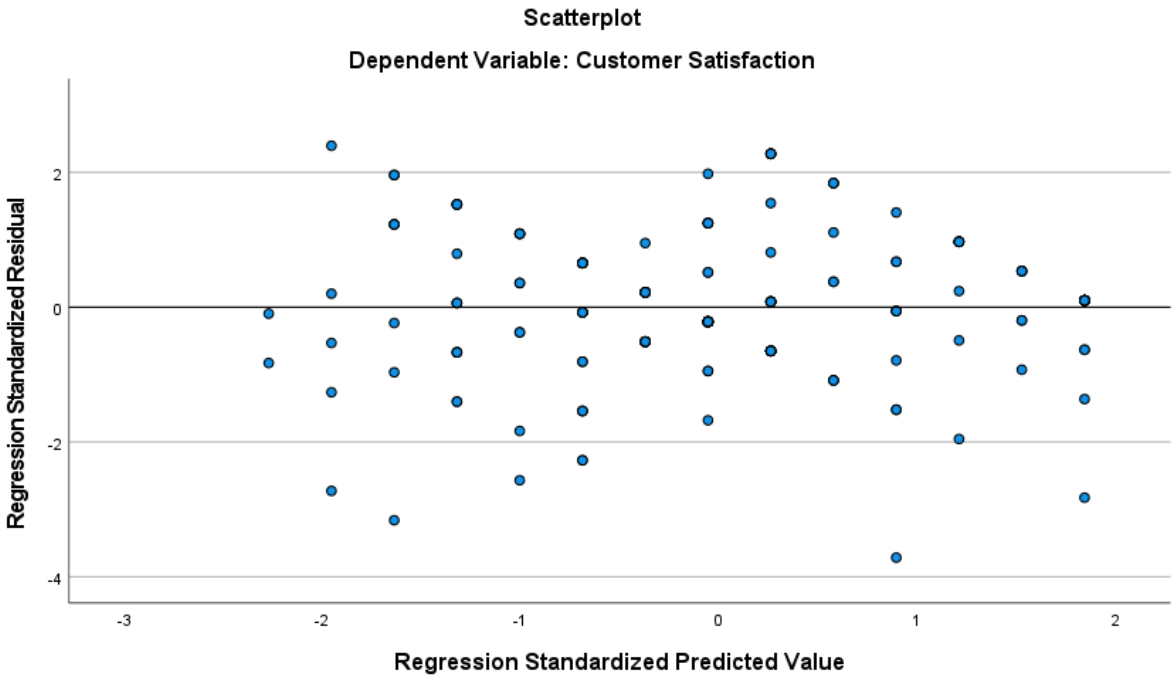


Figure 7.10 Business air travellers: customer satisfaction model standardised residual plot

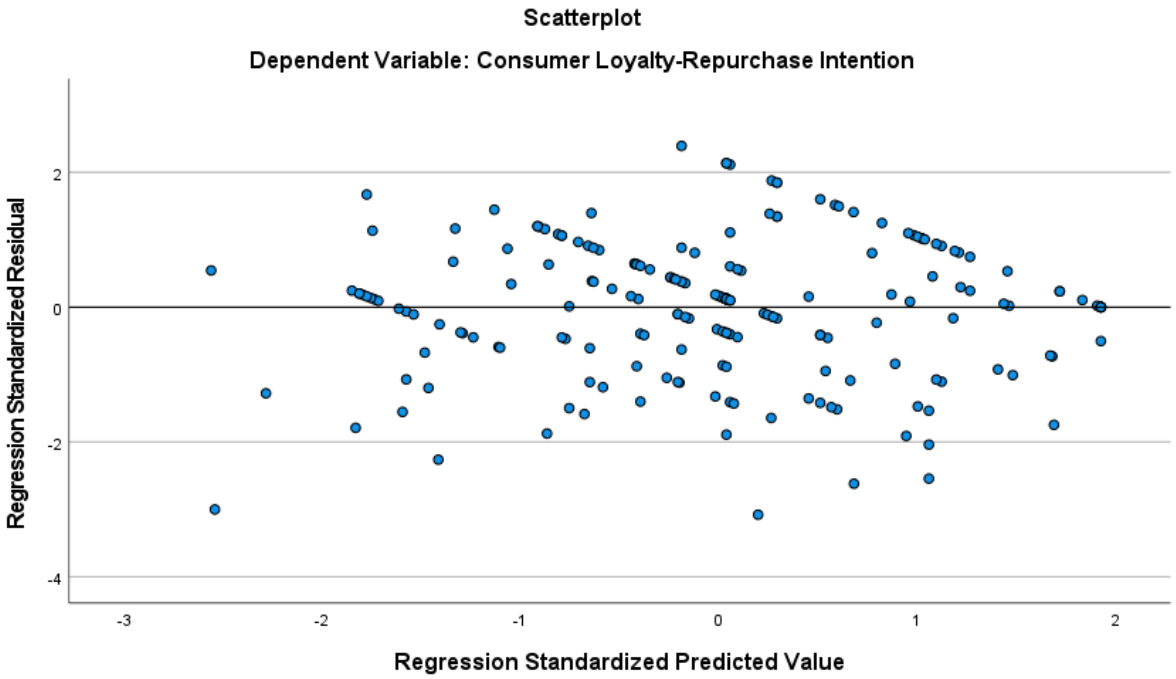


Figure 7.11 Business air travellers: repurchase intention model standardised residual plot

