# INFLUENCE OF FREQUENT FLYER PROGRAMME AND AIRLINE SERVICE QUALITY ON RE-BUY INTENTIONS OF AIRLINE FREQUENT PASSENGERS

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**THE FACULTY OF SOCIAL SCIENCE**

*By*

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# Cochin University of Science and Technology

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## Certificate

*This is to certify that the research work for the thesis entitled* ***"Influence of Frequent Flyer Programme and Airline Service Quality on Re-buy Intentions of Airline Frequent Passengers"*** *by Mr. Joemon Pappachan, part time research scholar (Reg. No. 3924), under my supervision and guidance at the School of Management Studies, CUSAT, is adequate and complete for the requirement of the Ph. D thesis.*

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*Research Guide*

# Declaration

*I, Joemon Pappachan, hereby declare that the work presented in the thesis "**INFLUENCE OF FREQUENT FLYER PROGRAMME AND AIRLINE SERVICE QUALITY ON RE-BUY INTENTIONS OF AIRLINE FREQUENT PASSENGERS** " submitted to Cochin University of Science and Technology for award of Ph.D. degree under the Faculty of Social Science is the outcome of the original work done by me under the supervision and guidance of **Dr. Moli P. Koshy**, Professor, School of Management Studies, Cochin University of Science and Technology, Kochi. I further declare that this work has not formed the basis for the award of any degree, diploma, associateship, fellowship or any other title for recognition.*

Kochi – 22, **Joemon Pappachan**

*Dated 25th March 2015*

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***Joemon Pappachan***

# List of Abbreviations

| | | |
|---|---|---|
| AEP | - | Airport Entry Permit |
| AGFI | - | Adjusted Goodness of Fit Index |
| AMOS | - | Analysis of Moment Structures |
| ANOVA | - | Analysis of Variance |
| ASK | - | Available Seat Kilometers |
| ASQ | - | Airline Service Quality |
| AVE | - | Average Variance Extracted |
| BCAS | - | Bureau of Civil Aviation Security |
| CFA | - | Confirmatory Factor Analysis |
| CFI | - | Comparative Fit Index |
| CMIN | - | Chi – square Minimum |
| DGCA | - | Directorate General of Civil Aviation |
| EFA | - | Exploratory Factor Analysis |
| FFP | - | Frequent Flyer Programme |
| FSC | - | Full Service Carrier |
| GFI | - | Goodness of Fit Index |
| IATA | - | International Air Transport Association |
| LCC | - | Low Cost Carrier |
| PAF | - | Principal Axis Factoring |
| PLS | - | Partial Least Squares |
| RBI | - | Re-Buy Intention |
| RMSEA | - | Root Mean Square Error of Approximation |
| RPK | - | Revenue Passenger Kilometer |
| SEM | - | Structural Equation Modeling |
| SPSS | - | Statistical Package for Social Science |
| TLI | - | Tucker – Lewis Index/ coefficient |
| TSR | - | Theory of Self Regulation |
| VIF | - | Variance Inflation Factor |
| WOM | - | Word of Mouth |
| WTP | - | Willingness to Pay |

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***Abstract***

*The growth potential of service sector, especially the aviation sector in the Indian economy is splendid. Therefore, it is crucial for the airline service providers to realize their customers, design offers and deliver the desired value to their customers. This study reveals the effect of airline passenger satisfactions particularly on re-buy intentions derived from the attributes-level performance dimensions of both service aspects and loyalty programme of an airline.*

*The mediation effect of satisfaction and other selected antecedents on the re-buy intention of a passenger is hypothesized in this study. Critical areas affecting buying intentions such as core service quality and loyalty attribute-level performances, effect of frequent flyer programme and service quality satisfaction, passenger trust on airline, brand image and moderating effects of perceived value, frequent programme status and travel frequency of airline passengers are linked in a structural model to assess the strength of each facet in affecting re-buy intentions. Implications to the airlines were made based on the finding that re-buy intentions cannot be attributed solely to the impacts of frequent flyer programme, rather affected through the mediation effect of airline service quality satisfaction, which is very much valid for the higher FFP status category of frequent travelers. The effects of moderation caused by perceived value, FFP status and flying experience were also found to be significant in making re-buy intentions.*

# PART ONE

- *Introduction,*
- *Literature Review,*
- *Research Methodology &*
- *Validation of Measurement Models*

# Chapter - 1

# INTRODUCTION

*This chapter deals with background to the research problem, the concept of frequent flyer programme, airline service quality, objectives, scope, significance and organization of the study.*

## 1.1 Background

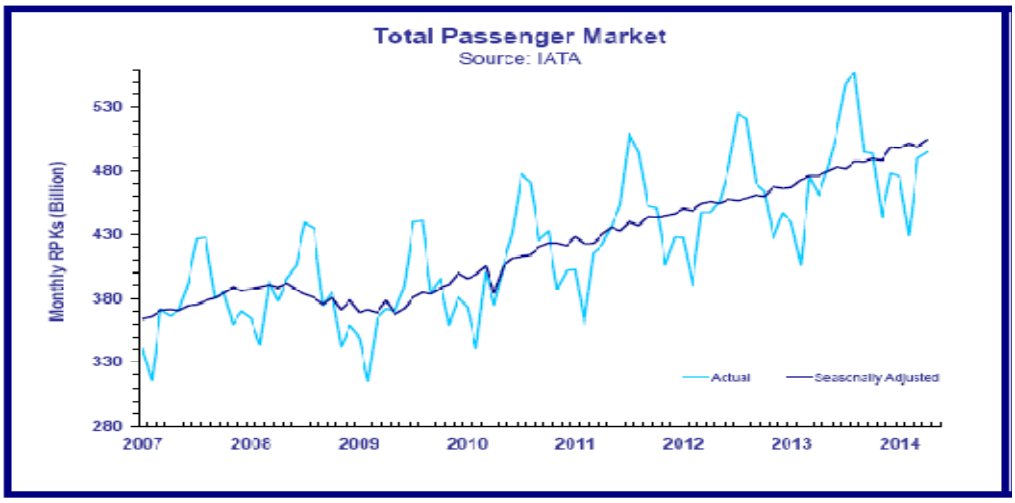
Service industries worldwide were valued at $350 billion, accounting for 20 percent of all world trade in 1980 and that figure had nearly tripled to $1,000 billion by 1992. Bateson & Hoffman (1999) estimated that the service sector accounts for 58 percent of worldwide gross national product. According to UN National Account Statistics cited by Prasad et al. (2014), the services sector has the highest sector wise contribution in global GDP with a share of 67.5 percent in world GDP of US $ 70.2 trillion in 2011. Air transport currently provides 56.6 million jobs and accounts for more than US $ 2.2 trillion of the global gross domestic product (GDP). India is considered as the 9$^{th}$ largest aviation market handling 121 million domestic and 41 million international passengers.

The total number of passengers travelling by air has significantly dropped by 4.79 per cent in 2012-13 to 94.8 million, in comparison to 12.05 per cent growth achieved in 2011-12. Out of this, there is a relatively high fall of 5.24 per cent in domestic travel compared to international travel with 4.09 percent decline.

However, the total number of passengers travelled by air during the first half of 2013-14 grew by 6.3 per cent compared to the decline of 4.8 per cent, in 2012-13.

With the growth of service sector in Indian economy especially in the aviation sector, it is crucial for the airline service providers to understand their customers, design offers and deliver the desired value to their customers. As per the report (see figure 1.1) on air passenger market analysis data published by International Air Transport Association (IATA), April 2014, there is a steady growth in air passenger market both in international and domestic, which is normally calculated in RPK i.e. Revenue Passenger Kilometer (Peter Belobaba et al., 2009).

*Figure 1.1 Total passenger market based on revenue passenger kilometers (RPK)*




*Source: IATA website: Air passenger market analysis data, April 2014*

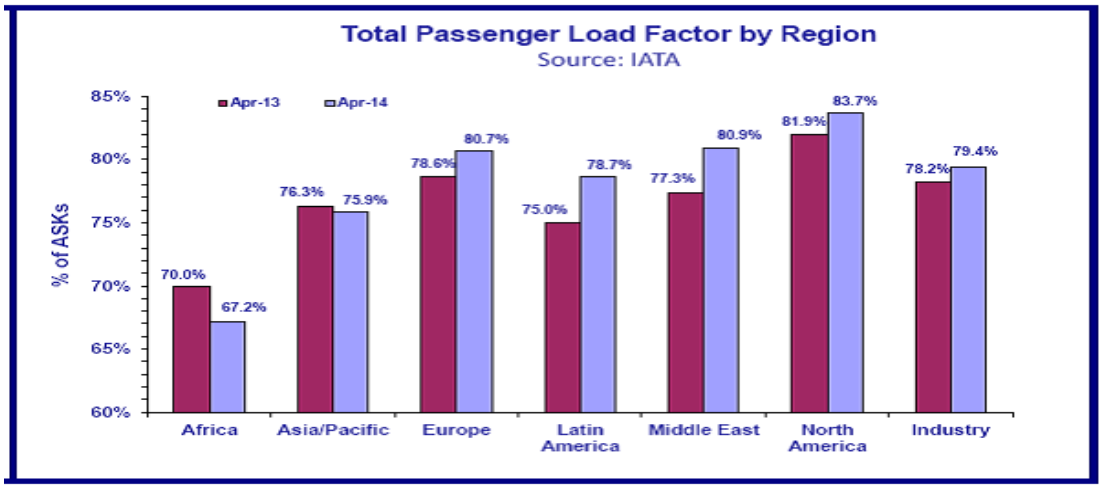
This study focuses on passengers' buying intention for an airline influenced by its attribute-level performances of various service based attributes and level of satisfaction derived from these attributes and also on various attribute-level performances of airline loyalty programme. These attribute- level performances

would influence passenger's satisfactions which lead to re-buy intention. Passenger satisfaction is hypothesized as an after effect of the attribute- level performances of loyalty programme (FFP) and Airline Service Quality (ASQ). These perceived satisfactions obtained through loyalty programme and service quality performances are separately measured and its effects on re-buying intentions of passengers are assessed with a single structured model. Critical areas affecting re-buy intentions identified as passenger perceived value, brand image and trust are linked in a structural model to know the effect of these factors on the re-buy intentions of airline frequent travelers, which are hypothesized in this study.

As per IATA statistics (IATA website, 2014) the global airline industry (total market) passenger load factor as a percent of Available Seat Kilometers (ASK) is reported to be at 79.4 per cent in April 2014 (see figure 1.2) and those empty seats have a very short shelf life; once the aero plane takes off, the possibility of any revenue from the empty seats is lost forever."

Air Transport Action Group (ATAG, 2008) cited by Peter Belobaba et al. (2009) claims that the global airline industry consists of over 2000 airlines operating more than 23,000 commercial aircraft, providing service to over 3,700 airports.

*Figure1.2 Region wise Air passenger load factor as a percent of ASK*




*Source: IATA website: Air passenger market analysis data, April 2014*

### 1.1.1 Frequent Flyer Programme (FFP)

According to International Air Transport Association (IATA) special report on FFP estimates, there are at least 130 airline loyalty programs and more than 150 million members. Ravindra Bhagwanani, Managing Director of FFP consultancy Global Flight, stated that it is hard for airlines to ignore the focus on the cash generation aspect of FFPs and evidence suggests that FFPs can make a big difference to the bottom line of airlines. In addition, "FFPs are major direct cash generators for larger carriers through the sale of miles to credit card and other partners, without that revenue source, there would be very few major airlines in North America in business today" (*Bhagwanani, 2012 cited in IATA, Airlines International special report on FFP, 2012).*

A Frequent Flyer Programme (FFP) can be referred as a permanent incentive programme offered by an airline to reward its member passengers and encourage repeat business. The reward is usually based on either travel

purchase volume or number of trips. FFP was first introduced by American Airlines in 1981. The objective of FFPs was to maintain customer loyalty, provided this scheme profited the airlines. They were based on the argument that passengers need to find that changing airlines away from one offering loyalty bonuses is difficult and costly (Klemperer, 1995). Therefore, FFP plays an important role in the airline passenger retention, and not many empirical studies trying to measure the secluded effect of FFPs exist.

In the airline industry, frequent flyer programme has become one of the most widely used marketing tools for retaining customers and motivating service usages. In spite of its growing popularity, little is known about the factors that influence passenger's perceptions and responses to such programs (Kivetz and Simonson, 2002).

The concept of FFPs is considered to be an excellent example of the use of relationship marketing to build customer loyalty (Palmer & Mayer, 1996; Rodriguez, 1997). Although research has shown that FFPs serve as an influential factor to the travelers in selecting a carrier, the benefits of running such schemes have been debatable because of the enormous operating costs involved.

Nevertheless, it is a well-known fact that companies that maintain and develop a loyal customer base increase their profits, as indicated by Zeithaml and Bitner (1996). These benefits typically include:

- Increasing purchases
- Lower costs

- Free promotion through word of mouth
- Employee retention, and
- Lifetime value of a customer

Nearly every full service airlines have a point reward system. The frequent flyer programme is able to provide the following advantages to the airlines (Sahoo & Vyas, 2007):

- Save approximately 40% of an airline's acquisition cost per active member
- Generate incremental advertising revenue and in-flight merchandise sales
- Issue a personalized and magnetically encoded membership card, and deliver a greeting pack to new members within 2 - 3 minutes of starting the enrolment process, and
- Enlist and fulfill new members as well as providing retention services to existing members

In addition to, or as part of their frequent flyer programme, most of the major airlines also issue co-branded credit cards or are associated with Diners Club or American express. Most airlines have unoccupied capacity on a reasonably regular basis.

According to Whyte (2003), FFP provide the following advantages to its members:

- Lounge—including services in lounges and clubs
- Preferred seating
- Priority check-in
- Increased baggage allowance

- Partner benefits (alliances/hotels/car rentals)
- Booking service
- Occasional upgrades, including certificates, and
- Priority baggage

Anthony and Chin (2002) indicated the importance of network coverage of an airline as an attribute preferred by airline passengers, especially business travelers. Business passengers will find it easier to accumulate FFP mileage if an airline covers most of his business destinations or has good coverage through alliances and partnerships with other airlines. Some important attributes of FFP shown in the literature focuses on areas which include firstly, the class of service, the bonus for travel in premium classes, and the type of fares that qualify for point accrual and also the easiness in redeeming travel benefits. The second is the partner network inclusive of hotel, car rental and other retail services. The third element axis on the terms and conditions that decide the flexibility of the FFP reward system which consists of covering the validity of miles, booking procedures, blackout dates, transferability of awards and the capacity provided for award travel. The fourth element of the programme is customer service. The last element is the privileged programme, catering to that essential customer segment of frequent high-yield travelers.

Petersen (2006) indicates that loyalty programme grow at a rate of 11 percent per annum and fastest growing segment of these programme are "mileage consumers," not frequent flyers. It was also viewed as in a typical year, about 500 billion frequent flyer miles are earned by members (leftover after redemptions).

Loyalty programmes are so popular now that more than half of all the purchases made in the US using credit cards are made with cards linked to loyalty programmes (Petersen, 2011).