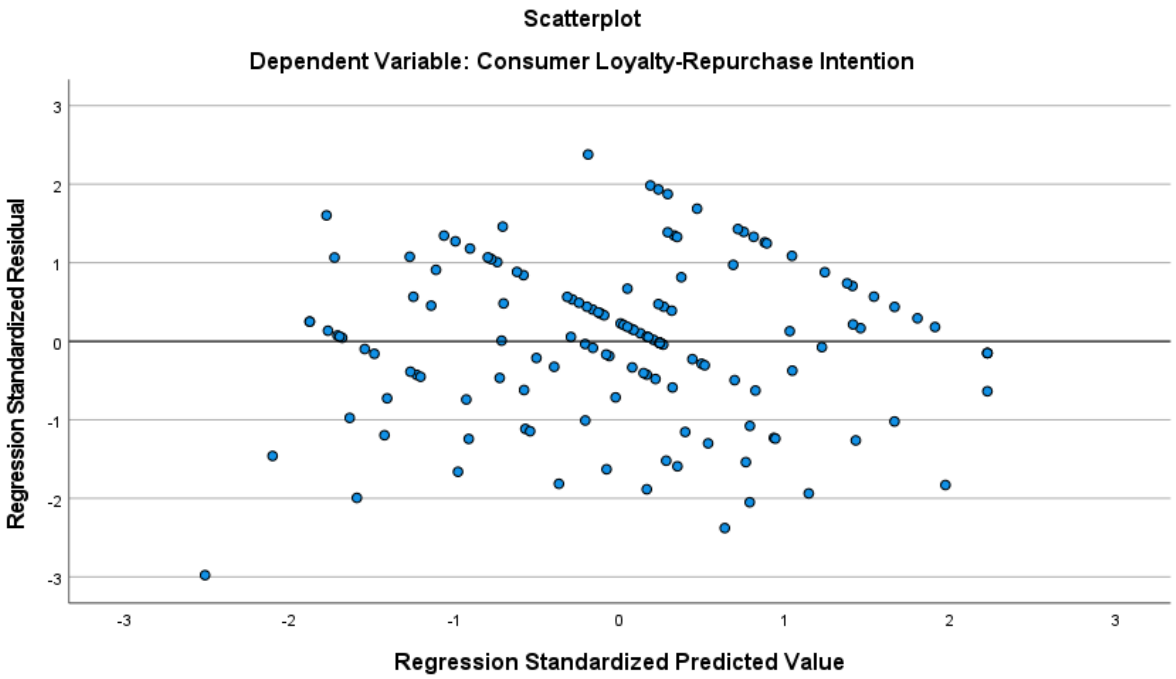


Figure 7.12 Business air travellers: repurchase intention with loyalty programme factors model standardised residual plot

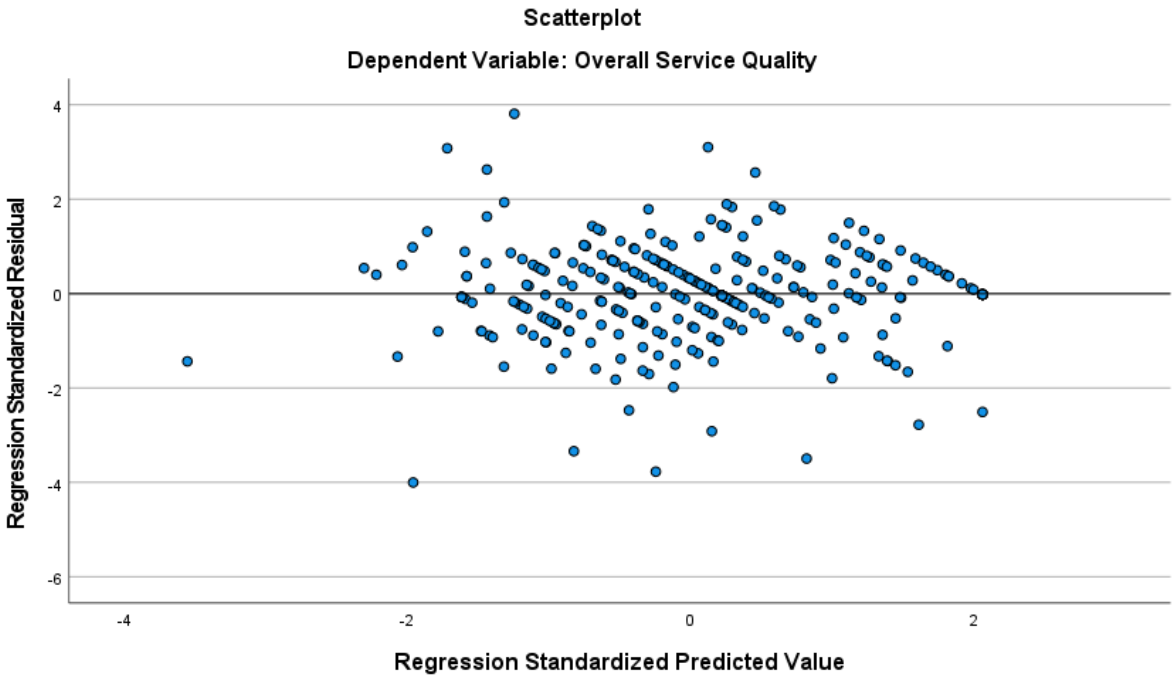


Figure 7.13 Non-business air travellers: AIRQUAL model standardised residual plot

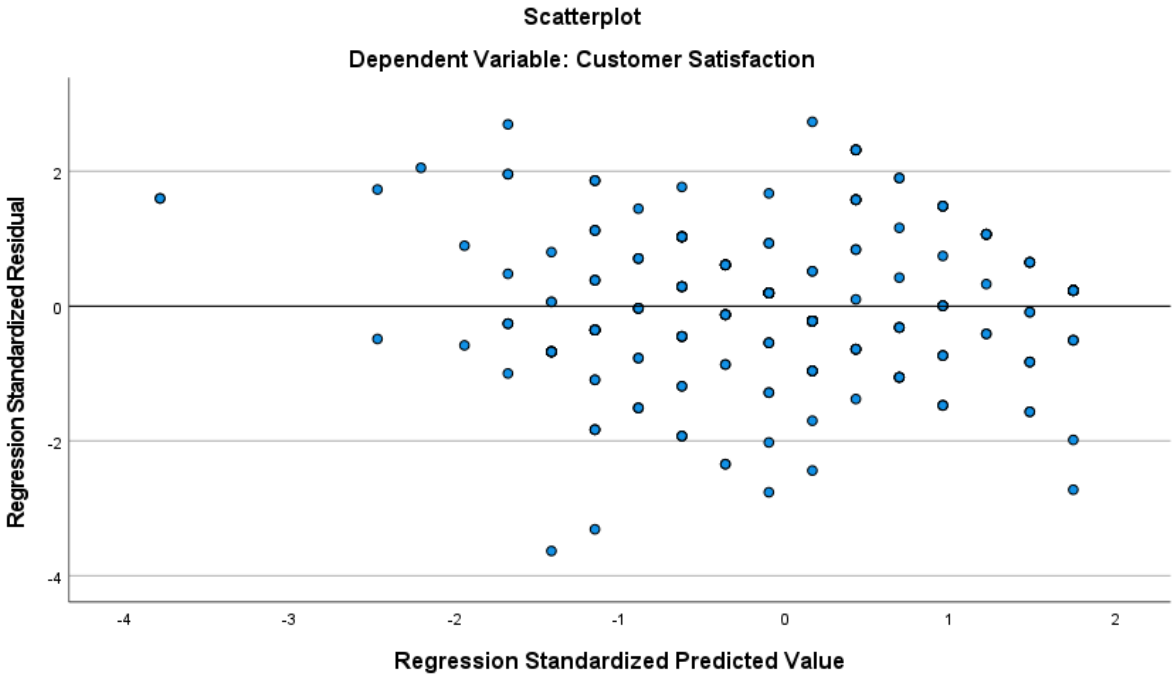


Figure 7.14 Non-Business air travellers: customer satisfaction model standardised residual plot