The review of literature showed no clear cut categorization of underlying factors which indicate attribute level performance dimensions of Frequent Flyer Programmes. It was also examined whether any set of indicators exist to measure the attribute level performance of frequent flyer programme and found that these indicator items are yet to be explored and validated.

### 1.1.2 Airline Service Quality (ASQ)

Delivering high-quality service to passengers is essential for airline existence. Therefore airline operators need to realize what passengers expect from the services (Chang 2002). Service quality conditions influence a firm's competitive advantage by retaining customer patronage, and with this comes market share (Park *et al*., 2004; Morash and Ozment 1994). It is argued that quality in airline service is difficult to describe and measure due to its heterogeneity, intangibility, and inseparability, and only the customer can truly define service quality in the airline industry (Butler and Keller, 1992).

Industry-specific characteristics present in many service industries limit generalizations; perspectives should be tested across various industries as suggested by leading services researchers (Lovelock, 1984; Fornell, 1992). Hence it is evident that service characteristics vary according to its multi-dimensional service settings and this aspect was considered while measuring service quality performance attributes of airlines used in this study.

## 1.2 Research Problem

### 1.2.1 Background to the problem formulation

In India, all airlines except Indigo airlines are not making any profit from their operations as per the latest statistic published by Director General of Civil Aviation (DGCA - website, 2014). Airline industry today faces crisis attributed by overwhelming operational expenses due to heavy increase in fuel prices and employee cost. These burdens on expenses cannot be adjusted by increasing price levels due to high competition in the market especially from low cost carriers. Apart from this, by looking at the peculiar nature of the airline industry it is known that – all marketing mix variables such as 'place' and 'price' are not fully under the control of airline operators in a given period (for e.g. schedules/ routes, airline-fare fixed for a route for a season).

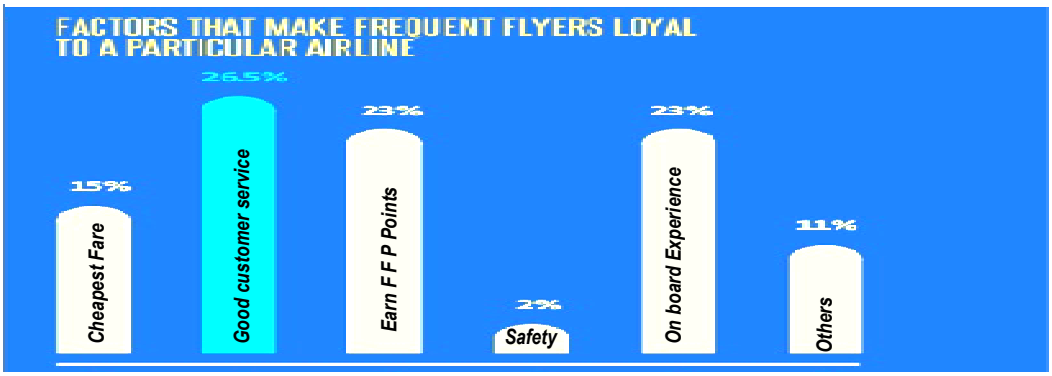
What makes airlines distinctive are the other two Ps i.e. 'the Product' (Service) and 'the Promotion' based attribute-level performances. Evidences provided in literature argue that it is always profitable to retain existing customers than acquiring new ones which is costlier than retaining a loyal customer. Existing literature indicate that the re-buy intentions of frequent air travelers are based on the satisfaction derived from the performances of both FFP and Airline Service Quality (ASQ) attributes.

The airline usage of frequent travelers is on an increase especially among business category. Many of these frequent travelers are members of frequent flyer programmes (FFP) offered by different airlines.

ASQ attributes are also influencing frequent travelers in the ultimate preference for an airline to travel. There can be variations in the passengers' intention to continue with the same airline due to the variations perceived in FFP and ASQ attribute performances.

As per the data obtained from the official publication of the Airline Passenger Experience Association (2011), the important factors (Figure 1.3) that make the frequent flyers loyal to an airline are good customer service, opportunity to earn frequent flyer miles, onboard experience etc. However the interdependence of these factors and the degree at which these factors affect re-buy intention of various groups and contexts are yet to be investigated.

*Figure 1.3 Factors that influence frequent flyers*




*Source : www. Apex aero, Airline Passenger Experience (2011), official publication of the Airline Passenger Experience Association, Quarter IV.*

Airline passengers can differ in their affinity for repeat usage of an airline for their frequent travel plans. Frequent Flyer Programme (FFP) with its variance in benefits attracts passengers to choose an airline, whereas Airline Service Quality (ASQ) attributes will also have an effect in passengers' selection or re-buy decisions. This study is looking for the measurement of unknown interaction due

to the differences in the level of satisfactions that exhibit among airline passengers who look for service quality attributes as well as frequent-flyer attributes and the extent to which each type of attribute influence their buying intention.

This study focus on the link between satisfactions obtained from loyalty programme attributes, which are very much part of relationship marketing (Gronroos, 1993; Gwinner et al., 1998), and service quality attributes.

Therefore, understanding the joint and intervening effect of airline service quality variables and FFP variables in re-buy intentions of customers will help the airlines to formulate their plans effectively, thus increasing profitability of the operations.

### 1.2.2 Research Gap

Attribute-level performances of 'Airline service quality', 'Frequent flyer programme' as exogenous variables (antecedent factors) and passenger satisfactions, passenger trust and brand image as mediating variables in a single conceptual framework which will explain the ***effect of Airline service quality & loyalty programme satisfactions on passenger re-buy intentions*** is yet to be investigated according to the review of previous studies. Hence a research gap is identified in this regard and that forms the basis for the research work.

### 1.2.3 Statement of the Research Problem

Passengers are lured by FFPs and the quality of the service offered by various airlines which lead to severe competition in the industry. Hence, the effect of the variables such as attribute-level performances of FFP and ASQ, perceived

value, satisfaction from FFP and ASQ, passengers' trust, and brand image of the airline on re-buy intentions calls for probing. Also, there is a need to transport the interrelationships in a single framework to have a holistic view of the effect of the variables on re-buy intentions.

## 1.3 Objectives of The Study

This study was designed to assess the effect of attribute-level performance of service quality and frequent flyer programmes on the re-buy intentions of airline frequent passengers and also to develop a structural model of various antecedents of re-buy intentions.

**Specific Objectives**

1. To find out the attribute-level performance dimensions of Airline Service Quality (ASQ) & Frequent Flyer Programmes (FFP)
2. To find out the effect of ASQ and FFP performance dimensions in the formation of airline passenger satisfactions
3. To compare the variations due to the differences in demographic profiles, status of frequent flyer programmes, years of airline travel experience etc on the satisfaction and re-buying intentions of frequent passengers
4. To assess the mediation role of ASQ and FFP driven satisfactions on re-buy intention of airline passengers
5. To study the effect of' passenger's trust on re-buy intention
6. To determine the role of brand image on re-buy intention
7. To assess the influence of perceived value on affecting passenger satisfaction levels

## 1.4 Significance and Scope of The Study

This research is significant from both an application perceptive of airline marketing management and an academic point of view. It looks for the measurement of interaction effects due to the differences in the levels of satisfaction among airline passengers with respect to service quality attributes and frequent-flyer programme attributes.

Low cost carriers are not offering full- fledged loyalty programme in India and the passengers of low cost airlines are not coming under the preview of this study as it deals with intentions of frequent passengers using Frequent Flyer membership cards only. Passengers' with different status groups and the variations due to FFP status, if any, with respect to affinity towards an airline service was assessed in this study.

The scope of the study is limited to the frequent flyers using loyalty programme cards. Variations in the usage of FFP cards and inclinations towards loyalty programme in determining re purchase intentions with respect to the airline, in which passengers travel the most were measured. The non travel specific factors of FFP such as benefits from usage of credit cards and other partner benefits linked to the loyalty programme were not covered under the scope of this study.

The study did not focus on any airport or any airline and the variations that may arise due to the variations in the facilities provided by the airports are not coming under the scope of this study.

The place wise differences, if any, in the re-buy intention behavior of frequent flyers were not addressed as the personal data such as name and address were not requested during the time of collection of data. This enables the respondents to provide unbiased information. Moreover it cannot be assumed that the frequent flyers travel only in and around their place of residence.

## 1.5 Theoretical Background

According to the classic consumer behavior theory (Ajzen, 1991; Blackwell et al., 2001), the increase in the frequency and volume of transactions will be greater to the extent that consumers generate a positive attitude towards the company and its activities (Dick & Basu, 1994; Taylor & Neslin, 2005; Uncles et al., 2003). Loyalty programmes tend to attract customers who are more loyal to the firm (Dowling & Uncles, 1997; Kim, Shi, & Srinivasan, 2001; Long & Schiffman, 2000; Magi, 2003; Meyer-Waarden, 2007; Sharp & Sharp, 1997; Wright & Sparks, 1999). So the influence of loyalty programme in the re-buy intention of passengers can be postulated.

The theoretical framework proposed by Parasuraman, Zeithaml, and Berry (1988); Carman (1990); Legoherel (1998); Singh (1988); Smith et al. (1999); Zeithaml and Bitner (2000) have generally accepted that service quality determines consumers' re-purchase intentions. Some authors argued that the influence of service quality on consumer loyalty is mediated by consumer satisfaction with the firm (Anderson & Sullivan, 1993; Cronin, Brady, & Hult, 2000; Gotlieb, Grewal, & Brown, 1994, Roest & Pieters, 1997). Thus, the quality

perceived by consumers in the service offered by a firm paves way to satisfaction with the service, which in turn determines consumers' loyalty towards the firm.

Yang et al. (2012) found that service quality has a significant positive effect on customer value, airline image and behavioral intentions. Their study results accepted the hypothesis that customer value has a positive impact on behavioral intentions.

Bass & Wayne (1972), used Fishbein attitude model for the study of brand preference in which customers attitude towards a particular brand is based on the importance of each attribute given by the customer and their belief towards each attribute of the brand.

In the literature on service quality, a number of theoretical positions were observed aimed at defining this concept and examining its impact on consumer behavior. In this logic, the theoretical framework proposed by Parasuraman, Zeithaml, and Berry (1988) has been widely accepted and recognized, as these authors posit five factors of service quality: tangibility, reliability, response capacity, security, and empathy. Other variables taken into consideration were quality that focusing on the result and on the process (Lehtinen & Lehtinen, 1991; Parasuraman et al., 1988).

The individuals' attitudes have been included as determinants of behavior in the majority of overall models of consumer behavior (Blackwell et al., 2001; Engel, Blackwell & Miniard, 1986; Howard, 1989; Howard & Sheth, 1969), as well as in

other more specific behavior models (Ajzen & Fishbein, 1980; Bagozzi & Warshaw, 1990; Gatignon & Robertson, 1985; Schifter & Ajzen, 1985).

Attitudes are conceptualized as an overall predisposition, whether favorable or unfavorable, towards the development of certain behavior, and they are considered to be a fundamental antecedent of behavior and behavioral intention (Kalwani & Silk, 1982; Ajzen, 1991; Ajzen, 2001; Ajzen & Fishbein, 2005). The influence of attitudes has been scarcely considered in studies on customer loyalty programme. According to the classic theory on consumer behavior, the use of a loyalty programme (based on the number and volume of purchases made subject to the rules and incentives of the loyalty programme) would influence the consumer attitude towards loyalty programme.

Garbarino and Johnson (1999) demonstrated that satisfactions and trust play different roles in the prediction of the future intentions for low and high relational customers, also proved the mediation role of trust and satisfaction. It is found that trust is mediating only for high relational customers but not for low relational groups, whereas future intentions of low relational customers are driven by satisfaction.

Baggozi (1992; cited by Sanjaya Gaur & Ajay Kolhatkar) conceptualized the theory of self regulation by extending the classical theoretical model proposed by Ajzen (1991, Theory of Planned Behavior). Self regulation theory highlights the involvement of a motivating component which mediates the attitude/ subjective norm and intention behavior.

Self-regulatory process explains consumer behavior in three parts (Chang and Wang, 2011). A brief description of the three components is:

(1) The appraisal process (the evaluation of internal or situational conditions as they apply to one's console);

(2) Emotional reactions (satisfaction); and

(3) Coping responses (behavior).

This research study is based on the theory of self-regulation processes which explain the concepts; appraisal processes that lead to emotional reactions, which subsequently lead to coping responses (behavior). The cognitive evaluations in this model are similar to the service quality and customer perceived value of products as propounded by Bagozzi (1992) in his Theory of Self Regulation (TSR).

## 1.6 Expected Contributions from the Study

Contributions from the findings are important due to the following four reasons:

(1) It focuses on airline loyalty programme, a tool that is used extensively in airline marketing, which is under researched.

(2) It considers re-buy intention behavior of frequent passengers who use airline frequent flyer programme taken as dependent variable, a factor that has scarcely been observed in airline literature

(3) It examines the influence of explanatory variables linked to passenger perception of airline service quality, attitude of airline passengers toward loyalty programme, mediation roles of satisfactions, brand image and trust

(4) It examines the role of passengers' perceived value about airline, and its effect on 'loyalty programme – service quality' satisfaction link which in turn influence passengers to re-buy the airline for future travel.

The findings of this study will provide better understanding of the influence of airline service quality as well as frequent flyer programme attribute dimensions on making re-buy intentions of airline frequent passengers. This study will facilitate airlines managers (or similar service providers who use loyalty programme) to better understand the management and control of the major attribute dimensions perceived by the consumers. It will help managers in focusing more attention to those performing attributes thereby enhancing efficiency. This study will flip some insight in the measurement and understanding of the effect of satisfactions derived from both ASQ and FFP attribute-level performances in the re-buy intention of frequent passengers. This study provides the effect of perceived value in moderating the relationship between satisfaction and re-buy intention. The study findings would aid airline marketers to understand the coincident effect of FFP and ASQ satisfaction in making re-buy intentions of airline frequent passengers while considering the difference in FFP status and travel experience level of passengers.

## 1.7 Organization of the Study

This study is organized into two parts with seven chapters.

Part one consists of four chapters. First chapter deals with introduction of the topic, about airline frequent flyer programme, airline service quality,

background of research problem, problem statement, objectives, significance, scope of the study, the theoretical foundation and the expected contribution from the study. Chapter two gives a detailed review of literature relevant to the variables considered in this study linking different constructs depicted in the conceptual frame work of the study. Conclusive observations based on the review of literature and plausible research gaps and the subsequent formation of the research problem are provided at the end of this Chapter. Chapter three deals with research methodology covering details regarding research design, the conceptual model based on literature review, survey instruments for data collection, scales used for measurement of constructs, operational definition of constructs, validity of scales/ instruments used for the study, hypotheses of the study, population of the study, sampling design and its method and estimation of sample size. Fourth chapter deals with factor analysis of data for exploring sub dimensions of exogenous variables and its validation using Confirmatory Factor Analysis (CFA).

Part two consists of remaining three chapters, under which chapter five deals with analysis of the data with descriptive statistics of the sample, testing of hypotheses, test of mediation, moderation and also the structural equation model with its output results. Chapter six is wrapped up with the discussion of the findings and interpretation of results in tune with the research problem of the study. Chapter seven deals with the conclusion, implications for the airlines, limitations and scope for further research.

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# Chapter - 2

# LITERATURE REVIEW

*A comprehensive review of literature pertaining to the research work is given in this chapter. The major constructs namely attribute-level performance of frequent flyer programme, airline service quality, satisfaction from airline frequent flyer programme and service quality, brand image, passengers' trust in the airline, re-buy intention of passengers which are relevant to the study were extracted through the literature survey.*

## 2.1 'Airline Service Quality' (ASQ) and 'Re–Buy Intentions' (RBI)

Airline Service Quality is a concern for the airline especially for those engaged in providing full service airline operations. The SERVQUAL scale has been extensively used in Korea to measure the quality of services provided by retail stores (Lee& Lee, 1997), telecommunication companies (Oh, 1995), and airline companies (Kim, 1997). Kim in his study used the scale to measure customer evaluations of airline service quality and found reliability, empathy, and tangibles showing most significant impact on customer perceptions of service quality. It is widely accepted to incorporate those industry-based measures in determining airline service quality perception of airline passengers. The initial tools of service quality measurement in the airline industry were really economic based pre-deregulatory instruments that had been developed by the Civil

Aeronautics Board (Douglas & Miller, 1974; Jordan, 1970). Assessments on service quality from the perspective of the airline passenger first appeared in the work by Kearney (1986) as cited by Cunningham et al. (2002). It examined service quality from the perspective of industry-based economic and marketing measures.

Agarwal and Dey (2010) compared six different airlines operating in India and came out with a finding that there is difference in the perception of customers among the low cost and the full service carriers. It was also noted that the differentiation can occur only by adding new service elements along with providing better quality in delivering the current service.

Cunningham et al. (2002) identified the underlying five dimensions derived from industry measures of service quality by using factor analysis and results obtained are as listed below:

(a) Baggage handling;

(b) Bumping procedures;

(c) Operations and safety;

(d) In-flight comfort; and

(e) Flight connections.

Another point of view that may prompt airline passengers in the selection of an airline may be in line with risk perceptions. It could be considered as one antecedent factor that pertains to the customer evaluation of the airline service quality which in turn may affect the selection of an airline. Perceived risk has been widely dealt with in past literature since it accompanies all purchases to varying

degrees and influences buying behavior (Bettman, 1973; Cox, 1967; Chaudhuri, 1997; Cunningham, 1967; Dowling & Staelin ,1994; Mitchell, 1999).

The roles of intangible service attributes are high in developing influences on passengers' perceptions with regard to risk and it will reflect in their evaluations about travel services (Moutinho, 1987; Sonmez & Graefe, 1998). It was noticed that till 2002, much research work have not examined or measured perceived risk in the context of airline selection decisions by passengers. Some study suggest that perceived risk is a multi-dimensional construct (Kaplan, et al., 1974; Roselius, 1971).

As per the study conducted by Cunningham, Young and Lee (2004) to verify the effect and relevance of risk factor in the selection of airline irrespective of the basic relationship between service quality – satisfaction and intention to re purchase, examined consumer perceptions of airline service quality, perceived risk connected with air travel, and satisfaction of passengers with airlines before and after the 9/11 crisis. They found that overall satisfaction with the airline industry, brand satisfaction, and intention to re-patronize the usual brand did not change in any statistically significant fashion. The findings reflect that peripheral shocks do not affect the constructs, relating respondents were traveling less in the wake of September 11 but apparently were satisfied with the service on airline industry and brand.

The results of the above reviewed longitudinal study shows that even though the number of trips declined over the course of their research study, passengers' overall satisfaction with the airline industry specifically on the

satisfaction with airline, and intention to re-patronize the airline by and large did not change in a statistically significant manner. It is very evident from this part of the literature that customer satisfaction and intention to re-patronize carriers are elementary issues for the survival and growth of airline companies. It is also evident that there is a true link between service quality, customer satisfaction and intention to re-buy. As seen in the above findings, there was little change in any of the variables and did not get enough empirical evidence to suggest major changes in airline service quality perceptions.

Based on the above findings, it was clear that 'risk perception' was not considered as a factor item that influences the constructs leading to re-buy intensions.

## 2.2 Service quality attributes

In spite of extensive research on service quality over the years, only very few studies have examined passenger expectations of service quality in airline industry (Cunningham et al., 2002).

Bhagyalakshmi & Nargundkar (2006) pointed out that price and service quality are the key variables that decide the brand equity of each player in the airline industry. Apart from price factor, the flying experience was divided into three phases and the performance variables associated with airline services identified in their study are:

1. Pre flight service - includes online booking facilities , discounted fare, on time performance of flights , good ground service , travelers informed in case

of delay, regular announcements about delay status quo, provide refreshments whenever there is a delay , provide accommodation if there is a long delay etc.

2. In - flight services - cover good in-flight food, courteous cabin attendants etc.

3. Post - flight service benefits - waiting time for baggage arrival, retrieval of loss baggage / compensation etc.

It was statistically inferred from their study that the differences between airlines is a multi-dimensional construct consisting of in-flight service, delay handling, baggage handling and pricing. All together these variables are basically grouped into service performance attributes, on which airlines and perception of passengers seem to differ significantly.

Park et al. (2004) investigated the effect of service quality of 22 service items on passengers' behavior in selecting airlines. Their study results indicated that passengers' perceived service quality and airline image significantly influenced the airline selection behavior of passengers.

**Flight schedule attributes:** The demand for air travel is considered as a derived demand that reflects travelers' need to participate in activities at their trip destination. Hence it was assumed that the scheduling of various activities of passengers determines their preferred departure and arrival times at their destination. From this service design perspective, the carrier objective is to develop a flight schedule that is best suited to the passengers' departure time preferences. In the air travel literature, schedule delay has been defined as a

measure of convenience related to the difference between preferred and flight departure times (Douglas and Miller, 1974). The schedule delay concept were used to calculate an index that measures the convenience of air service taking into account all `time-related costs associated with air travel (Bailey et al., 1985). A similar concept is used in empirical studies to estimate travelers' sensitivity to the average time between scheduled departures (Morrison and Winston, 1985, 1986).

**Fare class attributes:** The airline fare class structure and variations force passengers to make hidden tradeoffs among fare levels, advance purchase requirements, travel restrictions, service amenities available at terminal as well as on-board, and penalties imposed for flight cancellations.

## 2.3 Relationship between 'Airline Service Quality', 'Satisfaction' and 'Re-buy intention'

Bloemer et al. (1999) linked perceived service quality and service loyalty in a multi-dimensional perspective in which it was noted that loyalty is often included in service quality models as an outcome variable (Cronin and Taylor, 1992; Boulding et al., 1993) while number of factors that limit an in-depth understanding of customer loyalty in services and prevent the generalization of research findings. Findings from such studies showed that it has remained unclear whether or not there is a direct relationship between service quality performance and re-buy intentions. Zeithaml et al. (1996) report such a relationship, whereas Cronin and Taylor (1992) were not able to find such a relationship. Caruana (2002) indicate that customer satisfaction does play a mediating role in the effect of service quality on service loyalty.

Ruben Chumpitaz and Valérie Swaen (2003) pointed out the effect of mediation role of satisfaction in the relationships between service quality, consumer satisfaction and brand loyalty. Their study support the argument that service quality is an antecedent to satisfaction and satisfaction has a positive influence on purchase intentions. It strongly supports the mediating effect of consumer satisfaction functions between service quality dimensions and re-buy intentions, however the major emphasis on their study was on loyalty determinants, as brand loyalty being the dependant variable, while the effects of other aspects such as promotional programmes like loyalty schemes and perceived value were not considered. Their study postulates a hypothetical relationship between service quality - consumer satisfaction - brands loyalty in such a way that service **q**uality performance leads to customer satisfaction.

Many other studies also investigated the relationship between service quality and consumer satisfaction. Even though some authors conclude the antecedent role of consumer satisfaction regarding service quality (e.g., Bolton and Drew, 1991; Boulding et al., 1993), most of them support the hypothesis that service quality leads to consumer satisfaction (Anderson, Fornell and Lehman, 1994; Cronin and Taylor, 1992; Dick and Basu, 1994). A lot of studies conclude the positive impact of consumer satisfaction on brand loyalty (e.g., Bloemer and Kasper, 1995; Cronin and Taylor, 1992; Fornell, 1992; Fornell et al., 1996). Literature and empirical testing confirm the link between service quality and brand loyalty, as service quality leads to brand loyalty**.** Some evidences suggest the existence of both a direct and an indirect relationship from service quality to purchase intention and brand loyalty.

There exist a direct, positive and significant relationship between customer perceptions of service quality and their intentions to buy, and willingness to recommend the company (Boulding et al., 1993; Parasuraman et al.,1988; 1991; Zeithaml, Berry and Parasuraman, 1996).

Cronin and Taylor (1992), using structural equation modeling, concluded an indirect relationship between service quality and brand dependability: service quality is a determinant of consumer satisfaction and so it is satisfaction, not perceived quality that directly affects purchase intentions. This indirect effect of service quality mentioned above provides support to the specific mediating role of consumer satisfaction in the relationship between service quality and brand loyalty, however not tested in an airline context as well as with re-buy intention as a dependent variable. The major dimensions of service quality observed in their study are the check-in service, the service on board, the food quality, and the aircraft cleanliness and comfort.

Ruben Chumpitaz et al. (2007) analyzed service quality, relationship satisfaction, trust, commitment and business-to-business loyalty and established a theoretical basis for evaluating a strategic increase in customers' perceptions of service/product quality – specifically in terms of an increase in relationship quality and customer loyalty in a B2B environment. Using the Gronroos conceptualization, a clear pattern of service-quality dimensions was established and several important findings were reported – including empirical verification of the mediating role of overall relationship of satisfaction in the formation of loyalty attributes. Their study empirically tests the formulated model to establish the

effects of service-quality variables and relationship variables on customer loyalty in a B2B setting.

Cunningham and Young (2002) pointed out several key variables that determine customer intention to repurchase an airline brand. Reliability and empathy variables are significant for US passengers, and reliability and overall risk for Korean passengers. The study also demonstrates the validity of service reliability as a key predictor in both satisfaction and repurchases behavior. It is noteworthy that this finding on the effect of service quality on re buying intention is consistent with prior research dealing with airline service quality (Young, et al., 1994).

The link between service quality- satisfaction – repurchase intention were observed in many studies. Nadiri and Hussain (2008) studied the same relationship in a different perspective especially in a new emerging market with an aim to spot service quality perceptions of airline passengers. Effects of these perceptions on their satisfaction level and thereby repurchase intentions, specifically in a new emerging market in the Mediterranean region with respect to North Cyprus Airline were identified in eight distinct dimensions as given below:

1. airline tangibles,
2. terminal tangibles,
3. personnel,
4. empathy,
5. image,
6. customer satisfaction,

7. repurchase intention, and
8. word-of-mouth (WOM) communication

Findings from their study confirmed that customer satisfaction is positively related to repurchase and word-of-mouth intensions. Hence it can be presumed that service quality supports customer satisfaction, which in turn stimulates intention to repurchase, and encourages recommendations (Nadiri and Hussain, 2008). The same dimensions are also used in prior empirical studies (Dean, 2007; Kozak et al., 2003; Parasuraman et al., 1988; Sultan and Simpson, 2000). Behavioral aspects of customer loyalty were characterized in terms of both repurchase intentions & word-of-mouth (WOM) communication, and recommendations. Existing literature recognizes the importance of repurchase and WOM intentions and for this reason these two dimensions were recommended for further studies as outcome of service quality perceptions (Anderson et al., 1997; Oliver, 1980; Yi, 1990). Customer satisfaction is considered to be the predictor of repurchase intentions by many authors (Cronin and Taylor, 1992; Davidow, 2003; Ekiz and Arasli, 2007; Karatepe and Ekiz, 2004; Yi, 1990; Zeithaml et al., 1996).

There are splendid evidences to show that repurchase intention is an outcome of service quality perceptions as well as satisfaction obtained from purchase episode (Carman, 1990; Legoherel, 1998; Singh, 1988; Smith et al., 1999; Zeithaml and Bitner, 2000).

According to Zeithaml and Bitner (2000) quality is considered to be a cause of satisfaction and service quality refers to the specific attributes of the service. However it is also revealed from the fact that the perceptions of airline service quality are quite diverse and do not seem to fit any single existing quality model such as the service quality model (Haynes & Percy, 1994).

Cunningham et al. (2002) compared U.S. and Korean customers in terms of their perceptions of airline service quality based on SERVPERF and industry-based measures. This study examined using SERVPERF, industry-based measures, and perceived risk in predicting customer satisfaction with intention to re buy the airline brand. The results suggest that U.S. passengers consider service reliability, in-flight comfort, and flight connections as the key factors determining satisfaction with airline service whereas Korean passengers generally consider reliability, assurance, and risk factors as predictors of satisfaction.

Cunningham et al. (2002) basically analyzed customer perceptions of services and risk of services provided by commercial airline companies in a cross-cultural setting; and also to assess the effectiveness of existing measures of service quality and risk in predicting customer satisfaction and intention to re-patronize the services. The above study was focused on the change in consumer perception about service quality and variations in passenger satisfaction level which lead to intention to re buy the services but with respect to a context which was a major incident (Sep 11 tragedy). Since the focus was within the context of such an incident, risk factors were included in the study with more attention, on the other hand recent studies have made an indirect attempt to associate the

interrelationship between service quality dimensions causing customer satisfaction and thereby intention to repurchase the same brand of airline. This direct positive relationship is formulated as hypothesis for the present research study.

## 2.4 Linkages of 'Service loyalty' and 'Re-buy intentions'

Though explicit connections between the service quality dimensions and dimensions of service loyalty in terms of buying intention have not been completely researched in the services marketing domain so far, an understanding of the construct of service quality existed to a limited extent, ignoring the full range of conceivable loyalty (re)actions that may follow the evaluation of a service (Zeithaml et al., 1996).

Cronin and Taylor (1992), in their study focused on repurchase intentions (measuring this construct as a single item), while Boulding et al. (1993) operationalised repurchase intentions and willingness to recommend (as two single items in a study and measured using six items in a follow-up study). Zeithaml et al. (1996) proposed dimensions of loyalty with items such as willingness to pay more and loyalty under increased pricing. It is evident from their study that re-purchase intention is considered as one of the integral component of loyalty. There are studies showing service quality dimensions linked directly to customer loyalty or through 'satisfaction'.

Generalizations about service quality performance are possible only when the multi-dimensional service settings are tested in terms of service characteristics while measuring service quality. It has to be considered with respect to the

service perspective and the industry-specific characteristics reflected in many service sectors as suggested by leading services researchers (Lovelock, 1984; Fornell, 1992).