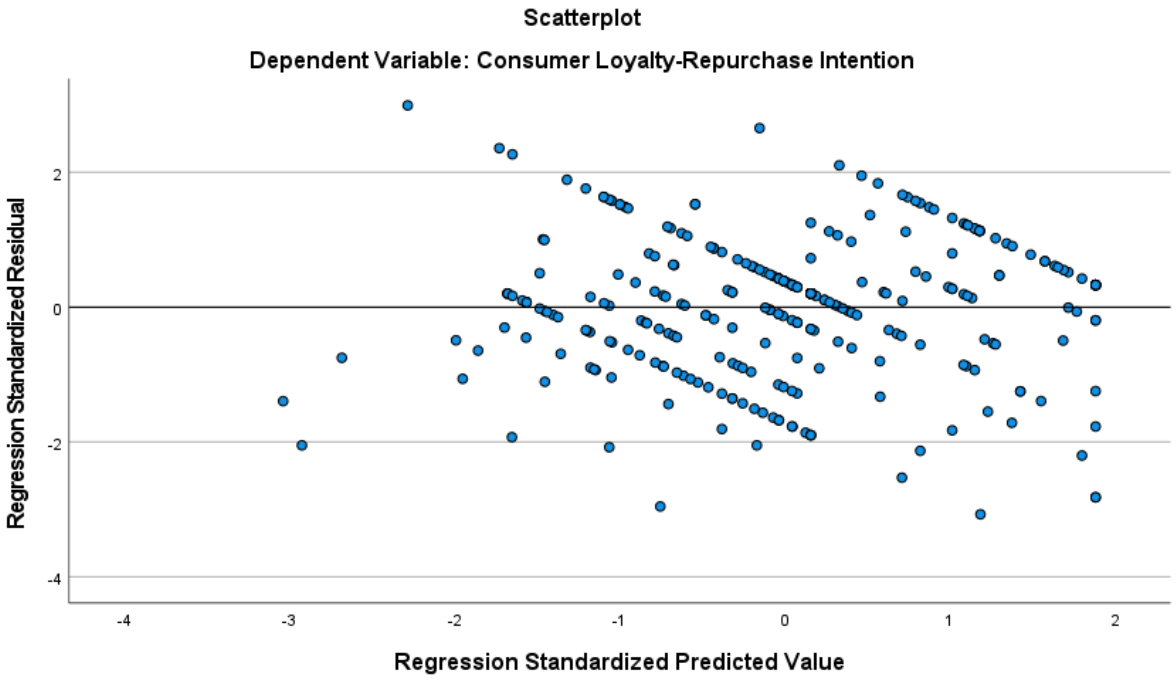


Figure 7.15 Non-business air travellers: repurchase intention model standardised residual plot

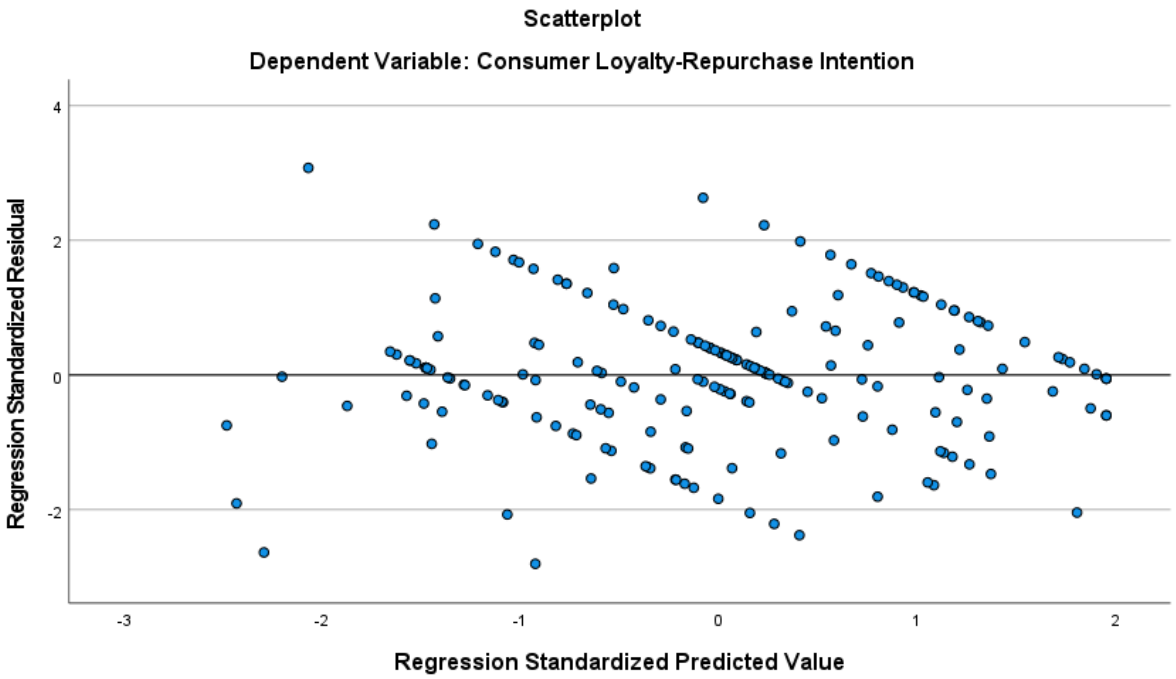


Figure 7.16 Non-business air travellers: repurchase intention with loyalty programme factors model standardised residual plot

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