Some evidence exists on the relative importance of the five well-established individual SERVQUAL dimensions such as reliability, responsiveness, tangibles, assurance and empathy. Parasuraman et al. (1988) and Zeithaml et al. (1990) argue that reliability is the most important dimension with regard to customer loyalty, apart from the service setting.

Various studies clearly support the quality-loyalty relationship. Bloemer et. al.'s (1999) analysis of four different service type industries yielded an elaborate pattern of quality-loyalty relationships at the level of the various quality dimensions. An analysis of cross industry perspective yields a different picture for each industry. While word-of- mouth is predominantly determined by responsiveness and tangibles in the entertainment industries, word-of-mouth communication in the fast food industry is mainly influenced by assurance and empathy. This reveals the importance of both a multidimensional and a cross-industry approach to service loyalty or to re-buy intentions.

The different variables associated with the measurement of service - loyalty which cause buying / re- purchase behavior as given by Boulding et al. & Zeithaml et al. are given below (a – c).

a. Boulding et al. (1993) identifies service loyalty variables as:

1. Re-purchase intentions
2. Willingness to recommend

b. Zeithaml et al. (1996 a) argue, dimensions of loyalty, as:

1. Willingness to pay more
2. Loyalty under increased pricing

c. Zeithaml et al. (1996 b) proposed a comprehensive, multi-dimensional framework comprised of the following **four dimensions of service loyalty**:

1. purchase intentions
2. word-of-mouth communication
3. price sensitivity
4. Complaining behavior

On the basis of factor analysis with 13 item scale, five underlying dimensions were identified by Zeithaml et al. (1996):

(1) Loyalty to company

(2) Propensity to switch

(3) Willingness to pay more

(4) External response to problem and

(5) Internal response to problem

## 2.5 Distinction between customer satisfaction and service quality

Zeithaml (1988) defined perceived quality as the consumer's judgment about the overall excellence or superiority of a product or service in comparison with that of the competition. Along the same lines, Anderson and Fornell (1994) defined it as the consumer's "global judgment of a supplier's current offering".

The major distinction between customer satisfaction and service Quality is provided in table 2.1 which make clear the fact that both are separate constructs and to be measured independently.

Table 2.1 Customer satisfaction vs. Service quality

| Customer satisfaction | Service quality |
|---|---|
| Customer satisfaction can result from any dimension, whether or not it is quality related. | The dimensions underlying quality judgments are rather specific. |
| Customer satisfaction judgments can be formed by a large number of non-quality issues, such as needs, equity, perceptions of fairness. | Expectations for quality are based on ideals or perceptions of excellence. |
| Customer satisfaction is believed to have more conceptual antecedents | Service quality has less conceptual antecedents |
| Satisfaction judgments do require experience with the service or provider. | Quality perceptions do not require experience with the service or provider. |

*Source: Adapted from various sources (Oliver, 1993; Rust and Oliver, 1994; Spreng et al., 1996; Choi et al., 2004)*

## 2.6. Relationship between ASQ and FFP through relationship quality

This research focused on the link between satisfactions obtained from service quality attribute-level performance and loyalty programme attribute-level performance. FFP performance dimensions are very much part of relationship marketing (Gronroos, 1993; Gwinner et al., 1998).

It can be presumed that the 'relationship quality' is linked with the performance of loyalty programme and by this means the satisfaction derived from the quality will have an effect on the satisfaction from the loyalty programme offered by an airline.

The importance of relationship satisfaction and trust as indicators of the higher order construct of relationship quality have been stressed by various authors (Crosby et al.,1990; Dwyer et al., 1987; Shamdasani and Balakrishnan, 2000; Hennig-Thurau et al., 2001).

## 2.7 Influence of Frequent Flyer Programme (FFP)

As competition in the air travel industry has become vibrant, many airlines are struggling to attract passengers through various promotional schemes as part of its competitive strategies. Moreover, it is well accepted that retaining passengers is more beneficial than acquiring new ones. Of these competitive strategies, FFPs do play a really significant role in the selection of airlines by passengers.

Many studies on airline services supported the case that so many aspects other than service quality affect travel choice of an airline and its demand. In this perspective studies focusing on the importance of such factors other than quality of service were reviewed. Other facets referred in previous studies are carrier brand preferences, market presence, frequent flyer programme membership, schedule convenience and airline fares. These factors were reviewed and identified the importance of each facet on airline travel demand.

Various studies show that 'change in buyer behavior' is resulted from different levels of affection to customer loyalty programme. Some authors have contention about customer loyalty programme that it functions as a promotional tool in airline marketing with a long- term dimension, so that the incentives offered are prolonged over time (Blattberg & Neslin, 1990; Divett, Crittenden, & Henderson, 2003; Gupta, 1988; Long & Schiffman, 2000; Wansink & Deshpande, 1994). On the other hand some authors uphold the idea that customer loyalty programme involve the application of the relationship marketing philosophy (Deigthon, Henderson, & Neslin, 1994; Long & Schiffman, 2000; Wansink & Seed, 2001) in such a way that loyal and frequent buyers are rewarded with the aim of building lasting relationships with them. Studies have indicated that adherence to this kind of programme has a positive influence on the consumers' attitudinal loyalty (Noordhoff et al., 2004) and behavioral loyalty (Meyer-Waarden, 2007; Noordhoff et al., 2004).

Some studies have dealt with the effect of customer loyalty programme on behavior and loyalty between individuals who belong and those who do not belong to the system (Magi, 2003; Meyer-Waarden, 2007; Noordhoff et al., 2004). These studies examined whether individuals belonging to the loyalty programme are more loyal than those who are not members.

Customer loyalty programmes tend to attract customers who are more loyal to the firm (Dowling & Uncles, 1997; Kim, Shi, & Srinivasan, 2001; Long & Schiffman, 2000; Magi, 2003; Meyer-Waarden, 2007; Sharp & Sharp, 1997; Wright & Sparks, 1999). Therefore these arguments postulate hypothesis for the current

research about the influence of loyalty programme in the re-buy intention of buyers.

According to Proussaloglou & Koppelman (1999) business and leisure travelers are ready to pay more fare in order to avoid airline schedule delays. They choose a carrier in which they have frequent flyer programme, and would like to obtain the facilities and freedom from travel restrictions associated with higher fare classes.

Air travelers seek information from travel agents and other sources like company websites and identify their options based on their previous air travel experience, carrier and fare class preferences; and evaluate their options to select the most attractive carrier, flight, and fare combination. Nason (1981) relates travelers' carrier choice to a carrier's service attributes; Chandrashaker (1989) studied the determinants of air traveler choice; Proussaloglou and Koppelman (1995) adopt a market research approach in developing models of carrier choice.

Goh and Uncles (2003) examined business travelers' awareness of these benefits and their rating in the context of global airline alliances. They found that there is a reasonable level of awareness of some of these benefits, whereas misconceptions exist about others. The ability to accrue frequent flier programme (FFP) points on any airline in the alliance and the greater network access were the two benefits most respondents were aware of and this could be the reason for heavy focus on these benefits in the alliances' promotional efforts.

Weber (2005), in his analyses on perceptions of travelers on airline alliance benefits and performance indicated that about 60% of all respondents were members of at least one FFP. Frequent flyer programme membership differed between frequent and infrequent flyers. Frequent flyers were typically enrolled in FFPs of at least three and as many as five different airlines of various global airline alliances, whereas the not very frequent flyers were typically enrolled in only one or two FFPs at the most. This characteristic feature put forward the assumption that the intention of frequent flyers' to induce greater repurchases to one particular airline is directly associated with the number of FFPs possessed by the frequent passengers (Toh, Hu, and Browne 1999; Kearney 1990).

Proussaloglou & Koppelman (1999) viewed the individual traveler as a rational decision maker who actively searches for options that satisfy his air travel plans, evaluates the identified options, and choose the option with the highest overall utility that satisfies his individual scheduling constraints. The decision rule applied to modeling individual choice behavior in their study was based on the assumption of a rational decision maker who lacks perfect information and maximizes passengers overall choice utility. The probability that an individual selects an option is defined as the probability that its utility is larger than the utility of all other alternatives (Ben Akiva and Lerman, 1985).

Review of literature shows that the air passengers' choice among flights offered by different carriers at a range of fare levels present air travelers with a three-dimensional choice situation, these dimensions are: (1) a range of attributes representing carrier level of service; (2) the schedule convenience of alternative

flights; and (3) fare class amenities and restrictions. According to Proussaloglou & Koppelman (1999) travelers faced with the joint choice of carrier, flight, and fare class, are therefore likely to make tradeoffs among a carrier's overall service, the convenience of its particular flight schedule, and the fare levels and service attributes of each fare class.

O'Connell & Williams (2005) concluded in their study pointing the various reasons in the selection of a full service carrier by passengers which includes: service quality, flight schedules, fares, connections, frequent flyer programme, comfort, safety and company policy.

Some authors (Martín, Román and Espino, 2011) considered FFP as a part of service quality attribute while some authors do not think so. Some others described levels of service in terms of the carrier's overall presence in an origin market, its overall quality of service and reputation, and its frequent flyer programme, (Here, FFP is viewed as a service attribute, whereas many other studies explain FFP as a promotional / loyalty programme and not as part of a service product). Quality of service and reputation often reflect a carrier's on-time performance, its safety record, and the terminal and onboard amenities.

Lemon and Wangenheim (2009) investigated the relationship between core service usage, customer satisfaction, and cross-buy of three additional services offered by the airline's programme partners to its customers who have signed up for the airline's frequent flyer programme (hotel booking, car rental, and credit card usage). They also tested a model that investigates the relation-ships between these constructs.

Evert de Boer and Gudmundsson (2012) analyzed 30 years performance of frequent flyer programme and found that FFP can be treated as a separate profit center and can be isolated from the core airline service as a product with its own value. It was quoted in the literature focusing on the effectiveness and distinctiveness of FFP. Dowling and Uncles (1997) observed that a customer loyalty programme can only be beneficial in the following four situations:

(1) The scheme directly supports the customer value proposition

(2) Relationship building adds to perceived value

(3) The lifetime customer value is high, and

(4) Customer retention costs are less than acquisition costs

On the other hand Nunes and Dreze (2006) argued that there are five goals loyalty programme can really serve. They are:

(1) keep customers from defecting

(2) win greater share of wallet

(3) prompt customers to make additional purchases

(4) yield insight into customer behavior and preferences, and

(5) turn a profit

Harris (2000) argued that "FFPs are highly profitable, generating more than average partnership revenues per ticket at a significantly lower cost (no commissions, computer reservation system expenses, or credit card fees)." Harris contention was that given the value of the programme, "FFPs should be treated as separate business units and readied for partial spin- offs, thereby enhancing airline valuations". It was observed in the literature that many frequent flyer programmes have separated completely from their core airlines, which includes Aeroplan (Air

Canada), Multiplus (TAM), Club Premier (Aeromexico) and Qantas Frequent Flyer (Qantas). These autonomous next-generation programmes (NGPs) are defined as commercial entities operating at arm's length from the airline, with the objective of generating profits. They are different from the advanced stage in three key areas: the business model, the company structure and the target customer.

Separating the FFP from the core airline had been done before. One such earliest example was the Qualiflyer Company that joined several airlines in one programme and also managed individual programme for other airlines (Gudmundsson et al., 2002).

Many consumers are belonging to more than one programme within the same type of activity (Meyer-Waarden, 2007). In this light, adherence to more than one loyalty programme implies a sharing out of visits and expenditures among the various firms / brands, which has given rise to doubts with respect to the effectiveness of this sort of initiative for companies (Dowling & Uncles, 1997; Magi, 2003; Mauri, 2003). On the other hand, despite the enormous amount of interest provoked by this subject, the evidence obtained in this regard is very meager and exhibits contradictory results (Lewis, 2004; Magi,2003; Meyer-Waarden,2007; Noordhoff, Pauwels & Odekerken- Schroder,2004; Taylor & Neslin,2005; Yi & Jeon, 2003).

Customer loyalty programme will only be effective if the company offers the customer a service that is perceived to be similar or superior to that of the competitors; otherwise the consumer may switch to other alternatives available in the market. On the other hand, the effectiveness of customer loyalty programme

will also be subject to the trust of the customer in the company, since this determines the credibility of the advantages and incentives offered by the system.

## 2.8 Influence of loyalty programme found in other service sectors

Studies on the effectiveness of loyalty programmes in retail and other service sectors were examined to get an idea in this regard as such studies in the airline context are scanty.

Jesu´s Agudo et al. (2012) examined the factors that influence the effectiveness of customer loyalty programme to cause a change in consumers' behavior in retail service sector and three explanatory variables were analyzed: (1) the quality of service offered to the customer, (2) customer's trust in the company, and (3) their attitude towards loyalty programme. These variables are very much invariably proposed to be used in this research among airline frequent passengers in the Indian airline market context.

Jesu´s Agudo et al. (2012) indicated that a change in the buyer's behavior is directly influenced by their loyalty to the retailer /company and by their attitude towards loyalty programme. Moreover, a noticeable indirect effect on changes in buyer behavior caused by the quality of service and the consumer's attitude towards loyalty programme were observed. It is obvious that re-purchase behavior can be attributed by the joint effect caused by satisfaction in service performance attributes and loyalty programme benefits. Though this empirical finding was apparently observed in the retail sector, the same relationship can be made applicable or can be hypothesized in the airline context as well.

Gudmundsson et al. (2002), in their study integrates frequent flyer programme in multilateral airline alliances, and found that there are substantial benefits in airlines merging FFPs in the long run. The most interestingly noted finding in their study was that the FFP alliance gives a coherent look and a reduction in perceived variances in service quality. This postulates a link between the core service aspects satisfaction and FFP attribute–level performance satisfaction of passengers.

Omar and Musa (2011) developed a scale to measure service quality in retail loyalty programme (LPS Qual) and tried to find out the implications for retailers' retention strategies; however, the secluded effect of loyalty programme in conjunction with core services in a single model was not studied. Miranda et al.(2005), showed an outcome of model estimation which explains that factors with a significant influence on store satisfaction have little in common with others that impel shoppers to remain loyal to one store. Indeed, there was no evidence in their study that shoppers' overall satisfaction was by itself a significant influence on continued patronage.

## 2.9 Link between loyalty programme and 'satisfaction'

Gronroos (1993) observed that establishing a relationship with a customer can be divided into two parts:

1. To attract the customer and
2. To build the relationship with that customer so that the economic goals of that relationship are achieved.

The fundamental principles upon which relationship marketing is based are mutual value creation, trust, and commitment. Greater the level of customer satisfaction with the relationship, not just the product or service, the greater will be the likelihood that the customer will be loyal to the company providing that service or the product. It is evident that the objective of relationship marketing is to achieve high levels of customer satisfaction through collaboration of the parties involved (Payne et al., 1995). There is little empirical evidence regarding the nature and extent of the overall impact of relationship-marketing practices on relationship-quality outcomes (Gwinner et al., 1998).

Quality is one dimension on which satisfaction is based (Rust and Oliver, 2000, p.6). This finding indicates that other dimensions apart from quality like loyalty scheme can also be the base for relationship satisfaction.

Frequent Flyer Programme (FFP) at a macro level can be viewed as an extension to the concept of relationship marketing. The concept of FFPs is considered to be an excellent example of the use of relationship marketing to build customer loyalty (Palmer & Mayer, 1996; Rodriguez, 1997).

### 2.9.1. Relationship satisfaction

In the past, relationship satisfaction has been conceptualized as a prerequisite for relationship quality. Crosby and Stevens (1987) identified three levels of relationship satisfaction:

(1) Interactions with personnel

(2) Core service, and

(3) The organization

In a business context, relationship satisfaction has been defined as a positive affective state resulting from a firm's appraisal of all aspects of its working relationship with another firm as cited by Ganesan (1994); Dwyer et al. (1987). Relationship satisfaction is a cumulative affect developed over the course of a relationship – not as the outcome of a specific transaction (Anderson et al., 1997).

## 2.10 Influence of FFP satisfaction on re-buy intention

The role of satisfaction in predicting behavioral intentions is well established by many authors (Anderson et al., 1994; Cronin and Taylor, 1992; Zeithaml et al., 1996). Most of the studies assume that previous experience of transactional customer relationships is a key determinant of repeated purchasing behavior. Many studies have established relationships between service quality and loyalty, hypothesizing an indirect effect mediated by satisfaction (Andreassen and Lindestad, 1998; Ostrowski et al.,1993; Patterson and Spreng, 1997; Pritchard and Howard,1997). There exist study findings which provide evidences of a positive direct relationship between relationship satisfaction and loyalty. Ping (1993) in line with Hirschman (1970) states that as overall relationship satisfaction declines, loyal behavior should also decline and perhaps more likely ending the relationship.

As indicated earlier, customer satisfaction is found to be direct predictor of repurchase and word of mouth intentions (Cronin and Taylor, 1992). Many researches show that the higher the degree of customer satisfaction, the greater the chances of repurchase and spreading positive word of mouth communication (Davidow, 2003; Ekiz and Arasli, 2007).

Proussaloglou & Koppelman (1999) indicated that loyalty-inducing effects of frequent-flyer programs are reflected in positive and significant coefficients for membership in a frequent-flyer programme. Active participation of low-frequency passengers in a carrier's programme is comparatively lower than more frequent air passengers.

Proussaloglou & Koppelman (1999) compared willingness of different types of passengers to pay for their travel with preferred carrier at three premium airfare levels and also examined passenger's perceived value of membership in a carrier's frequent flyer programme. This finding reflected travelers' tradeoffs between the cost of travel and the benefits of different levels of frequent flyer membership. It was observed that business travelers are willing to pay a premium of $ 21 to travel with a carrier in whose frequent flyer programme they participate and $ 52 for low frequency travelers and $ 72 for high- frequency travelers to fly with the carrier in whose frequent flyer programme they most actively accumulate mileage points. The same patterns of willingness to pay are evident in leisure travelers' evaluation of frequent-flyer programme membership; however, the premiums that leisure travelers are willing to pay are substantially lower. These premiums range from a low of $ 7 for leisure travelers who simply participate in a carrier's frequent flyer programme to $ 18 for low frequency and $ 26 for high-frequency airline passengers seeking to travel with the carrier in whose programme they most actively accumulate mileage points.

Proussaloglou & Koppelman (1999) also revealed that the differences among segments of the air travel market demonstrate the higher price sensitivity of leisure travelers, the greater importance of convenient schedules to business travelers, and the strong influence of active participation in carriers' frequent-flyer programme especially on the choice behavior of airline frequent passengers.

Martín et al. (2011) investigated the importance of FFPs in passengers' choice of airlines, whether passengers are really willing to pay a premium for FFPs, and also whether FFPs have an adequate rate of return and FFPs are really justified or not. Nathalie et al. (2011) found that FFP members are willing to pay a price premium of up to six percent, which is directly attributed by the FFP. These results indicate that FFPs have an effect on passengers' satisfaction and choice of an airline.

Gallacher (1999) argues that bilateral FFP are less effective in attracting high-yield passengers than their multi lateral counterparts. Whitaker (1998) suggested that airlines competition will be upon details such as which alliance has the best connecting possibilities, most efficient check-in at airports, most appealing and fastest website, better airport lounges, and provides the most personal recognition.

Carlsson and Lofgren (2004) found that Eurobonus substantially increased the costs (12% of the average ticket price) for passengers who change SAS airline for domestic Swedish routes. Proussaloglou and Koppelman (1999) also indicated that FFPs are effective reward systems for repeated purchases that make demand less price elastic.

According to Gudmundsson et al. (2002, p. 414) “there should be a clear separation between the mileage as a currency on the one hand, and service benefits such as priority check-in and lounge access on the other”. Their study discussed how carrier loyalty affects brand loyalty and indicated that there should be limits to the kind of products airlines could include in their brand FFP.

From the review of literature some important attributes were extracted which were used in previous studies (Alamdari, 1999; Mason, 2000; Evangelho et al., 2005). These studies found that the most influential factors affecting business passengers were reliability, punctuality, seating comfort and schedules. Price was the most important factor for leisure passengers. In spite of the above factors, FFPs were also considered as important and very much discussed in these studies.

Some studies found that higher yields do not compensate the extra costs associated with the provision of added value services (Alamdari, 1999 and Alamdari & Fagan, 2005). So airlines need to rely on yield from its FFPs. Martín et al. (2011) in their study concluded with a notable point that Willingness to Pay (WTP) measures is not insignificant in any case. WTP are usually higher for FFP passengers when the ticket is paid by the firm, and many leisure travelers are likely to choose the lowest-priced carrier, regardless of service quality.

It is noted that just three per cent of US passengers are frequent flyers through which they fly more than 12 trips per annum, however, this three per cent represents 27 per cent of total trips and an excess of 40 per cent of revenue (Toh

and Hu, 1988). In 1995, frequent flyers earned 1.9 trillion miles of credit (Peterson and Robert, 1995).

Morrison et al. (1989) described, using the U.S. DOT Origin and Destination data that FFP membership has a significant impact on airline choice. They estimated that an airline offering FFP mileage could increase the average airfare by US$ 30 for an average single trip. Borenstein (1989) hints that approximately two percent point of a given fare premium might be attributable to an FFP effect. Findings of Morrison et al. (1989) and Nako (1997) are based on disaggregated corporate level data to further quantify the effects of FFPs on airfare premiums. It is also evident from the study by Morrison and Winston (1995) that a traveler's valuation of additional FFP points is associated with the airlines FFP point award schedules.

Gudmundsson et al. (2002) estimated that, the average frequent flyer is a member of approximately three programmes. Petersen (2006) indicated that the worlds frequent flyer programme boasted more than 180 million members; 120 million of these were U.S. residents. In the accounts of those members: there are almost 10 trillion outstanding miles as on January 2006. Gallacher (1997) asserts that the major alliance partners strengthened the ties between their FFPs, because this strategy better influenced business class passengers than other strategies like code-sharing.

Airline network effects (where the airline operates and number of partners they have) are seen as enhancing FFPs. This in turn is supposed to lead to increases in the underlying value of FFPs to its members (Lederman, 2007). The

larger the flight network connectivity of an airline, the earning and award possibilities for FFP members will be more, which makes the FFP more valuable and attractive to FFP members.

Experts suggest that FFPs ultimately either negatively affect competition in the airline industry, as they raise barriers to entry, or alternatively erode airline profitability because airlines are caught in a prisoner's dilemma type situation (Banerjee and Summers 1987 and Basso et al. 2009). Airline companies have been taking advantage of this tendency by using a wide range of promotional devices that offer benefits (points, miles, rebates, coupons) in return for the expenditure of effort (flying more, paying higher fares). Moreover, airlines have also been benefiting from the principle of consumer behavior called the "idiosyncratic fit heuristic" (Kivetz & Simonson, 2003, p. 455) wherein these type of consumers are tempted by offers for which they enjoy a relative advantage by perceiving their own effort in complying with the programme requirements as lower than the effort of typical other consumers. Changing the benefits of a frequent flyer programme by increasing redemption requirements can impact frequent flyers' perception of value (O'Malley, 1998).

Frequent flyer programme provide value to their members in two stages (Kivetz & Simonson, 2002). In the first stage, programme points are issued to members after paying the airline for tickets and receiving the services and in the second stage, members redeemed their points for free travel. According to Liu (2007), points have no practical value until they are redeemed, but do have an important psychological meaning to frequent flyer members. Point accumulation

creates an anticipation of positive future events, which increases members' likelihood of staying in the loyalty programme. Hence frequent flyer programme are often considered as value-sharing instruments and the ability to provide superior value is instrumental to customer relationship initiation and retention (Dowling & Uncles, 1997).

Sahoo and Vyas (2007) identified the benefits that serve by loyalty programme to the airline with a sense that most airlines have idle capacity on a practically regular basis. Moreover, the link between FFP benefits with other service aspects that affect customer to remain loyal to an airline that assures safety, efficient and pleasing service, and recognition of their preferences is reflected in their statement 'People fly on those airlines where the brand experience is unique'.

Proussaloglou and Koppelman (1995) found that carrier choice is influenced by FFP membership. FFPs were found to better predict carrier choice than schedule convenience, low fares and timeliness. They conclude that any major changes to well-established FFPs may have serious implications for the airlines' passenger base.

Mason and Barker (1996) highlighted the importance of FFPs saying that FFPs are now an integral part of airline marketing. All major airlines operate such incentive schemes and, in general, there is little to distinguish one from another. Business travelers tend to choose an airline on the basis of punctuality, service and safety but almost all major carriers are now providing these as a basic part of

their service. FFP schemes that offer the most incentives are likely to be one of the greatest influences on individual passenger's choice of airline.

Mason (2001) explored the influence of several factors including fare, frequent flyer programme, flight frequency, and in-flight comfort, on selecting low cost carriers for passengers of European short-haul business flights. His study found that LCC is more attractive to medium and small sized companies.

Yang & Liu (2003), clearly indicate the importance of FFPs as an effective marketing technique in the airline industry with positive implications for the financial performance of the carriers involved and their strategic alliance partners. A few studies (Ostrowski, OBrien, and Gordon 1993; Riven, Toh, and Alaoui 1991; Knutson 1988; Woodside, Cook, and Mindak 1987) have investigated frequent usage and loyalty programme as cause for repeat patronage.

## 2.11 Link between 'Loyalty programme based satisfaction' and 'Service based satisfaction'

Gudmundsson et.al (2002) indicated that FFP features and core service related aspects are perceived differently by passengers. Airline passengers may be predisposed to have certain brand beliefs towards airline and this belief may lead to a propensity to select those airline brands which provide most suitable customer loyalty programme. Even though customer satisfaction and loyalty constructs has been examined in the air transport context, factors such as patronage between core service features and customer loyalty programme attributes tend to be ignored in the existing literature.

Özlem Atalik (2007) examined customer complaints about airline service perceived by frequent flyers and those complaints were grouped into five categories (see table 2.2). It is noteworthy that each of these categories are either coming under either 'structure' specific or with the 'service' specific dimensions of the programme.

Table 2.2 Types of customer complaints according to Özlem Atalik (2007)

| Sl. No. | Structure specific complaint | Complaint percentage | Sl. No. | Service specific complaint | Complaint percentage |
|---|---|---|---|---|---|
| 1 | Lack of free tickets and upgrades of the flight class | 93.75 % | 1 | Nature and level of priority services offered within the programme | 56.74 % |
| 2 | Card ownership issues (e.g. high miles needed to retain membership) | 65.79 % | 2 | Behavior of personnel | 32.89 % |
| 3 | Lack of alliance with other airlines | 46.88 % | | | |

*Source : extracted from Özlem Atalik (2007)*

Simply providing a loyalty programme cannot provide any value to the customers, instead their level of satisfaction with respect to service related attributes are also to be maintained at the expected level. (Please refer to the factor dimensions explored with respect to FFP attribute level performance in terms of service and structure in Chapter IV).

Dolnicar et al. (2011), assessed the key drivers of airline loyalty in which an important observation were made to the point that a passenger can be very unhappy with the frequent flyer programme because miles expire and too many miles are charged for an upgrade to business class (low satisfaction), but may still always choose an airline that has a frequent flyer programme because the passenger can accumulate miles for private trips. This represents a rational decision, driven by benefit maximization rather than being driven by the satisfaction with the programme, and thus demonstrates that satisfaction with a frequent flyer programme and choice of the airline simply because of its operation of a frequent flyer programme is not necessarily associated.

Andreassen and Lindestad (1998) argued that intrinsic cues (such as product attitudes) are strongly tied to the product or service, whereas extrinsic cues (such as corporate/ Brand image) are only part of the product or service. Selnes (1993) viewed that extrinsic cues will be consulted more intensively when intrinsic cues have low predictive value.

Whyte (2003), studied attitudes and attributes of corporate travelers, and noted that service attributes are more important than FFP attributes. Service attributes were only briefly explored to test whether members would be willing to

forgo points, but however retain key service aspects. The results of their study show that importance of service attributes overrides the importance of gaining points if the journey time is longer and found true especially for long-haul travelers, but indicated the scope for further research in this area that more work needs to be done with regard to the effect of FFP.

Oliver and Swan (1989) carried out research on automobile purchase behavior of customers and their findings show that automobile performance satisfaction is a positive function of satisfaction with the dealer and automobile disconfirmation, and is an in-verse function of complaint frequency. Salesperson satisfaction and performance experience did not appear to contribute significantly to the car satisfaction equation. Findings of their study provide evidences for the antecedent effect of satisfaction of sales person, which caused (full-mediation) through another satisfaction (dealer satisfaction) on the dependent variable, namely product satisfaction.

## 2.12 Mediating role of satisfaction

Satisfaction is an overall affective response to a perceived discrepancy between prior expectation and perceived performance after consumption (Oliver, 1980; Engel et al., 1990). Satisfaction is defined as the degree to which one believes that an experience evokes positive feelings (Rust and Oliver, 1994).

Cronin and Taylor (1992) derived empirical provision for the idea that perceived service quality led to satisfaction and argued that service quality was actually an antecedent of consumer satisfaction. Bitner and Hubbert (1994)

determined that service encounter satisfaction was quite distinct from overall satisfaction and perceived quality.

Overall satisfaction measured in many studies as to the customer's overall subjective post-consumption assessment judgment based on all encounters and experiences with a particular service provider. Perceptions of service quality affect feelings of satisfaction, which then affect loyalty and post-purchase behaviors (Anderson and Sullivan, 1993; Cronin and Taylor, 1992; Fornell, 1992; Oliver, 1980; Choi and Chu, 2001; Petrick and Backman, 2002; Tam, 2000).

Customer satisfaction acts as an antecedent and has mediating relationships with customer perceptions of service quality, customer satisfaction and post-purchase behavioral intentions (Rust and Oliver, 1994; Athanassopoulos, 2000; Baker & Crompton, 2000; Cronin et al., 2000; Oh, 1999; Petrick and Backman, 2002; Zeithaml et al., 1996). Theodorakis et al. (2014) while comparing three service evaluation models indicate that the indirect effects of customer satisfaction play an important mediating role in the relationships between service quality and intentions, and also between value perceptions and intentions.

Service quality directly and significantly influences satisfaction (Caruana et al., 2000; Baker and Crompton, 2000) or perceived value (Petrick and Backman, 2002; Zeithaml, 1988). Both satisfaction and perceived value are direct antecedents of behavioral intentions (Cronin et al., 2000; Petrick & Backman, 2002; Tam, 2000; McDougall & Levesque, 2000; Dodds et al., 1991). Zeithaml and Bitner (2000) explained satisfaction as when expectations are confirmed by perceived service then quality is found to be satisfactory. However, while quality

falls short of expectations, there is a greater effect on customer satisfaction than when quality exceeds satisfaction.

The conception that service quality and customer satisfaction are distinguishing variables has achieved some degree of consensus among researchers as per the study by Saha and Theingi (2009). The construct of service quality is evaluated by the actual service performance in terms of particular service attributes in the specific context; whereas satisfaction is measured by the customers' overall service experiences (Oliver, 1993).

Customer satisfaction is found to be dependent on a variety of factors which include perceived service quality, customers' mood, customers' emotions, their level of social interactions, and other experience-specific individual factors (Rust and Oliver, 1994). Researchers have generally agreed on the conceptions that service quality and satisfaction are distinctive variables but their causal relationship is yet to be determined especially in the context of airline service consumption. As per the findings from Crompton and Love (1995), the two constructs vide service quality and satisfaction are likely to be positively correlated, but unlikely to be in a linear relationship.

### 2.12.1 Link between Service quality and satisfaction in airline context

Archana & Subha (2012) examined various dimensions which have a positive influence on service quality perceived by airline passengers and they have extracted dimensions that have the most and the least important effect on service quality in international air travel. Their results suggest that there are different factors of in-flight service quality that affect different classes of customers in air

travel. The major dimensions include services provided in-flight, in-flight digital service and various services endowed with back-office operations. It was revealed from their findings that these three dimensions are positively related to perceived service quality in international air travel and these dimensions are cuisines provided, seat comfort and safety, out of which the most important dimension is in-flight service quality. Personal entertainment is the most important dimension which is perceived by airline passengers in the in- flight digital service quality segment. Online ticket booking is found to be another important dimension in back-office operations.

Ott (1993) revealed that consumers did not perceive any difference from one carrier to another where as Saha and Theingi (2009) pointed out that the emergence of low cost airlines has raised concerns over the level of satisfaction of the passengers with the services provided by these low cost airlines. Ahmad Azmi et al. (2010) examined the underlying dimensions of service quality for low cost carrier to determine the relationships between the dimensions of service quality and passengers' satisfaction on the airline services. 'Caring and tangible' was the most important dimension of service quality for low cost carriers, followed by 'reliability', 'responsiveness', 'affordability' and 'visual-attractiveness'. Conversely 'caring and tangible' dimension only contribute significantly to the prediction of satisfaction on the services of low cost carriers. An imperative finding noted is that the service firm measure and monitor service quality and satisfaction with a view to influencing the behavioral intentions of their customers (Saha and Theingi, 2009).

Airline services, regardless of whether they are full service or low cost carriers, are made up of a very complex mix of intangibles (Gursoy et al., 2005). Customer satisfaction is determined by many intangible factors such as atmosphere and ambiance of the cabin, crews' behavior (Fitzsimmons and Fitzsimmons, 1994). Most of the airline service quality literature suggests that airline passengers look at service quality as a multi-dimensional variable, which was upright with the study conducted by Parasuraman et al. (1988).

Caruana (2002), cited by Ahmad Azmi et al. (2010), measured passenger satisfaction using three items. These items were related to repetitive purchase intention, service loyalty and benefit-cost judgment. His result showed that low cost airlines pay attention to their tangible aspects as well as to passenger care to enhance the satisfaction level of their passengers. Two dimensions found to be unique only to the low cost carriers were 'affordability' and 'visual-attractiveness' which are referred as the "point-of-difference" that clearly differentiated the service of low cost carriers with those of full service airlines. Literature review postulates the importance of layout and design of the aircraft's cabin, employee's appearance, in-flight meals and refreshments, and even the air tickets should be developed in accordance to the expectations, wants or requirements specified by the target market of a particular airline.

Lu & Ling (2008) examined concepts of air service quality in terms of passenger background. Their study had given special emphasis to those from cross-strait areas based on the passenger perception data of Taiwan travelers and Mainland China travelers. The result shows significant differences between cross-

strait airlines, Taiwan and Mainland China travelers' service attributes. Airline service quality, passenger satisfaction, and loyalty are found to be highly correlated (Proussaloglou and Koppelman, 1995; Lee and Cunningham, 1996).

Ruben Chumpitaz and Valerie Swaen (2003) examined service quality and brand loyalty relationships; which investigated the mediating effect of customer satisfaction. Findings from their study reveal the effect of mediation role of satisfaction in the relationships between service quality, consumer satisfaction and brand loyalty. Hence it indicate that service quality is an antecedent to satisfaction, and satisfaction has a positive influence on purchase intentions of passengers.

## 2.13 Perceived value and Re-buy intention

Passenger perceived value has recently received significant attention in the field of marketing strategy (Ulaga and Eggert, 2006). This is for the reason that it plays an important role in predicting purchase behavior (Chen and Dubinsky, 2003), attains sustainable competitive advantages (Khalifa, 2004; Lindgreen and Wynstra, 2005), and affects relationship management (Payne et al., 2001). According to Cowles et al., (2002) airline marketing research should pay special attention to the motivations or desired values behind consumers' use of the airline full service carriers. In the present airline marketing environment, passengers can easily find alternatives, and therefore how to build long-term relationships presents a more difficult challenge for an airline operator. Perceived value contributes to the loyalty of an airline business by reducing a traveler's necessity to seek alternative service providers (Anderson and Srinivasan, 2003). Passenger perceived value in the airline travel environment is of crucial importance. Hence it

is necessary to understand the role of passenger perceived value in airline buying behavior.

Perceived value can be summarized as a trade-off between perceived benefits and perceived costs (Lovelock, 2000). Research studies have suggested that perceived value may be a better predictor of repurchase intentions than either satisfaction or quality (Cronin et al., 2000; Oh, 2000). It is implicit from the literature that perceived value can be measured with a multidimensional scale (Sheth et.al, 1991; Petrick and Backman,2002).

Bolton and Drew (1991) indicated perceived value as a construct that goes beyond perceived service quality. It was shown in a pre-purchase situation; value perceptions exercise a direct influence on the re-purchase intention (Bolton and Drew, 1991). Service value has been identified as an antecedent to satisfaction and behavioral intentions (Dodds et al., 1991; McDougall and Levesque, 2000).

Yang, Hsieh, Li and Yang (2012), evaluated how service quality, airline image and customer perceived value affect the intentions of passengers of low cost carriers and found that service quality has a significant positive effect on customer value, airline image and behavioral intentions. Turner (2003) also highlighted the point that passengers travelling in a low cost carrier preferred fare as their principle reason for carrier choice, while passengers travelling on an incumbent carrier indicated flight timings as their premier reason.

Customer perceived service quality is also often viewed as a key antecedent to service loyalty (Dick and Basu, 1994). Bolton, Ruth and

Bhattacharya (2000) put forth the notion that customer satisfaction and perceived value depend on perceived quality, is central to the marketing literature (Kotler, 1996) moreover it appears prominently in the service quality literature (Parasuraman; Zeithaml and Berry, 1991), and also found in the relationship quality literature (Crosby; Evans and Cowles, 1990). Perceived quality (including the consistency and reliability with which it is delivered) constitutes the "core" of a product.

Kim, Kim, & Leong (2003) concluded in their study that changes to rules and benefits reduce the perceived value of the programme and threaten repeat purchase. Ching-Fu (2008, a) looked into the structural relationships between service quality, perceived value, passenger satisfaction and behavioral intentions in an airline service context.

According to airline officials (Centenary Celebration Conference of Indian Civil Aviation – Cochin 2011), each airline has different revenue model dictated by its marketing segment. Conventional marketing segments like Full Service Carrier (FSC) & Low Cost Carrier (LCC) has no difference in making yield per passenger. Instead of taking into consideration price aspects directly, the perceived value of passengers were taken as a variable in this study which reflects reasonability of price and value for money of the services and schemes offered by the full service carriers.

## 2.14 Role of brand image

A customer's purchase intention is positively interrelated by customer's brand preference. Brand equity then influence consumer preferences and purchase intentions, and eventually brand choice.

Passengers who have a favorable image of the airline consider particularly bad flight to be an exception to their impression of the airline as cited in Ostrowski et al. (1993). Yang et al. (2012) indicated that service quality has a significant positive effect on customer value, airline image and behavioral intentions, but that airline brand image does not itself significantly influence behavioral intentions. Dodds et al. (1991) found that an airline has the prospect of attracting new customers and build a positive corporate image through its physical and behavioral attributes, such as reputation, type of aircraft, variety of services, and business ideology as well as the impression of quality communicated by its staff interacting with its potential passengers.

Corporate image is found to be an important factor in an evaluation of a company (Fombrun, 1996), influencing customers' perceptions of the services offered and the company. When consumers express a preference for one firm over others, or when they praise the firm or recommend it to others, they are becoming bonded to the firm (Park et al., 2004).

Service quality has a positive impact on customer value and airline image (Yang Keng- Chieh, et.al. 2012). Airline image has a positive impact on behavioral intentions separately from the effect of service quality on behavioral intentions. It

is also noted that airline image has limited effect on the intention to use LCC. Elgin and Nedunchezhian (2012) who studied the effects of service quality on the perception of domestic airline image with special reference to frequent fliers at Trivandrum city in India pointed out that service dimensions have a definite influence on the perception of airline brand image among the domestic passengers in India.

Connor & Davidson (1997) cited by Elgin et al. (2012) indicate that a company with a good image is more likely to stand out in the market place because it draws both repeat customers and trial users.

Doyle and Wong (1998) originate that successful companies have a differential advantage in overall company reputation and communicate it as quality to their customers (Solomon, 1985). Often, they are able to command premium prices (Tepeci, 1999).

Gronroos (1984) explained quality as concept experienced by a customer, which is based on two dimensions – technical and functional and also indicated that the quality perception of consumer is moderated by the company image.

According to Cobb Walgren (1993) customer (passenger) based brand equity can be divided into consumer perception (e.g. brand awareness, brand associations, perceived quality) and passenger behavior (e.g. brand loyalty, willingness to pay a high price). They develop a framework for studying various antecedents and consequences of brand equity from the customer perspective

and suggest that consumers' brand perceptions contribute to the meaning or value of a brand.

Paul S. Ross, in his article titled 'Building Brand Value and Influence in the Airline Industry' highlighted four principles building influence that determine the most successful focus for brands in every channel emphasizing on the grounds that brands are like people and most influential people always stand for something; and also indicated that people are far more likely to become loyal consumers and advocates of a brand if they get a chance to participate in its progress and have a sense of shared ownership. Thus, a favorable image may separate and distinguish the company from its competitors. Andreassen & Lindestad (1998) noted that corporate image has an impact on customer's choice of company when service attributes are difficult to valuate. Zeithaml and Bitner (1996) also asserted that image can influence customers' perceptions of the goods and services offered.

Ricardo Flores-Fillol (2007) compared the characteristic features of Low Cost and Full Service Carriers with respect to airline competition and network structure and provided some insights about the distinctive network choices characterizing each carrier type which may lead to the image factor.

## 2.15 Brand loyalty linkage with re- buy intention

The composite measure of repeat purchase and loyal attitude is an effective indicator to discriminate the loyal traveler (Pritchard and Howard; 1997). Repeat purchase intention is a consequent of brand image. A key mediating variable in explaining customer retention is the concept of brand loyalty. As defined by

Webster's dictionary, loyalty is a faithful, unswerving allegiance. Strategists entertain customer loyalty as a cost-efficient means to retain and defend market share (Jarvis and Mayo, 1986; Rosenberg and Czepiel, 1983). Literature provides a two-dimensional matrix that identified four types of brand loyalty namely true loyalty, spurious loyalty, latent loyalty and low loyalty.

True understanding of loyalty considers both loyal attitude and behavior (Dick and Basu 1994). Day (1969), in his definition argued that in order to be 'truly loyal' the consumer must hold a favorable attitude toward the brand in addition to frequently purchasing it. In this context, "loyalty implies repeat purchasing based upon cognitive, affective, evaluative, and dispositional factors which are considered as the classic primary components of an attitude" (Jacoby 1971, p. 26). Thus it can be deduced that a truly loyal traveler would repeatedly purchase or use a particular travel service and possess a positive sense of attitudinal loyalty or adherence toward that service provider.

Loyalty may be an outcome of both a more favorable attitude towards a brand (as compared to alternatives) and repeat patronage as cited by Dick and Basu (1994). Use of both attitude and behavior in a loyalty definition substantially increases the predictive power of the construct (Day 1969), as each variable cross-validates the nature of a truly loyal relationship. This measurement approach has been applied and supported as a valuable tool for explaining patronage in leisure services (Backman and Crompton, 1991) and prove to be a valid way to understand frequent passenger's behavior. Various customer attitudes affect the degree of loyalty exhibited by a customer (Dick and Basu 1994).

Pritchard and Howard (1993) suggested some key antecedents of consumers' loyal behavior. One suggestion is perceived differences in travel service performance can affect a customer's loyalty. Differences between travel services are studied on the basis of the superiority or quality of one offering compared to its competitive alternatives (Fick and Ritchie 1991). In this perspective, large inter brand differences in quality increase the tendency for consumers to be brand loyal (Douglas McConnell, 1968), whereas lower perceived differentiation among competitive offerings reduces the probability of loyalty forming.

Another attitudinal descriptor of loyalty is found to be satisfaction. Loyal consumers are thought to be more satisfied than less loyal and non loyal customers (Hawkins, Best, and Coney 1989). Satisfaction results when customers' evaluation of a service meets or exceeds their expectations (Oliver 1980). When a service performs satisfactorily, it reinforces the traveler's attitude and attachment (loyalty) to the service provider (Bitner 1990). These attitudinal features are surmised to differentiate a customer's degree of loyalty (Dick and Basu 1994).

Literature review extracts the characteristic nature of loyal travelers as involved decision makers who perceive significant service quality differences and who are satisfied with their travel service experiences. More specifically, truly loyal travelers should (1) demonstrate higher levels of involvement, (2) perceive greater service differences, and (3) exhibit higher levels of satisfaction with their brand experience than other types of consumers (i.e. spurious, latent, and low).

Pritchard and Howard (1997) indicated that it is the attitudes which distinguish 'true loyalty' phenomenon and is consistent with theory (Dick and Basu 1994). Involved consumers perceived differences in service providers and were satisfied with their chosen provider. It was also reported that service quality differences were also thought to affect traveler loyalty. They also examined the effect of variation in loyalty by demographics as only age was found to be significantly different across the groups. This finding was consistent with previous work on the age of loyal patrons and repeat visitors (Gitelson and Crompton 1984; Selin et al. 1988).

Day's (1969) composite definition of repeat purchase behavior and loyal attitude was found to be an effective way to distinguish and understand traveler service loyalty. Truly Loyal travelers tend to use their choice of service as a statement of social self- image or identity.

An attitude that differentiated true loyalty from other types of patronage was satisfaction. This suggests that companies want to develop true loyalty in their patrons can do so by delivering services that confirm or exceed travelers' expectations (Oliver 1980; Bitner 1990).

Pritchard and Howard (1997) provide a very clear understanding on loyal attitude and behavior which provide a way for customer retention, however, this study has not explained the grounds that stimulate or inhibit these traits in travelers.

Study conducted by Smith in "defining customer loyalty" quoted many characteristics of loyal customers studied earlier as 'loyal customers repeatedly purchase products or services and also recommend the company to others; they stick with a business over time (Prus & Brandt, 1995, cited by Ruth Smith), customers stay with you longer; buy more from you, more often.

Jones and Sasser (1995) remarked that "merely satisfying customers that have the freedom to make choices is not enough to keep them loyal" to the firm. Jacoby and Kyner (1973) argue that it is the commitment that distinguishes between loyalty and repeat purchase behavior. Thus a person who is committed towards a product/service has an attitude which is durable and impactful. In terms of commitment there would appear to be two types of commitment – affective and calculative commitment. Agee (2002) cited by Ruth Smith (2002) stated that 'true loyalty is based on trust, a high degree of satisfaction and a strong value proposition'.

Prus and Brandt (1995) have described a 'secure customer satisfaction index' where they have taken three major components to measure loyalty:

1. Overall customer satisfaction
2. Likelihood of repeat business
3. Likelihood to recommend the company to others

The above described three components act as the core of a meaningful customer loyalty index.

Zeithaml, Berry and Parasuramen (1996) have integrated research findings and subjective evidence, and identify the following manifestations of loyalty:

1. Expressing a preference for a company over others
2. Continuing to purchase from it
3. Increasing business with it in the future

Jai Shankar et al., (2000), cited by Ruth Smith, conceptualized customer loyalty as both commitment to the relationship and other overt loyalty behaviors. They described loyalty as a multidimensional construct that included repeat patronage; self declared retention, price insensitivity, resistance to counter opinion, and the possibility of spreading positive word of mouth.

Summarizing the components of customer loyalty within the literature that there is no common definition of customer loyalty, it is predisposed to be in conformity to the fact that loyal customers demonstrate the following behaviors and attitudes.

1. Repeatedly purchase from the organization (preferring and choosing it to others)
2. Have a high level of satisfaction with the company
3. Will recommend the company to others
4. Will trust the company
5. Will be committed to the company
6. Spend proportionally more with that service provider than others i.e. share of the wallet.

Cunningham (1956) identified three likely definitions of brand loyalty as: 1) customers lost and gained over specific time periods, 2) time sequences of individual purchases, and 3) share of the market.

Day (1969) finds that the true brand loyal buyer is: conscious of a need to economize when buying, confident of their brand judgments, heavy buyer, and older housewife with smaller average household and is less influenced by day to day price fluctuations.

Rundle-Thiele, S. (2005) explored loyal quality indicators for assessing survey-based loyalty measures summarized and categorized more than 30 survey-based loyalty measures administered in previous academic surveys as complaining type of behavior, behavioral Intention, word of mouth, resistance to competing offers items, attitudinal loyalty items, behavioral loyalty items, propensity to be loyal items.

Benner (2009) developed relational approach to understanding antecedents of customer loyalty in the airline industry and reviewed measurement scales to operationalise various constructs related to loyalty.

Studies in brand loyalty has identified that although there are different outcomes from the research findings, there may be some relationship between loyalty and age, income, educational level and family commitments (Uncles and Ehrenberg, 1990, Snyder, 1991 cited by Ruth Smith).

Ching-Fu Chen, & Yu-Ying Chang (2008) in their study examined the relationship between brand equity and brand preference, and purchase intentions. Their findings indicate positive relationship between brand equity and brand preference and purchase intentions with a moderation effect of switching cost affecting the relationship between brand equity and purchase intentions. It was observed in this study that effect of brand equity on purchase intentions is not significant for passengers with low switching costs. Here there is a clear evidence that can be interlinked with the 'low switching' characteristic of airline passengers with the loyalty programme membership as this act as a high barrier reflecting high switching cost, which leads to a hypothesis that FFP attributes and its satisfaction can have a role in determining re-buy intentions which may also be mediated by brand image factor.

Uncles et al. (2003) empirically showed that loyalty in competitive re-purchase markets is shaped more by the passive acceptance of brands than by strongly held attitudes about these brands. When customers admire the brand and say preference for the company over others, it indicates that they are likely to increase the volume of their purchases (Zeithaml et al., 1996).

## 2.16 Interrelationship between trust and Re- buy intention

Moorman et al. (1993) defined trust as a willingness to rely on an exchange partner in whom one has confidence. Trust is identified as a central attribute for the initiation, formation, and maintenance of commercial relationships in different contexts (Harris & Goode, 2004). According to these lines, many authors have congregated empirical evidences supporting the influence of customer trust for a

firm on his loyalty to that company (Chaudhuri & Holbrook, 2001; Eriksson & Vaghult, 2000; Harris & Goode, 2004; Lau & Lee, 1999; Sirdeshmukh et al. 2002). It was assumed that customer loyalty programme are usually based on rewards of various kinds aimed at fostering consumer loyalty (Sharp & Sharp, 1997) and bringing about a change in consumers' buyer behavior (Uncles et al., 2003). So it can be understood that the effectiveness of this kind of tool will be subject to the customer's trust in the firm and, especially, in its willingness and capability to supply the advantages and incentives offered by the programme.

Various studies have asserted that the perception of service influences consumer loyalty as a result of its positive effect on trust in the company (Eisingerich & Bell, 2008; Harris & Goode, 2004). Thus, the customer's positive beliefs regarding the service offered reinforce her/his trust in the company and its activities.

Burgos et al. (2011) examined the impact of changes made to rules and benefits with frequent flyer programme, and analyzed how rewards influence repeat purchase intentions and the role of frequent flyer programme in customer initiation and retention. Furthermore, it was referred in their study quoted as 'despite their popularity, reward programme do not often contribute to development of the customer's affective commitment and return intention that are built upon customer trust.

Berry (2000) indicated the importance of trust in predicting satisfaction, as pointed out that a consumer who trusts in the brand will be satisfied and more willing to commit to it. On the other hand, the reverse relationship is also found

(Geyskens; 1999) as satisfaction to be an antecedent to trust. Yoon (2002) examined the correlation between satisfaction and trust and found that a significant correlation exist between the two variables. This relationship is hypothesized in this research.

## 2.17 Re- buy intention (RBI)

Fornell and Wernerfelt (1987) noted that the costs of customer retention are substantially less than those of customer acquisition. Brand loyalty produces positive word-of-mouth recommendation, and show greater resistance among loyal consumers to competitive strategies from rival suppliers (Oliver, 1999; Dick and Basu, 1994).

Dick and Basu (1994) focused on issues related to the measurement of loyalty construct and introduced a concept of 'relative attitude' as a means to provide better theoretical foundation to the loyalty construct. Relative attitude refers to "a favorable attitude that is high compared to potential alternatives" (Dick and Basu, 1994, p. 100). In their opinion, loyalty may be an outcome of both a more favorable attitude towards a brand (as compared to alternatives) and repeat patronage.

True loyalty implies a commitment towards a brand and not just repurchasing due to inertia (Bloemer and Kasper, 1995). It can be assumed that passengers who repurchase a brand due to inertia may be easily induced to switch brands when offered with a price discount, or a coupon. Hence a favorable relative attitude and not just repurchase is a prerequisite for loyalty. There exists a clear difference in repurchase intention and loyalty.

The relationship between customer satisfaction and brand loyalty is well established at both the "transaction-specific" level and the "overall" level (Oliver, 1999; Bitner and Hubbert, 1994). Research findings have offered strong evidence in this respect – demonstrating a definite positive relationship between customer satisfaction and behavioral intentions. Similarly, Anderson and Sullivan (1993) found that stated repurchase intentions are strongly related to stated satisfaction across product categories.

It is commonly believed that higher service quality can lead to a customer's higher overall satisfaction and subsequently to positive behavioral intentions. The variables 'intention to repurchase the same airline service' and 'willingness to recommend it' has been used as indicators of post- purchase behavior in other areas of study (Bigne et al., 2001; Boulding et al., 1993; Cronin and Taylor, 1992). However, some studies have suggested that the measurement of consumer satisfaction should be used in conjunction with the measurement of perceived value. Hence it can be hypothesized that, service quality and satisfaction all appear to be good predictors of repurchase intentions.

Toncar et al. (2010) experimented the effect of price variation on service quality and their research results show that the degree to which consumers price expectations are met influences their evaluations of service quality. This was particularly true in the case of a price loss; when the actual price exceeds the expected price. However, when there is a price gain, consumer's evaluations of service quality were not affected.

David Wessels (2006) points out the top ten factors that influence the re-purchase of an airline, which are scheduling convenience, safety, price, reservation convenience, non-stop flights, baggage-handling, connecting flight convenience, on-time arrival, check-in convenience and customer service. Gurjeet Kaur et al. (2012) in their study explored customer switching intentions through relationship marketing paradigm, they found in the model which revealed significant consequence of quality, satisfaction and trust on predicting switching barriers. Among these relationships, satisfaction emerged as the strongest factor which influenced switching barriers. So the antecedent role of quality, satisfaction and trust in the re- purchase intentions are indirectly recognized.

It has been already noted that the behavioral intention consists of two items – repurchase intention and recommendation intention (Cronin et al., 2000; Petrick & Backman, 2002; Tam, 2000; McDougall & Levesque, 2000; Dodds et al., 1991).

## 2.18 Chapter summary

It is clear from the above review of literature that there is a link between airline passengers' satisfactions regarding performance of service quality attributes and frequent-flyer programme attributes and also its effect on re-buy intention. The degree of joint influence of these satisfaction levels on re-buying intentions are not yet researched elsewhere. It is also evident that previous studies are silent on explaining the differences in the level of influences ensuing from attribute-level performance dimensions of loyalty programme and service quality which connects satisfaction and re-buy intentions in a single conceptual model.

It is evident from the above literature that the re-buy Intentions of airline passengers can be viewed as a dependent variable, in which the antecedent role of satisfaction from service quality and frequent flyer (loyalty) programme attributes are to be conjectured as independent variables. The mediating role of trust, brand image and the effect of perceived value on re-buy intentions are to be explained jointly and also required to determine the relationship between these variables using a structural equation model.

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Chapter - 3

# RESEARCH METHODOLOGY

*This chapter on research methodology include research design, the type of survey conducted, the instruments used for the survey, the sources of scales adapted and its validity evidences. Data collection methods as well as the nature of exogenous & endogenous variables and the dependent variable used in the study are outlined here. This chapter also deals with the sample design, hypotheses postulated, and its methods of testing and the details of demographic variables used in the study.*

## 3.1 Research design

This is a process oriented hypotheses based study. A descriptive research design was set for this study as the findings from this study will explain the interrelationship between the exogenous and endogenous constructs and their effect on a single dependent variable. A cross sectional design was set to identify the strength of each latent construct in predicting the dependent variable i.e., the re-buy intention.

The relative importance of direct and indirect effect of attribute-level performance of frequent flyer programme & airline service quality, satisfaction of FFP on satisfaction of ASQ in causing re-buy intentions are explained through this research setting.

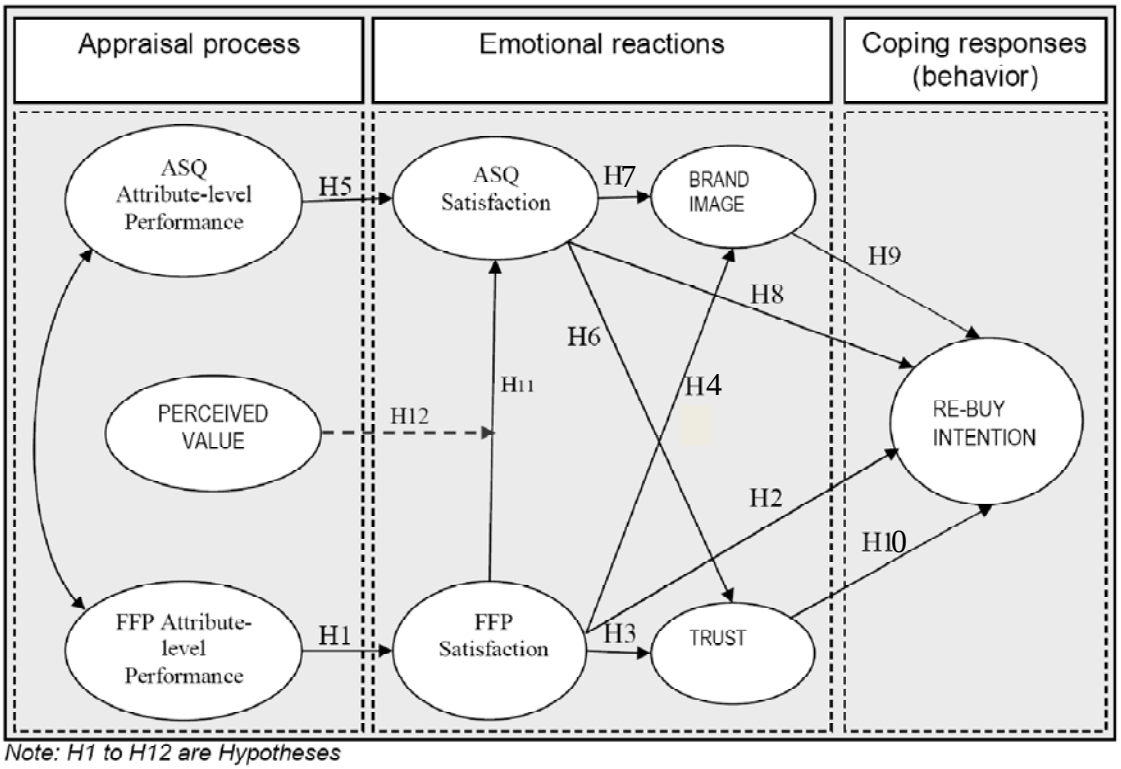
## 3.2 Conceptual model

This study proposes an integrative model which explains frequent passengers re-buy intention based on two sets of aspects (i) Airline Service Quality (ii) Frequent Flyer Programme. The relationships among attribute- level performance of airline service quality (employee, network, and in-flight service), dimensions of frequent flyer programme (programme specific service, programme specific structure), passenger satisfactions, airline brand image, passenger trust and passenger's perceived value about the airline are embedded in the model (see Figure 3.1).

As referred in chapter I under session 1.5, the model of this research study is based on the theory of self-regulation processes which explain the concepts: appraisal processes leading to emotional reactions, which subsequently lead to coping responses (behavior). The cognitive evaluations in this model are similar to the service quality and customer perceived values propounded by Bagozzi (1992) in his Theory of Self Regulation (TSR).

Self regulation theory highlights the involvement of a motivating component which mediates the attitude / subjective norm and intention behavior.

Figure 3.1: Conceptual Frame work of the study (theoretical model)




*Note: H1 to H12 are Hypotheses*

Self-regulatory process explains consumer behavior in three parts as cited by Chang and Wang (2011), a brief description of the three components are:

(1) Appraisal process - the evaluation of internal or situational conditions as they apply to one's console,

(2) Emotional reactions – satisfaction, and

(3) Coping responses – behavior

In this research this process outline is adopted to explain airline frequent passengers' re-buy intention behavior. The basic objective of this research was to examine the sequence and relationships among the antecedents of the re-buy intention behavior. This includes (1) the appraisal process (attribute level

performance of airline-loyalty programme, airline-service quality and customer perceived value), (2) emotional reactions (brand image, passenger trust, satisfactions from loyalty programme and airline core-service quality), and (3) coping responses (intention to re-use the airline). This study also seeks to find out different mediating means influencing customer buying intentions across different purchase stages; and investigate the moderating effect of customer perceived value in the relationship between loyalty programme satisfaction and core service-quality satisfaction.

## 3.3 Hypotheses of the study

The study was designed to evaluate the relationship between selected independent variables and its combined effect on 're-buy intention', which is the dependent variable; hence a process oriented hypothesis based study was undertaken.

Hypotheses testing positive and direct relationships among variables of the study are given below.

H1: There is a significant relationship between attribute level performance of airline Frequent Flyer Programme (FFP) and passenger satisfaction.

H2: There is a significant relationship between FFP satisfaction and passenger Re- Buy Intention (RBI).

H3: There is a significant relationship between FFP satisfaction and passenger trust.

H4: There is a significant relationship between FFP satisfaction and brand image.

H5: There is a significant relationship between attribute level performance of Airline Service Quality (ASQ) and passenger satisfaction in ASQ.

H6: There is a significant relationship between satisfaction in ASQ and passenger trust.

H7: There is a significant relationship between satisfaction in ASQ and brand image.

H8: There is a significant relationship between satisfaction in ASQ and RBI.

H9: There is a significant relationship between passenger perceived brand image and RBI.

H10: There is a significant relationship between passenger trust in the airline and RBI.

H11: There is a significant influence of FFP satisfaction on ASQ satisfaction.

## 3.4 Expert survey

Expert survey was conducted among airline marketing professionals and other senior executives in the airline industry. The purpose of this survey was to ensure the practical relevance and importance of the research problem explained in the first chapter and also to cross verify the relevance of independent variables and its effect on dependent variable from the view point of the professionals who are associated with the marketing and commercial activities of various airlines. Questionnaires were distributed directly as well as by using online website for obtaining responses. The emphasis on the survey was given on the significance of using two exogenous variables vide attribute – level performance of airline service quality and frequent flyer programme on re-buy intentions of the passengers.

Apart from this, the content and face validity of the questionnaire developed for the study was verified and ensured. It was necessary to confirm whether sufficient numbers of frequent travelers were available and whether significant numbers of passengers are members of frequent flyer programme. These airline professionals were enquired about the booking pattern of frequent travelers who are members of loyalty programme, whether this has any effect on re-buy intentions. The important service quality attributes; the current preferences of frequent travelers in the usage of airlines and the important attribute-level performance indicators perceived by these airline officials were also gathered.

## 3.5 Survey instrument for data collection

A structured questionnaire was used for the survey. The questionnaire consists of scales adapted from prior studies (please refer 3.6) and measurement items developed with respect to the constructs, ASQ and FFP attributes-level performance. Since the measurement scale items for the constructs 'attribute-level performance' for both airline service quality and frequent flyer programme within the airline context was not available, measurement items were developed using factor analysis method. For identifying and pooling the attribute items, an extensive literature survey was conducted on the available literature on airline marketing. The expert survey was also used for identifying and segregating the most prominent items that are relevant for the conduct of the study. The segregated items were then assessed and validated during the interactions with airline marketing experts about the relevance of frequent flyer programme attribute-level performance indicator items and its probable effect on the re-buy intentions of frequent passengers. Exploratory Factor Analysis (EFA) was conducted after reducing the number of items into a practical and reasonably good size.

## 3.6 Measurement scales used and operational definitions of the constructs

### 3.6.1 Dependent Variable

**Re- buy Intention:** This construct is used in many studies for measuring re-purchase intentions of customers in service context.

Ching-Fu Chen (2008) investigated the structural relationships between service quality, perceived value, satisfaction, and behavioral intentions of air passengers. In his study, behavior intentions were measured by using two items scale given below

1. *The likelihood that you will fly this airline again in the future*
2. *The likelihood that you would recommend this airline to other people*

Zhang & Bloemer (2008) adapted from: Lam et al. (2004); Zeithaml et al. (1996), use three items given below in measuring the construct Re purchase intention.

1. *I consider 'X' as my first choice for airlines*
2. *I will do more business with 'X' in the next few years*
3. *If I had to do it over again, I would make the same choice*

Nadiri et al. (2008) used another scale to measure re- buy intentions in the investigation on the factors influencing passengers' loyalty in the North Cyprus national airline with three items as:

1. *I consider this airline company my first choice for air transportation*
2. *I will consider this airline company more for air transportation in the next few years*
3. *I say positive things about this airline company to other people*

Considering various indicator items used by various authors regarding this construct, the scale used by Nadiri et al. with three items has been adapted, since the meaning and the perspective of the construct remain more or less the same as envisaged in this research.

The Cronbach alpha on measuring the inter item reliability was calculated for this construct and reported as 0.897, which is above the threshold value of 0.7 (Nunnally, 1978) and was accepted.

### 3.6.1 (a) Re-buy Intention: Definitions from the literature

American Marketing Association (AMA) defines re-buy intention as 'measure of a buyer's intention to buy a product or service', it can be measured as the subjective probability that a buyer's beliefs and attitudes will be acted upon in a purchasing framework (AMA). Intentions are subjective judgments about how a person will behave in the future and usually serves as dependent variables in many service research and satisfaction models (Boulding *et al*., 1993) whereas Rust, Zahorik and Keiningham (1995) argues that repurchase intentions and actual repurchase patterns are not necessarily the same.

Re-buy Intention refers to consumers' evaluation of future purchases from the same company based on their previous experience (Patterson and Spreng, 1997; Hellier et al., 2003; Seiders et al., 2005; Olaru et al., 2008).

Butcher (2005) viewed that repurchase intention is regarded as a sound service outcome that is measurable, while Soderlund and Ohman (2003) consider repurchase intentions as intentions-as-expectations. Hellier *et al*. (2003, p.1764)

defined repurchase intention as 'the Individual's judgment about buying again a designated service from the same company, taking into account his or her current situation and likely circumstances'.

### 3.6.1. (b) Operational definition

In this study, re-buy intention is considered as a planned future buying behavior influenced by the level of satisfaction derived from the combined effect of attribute –level performances of service quality and frequent flyer programme, perceived by frequent flyer members, elicited through rating of their tendency to choose the same airline as their first choice, say positive things about the airline to others and willing to depend more on the same airline for their air travel in next few years in a given buying framework.

Hence, re-buy intention is defined here as a buying base of frequent flyer programme members who have a tendency to choose the same airline as their first choice, willing to continue with the same airline and recommend the airline to others, derived from their satisfaction which is influenced by the performance of service attributes and FFP attributes in a given buying framework.

### 3.6.2 Independent variables of the study

#### 3.6.2.1 Exogenous variables

**a) FFP attribute-level performance**

Since the exact dimensions of frequent flyer programme from attribute-level performance perspective was not available in a sufficient manner in the airline marketing literature and not yet found in the Indian context; the researcher

explored the various sub dimensions of the above construct and developed suitable scale items for each sub dimension using exploratory factor analysis. The details of measurement scale developed and its validation are given in the next chapter.

**Operational definition**

Frequent flyer programme attribute-level performance is the degree of overall performance of frequent flyer programme which is based on the level of importance extracted through rating important attributes that reflect the important dimensions and strength in explaining capability of loyalty programme as perceived by frequent travelers which provide satisfaction about the loyalty programme.

**b) ASQ attribute-level performance**

Since the exact dimensions of airline service quality from an attribute-level performance perspective was not available in the literature, the researcher explored the various sub dimensions (Pappachan J., & Koshy M.P., 2014) of the above construct and developed suitable scale items for each sub dimension using factor analysis. The details of measurement scale developed and its validation are given in the next chapter.

Service quality has been termed as a form of attitude – a long-run overall evaluation (Zeithaml, 1988; Parasuraman *et al.,* 1988). Many scholars such as Parasuraman *et al. (*1988), Juwaheer and Ross (2003) and Walker *et al.* (2006) highlighted that responsiveness, assurance and empathy are the most important service quality features. Responsiveness is often defined as the willingness of

service provider to provide services quickly and accurately (Juwaheer & Ross, 2003). Assurance refers to credibility, competence and security in delivering services (Juwaheer & Ross, 2003). Empathy is related to caring, attention and understanding the customer needs when providing services (Juwaheer & Ross, 2003).

**Operational definition**

Airline service quality attribute-level performance is the degree of overall performance of airline core services that are based on the level of significance extracted through the rating of service attributes that reflect the underlying dimensions and have potency in explaining important core services as perceived by frequent travelers which spring satisfaction in passengers about airline services.

### 3.6.2.2 Endogenous variables

Four endogenous variables namely, satisfaction with frequent flyer programme, satisfaction with airline service quality, airline brand image and passengers trust with airline are considered for the study, which are outlined below.

**(i) Satisfaction with frequent flyer programme:**

The industry-specific AIRQUAL used by Ekiz et al. (2006) was adapted by Nadiri et al. (2008) which comprises of eight distinct dimensions to measure re-buy intentions and the constituent customer satisfaction factor measured with three items is adapted for this study with slight modifications which are given below:

1. *My satisfaction with the airline has increased with its FFP membership.*
2. *I now have a more positive attitude towards the airline FFP*
3. *My impression of this airline has improved by thinking that I did the right thing when I decided to use this airline FFP*

The internal consistency was estimated using a reliability coefficient called Cronbach's alpha (α) (Cronbach, 1951). An alpha value of 0.70 or above is considered to be the criterion for demonstrating strong internal consistency of established scales (Nunnally, 1978).

The calculated Cronbach alpha value of 0.844 assumes inter item consistency of the construct, satisfaction with Frequent Flyer Programme.

**Operational definition**

FFP satisfaction is a measure of agreement on the performance of loyalty programme attributes that score relatively high on a rating scale reflecting the sense of fulfillment of the frequent flyers, reflected by indicators as 'wise selection decision' made by them to join the loyalty programme, the level of positive attitude felt with airline company and their level of liking the airline due to the benefits perceived from loyalty programme membership, which result into amplifying their tendency to re-use the same airline in their next travel.

**(ii) Satisfaction with airline service quality:**

Customer satisfaction generally means customer reaction in the context of the state of fulfillment, and customer judgment of the fulfilled state (Oliver, 1997). It is defined as an overall positive or negative feeling about the net value of

services received from a supplier (Woodruff, 1997). Kotler (2000) described satisfaction as a person's feeling of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to their expectations.

Hennig-Thurau et al. (2002), Park et al. (2006) based on: Oliver (1980) used service quality satisfaction scale, however the scale used by (Zhang and Bloemer, 2008) modified from (Bettencourt, 1997) with 3 items were adapted for this study for measuring satisfaction of passengers with regard to airline service quality as:

1. *Over all I am very much satisfied with this airline*
2. *My fight experiences of this airline have always been pleasant*
3. *I am satisfied with in-flight travel comfort provided by this airline*

The Cronbach alpha measuring the inter item reliability for the construct is 0.841, which is above the threshold value of 0.7 and accepted.

**Operational definition**

Satisfaction with airline service quality is a measure of agreement on the performance of service attributes that score relatively high on a rating scale reflecting the sense of achievement of the frequent flyers reflected by indicators as 'the level of delightfulness felt with airline services and their level of liking on the travel comfort provided in-flight and over all flight experiences with the airline, resulting into furthering their tendency or desire to re-use the same airline in their next travel.

**(iii) Airline brand image:**

Nha & Gaston (2001) cited by Park et al. (2006) used three items scale for measuring brand image in their study assessing the impact of service quality and other marketing variables on airline passengers' future behavioral intentions. The scale items adapted for this study are:

1. *I have always had a good impression of this airline*
2. *I believe this airline has a better image than its competitors*
3. *In my opinion, this airline has a good image in the minds of passengers*

The Cronbach alpha measuring the inter item reliability was calculated for the variable and reported as 0.893, which is above the threshold value of 0.7 and thus accepted.

**Definition**

American Marketing Association (AMA) describes brand image as the perception of a brand in the minds of persons. The brand image is a mirror reflection of the brand personality or product. It is what people believe about a brand, their thoughts, feelings, expectations. Whereas brand loyalty is expressed as the situation in which a consumer generally buys the same manufacturer-originated product or service repeatedly over time rather than buying from multiple suppliers within the category or alternatively the degree to which a consumer consistently purchases the same brand within a product class. These meanings distinguish loyalty as a time bound activity may be influenced by attitudinal component in it, but different from intentions to re-buy, which need not necessary be a time bound and consistent activity.

**Operational definition**

Brand image is defined as a feeling of frequent passengers reflected on a rating scale measuring stability in impression perceived about the brand, insight about level of likeness of brand felt by other passengers and a belief about the brand position in comparison with competitive brands expressed on the basis of past experience with the brand.

**(iv) Passenger's trust with airline:**

Martensen & Groenholdt (2004) measured trust and credibility of brand using a three item scale which was adapted for this research study as:

1. *This airline brand is trustworthy and credible*
2. *This airline brand communicates openly and honestly*
3. *I trust and am willing to depend on this airline*

The Cronbach alpha measuring the inter item reliability was calculated for the sample and reported as 0.883, which is above the threshold value of 0.7 and accepted.

**Operational definition**

Operationally, 'trust' is defined as a feeling of frequent passengers reflected on a rating scale measuring credibility in communication and openness that are perceived about the airline, level of dependency of the airline felt by frequent passengers and a belief about honesty of the airline in providing various services on the basis of past experience.

### 3.6.3 Moderating variable

**Passengers' 'Perceived value' about airline**

**Definition**

Perceived value is considered as customer recognition and appreciation due to the utility of a product that is given by a service provider which may fulfill his/her expectation (Foster, 2004; Heininen, 2004; Walker et al., 2006).

The perceived value is defined as ''the consumer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given" (Zeithaml, 1988). More specifically, perceived value can be summarized as a trade-off between perceived benefits and perceived costs (Lovelock, 2000).

Ismail et al. (2009) projected perceive value as a moderator on the relationship between service quality features and customer satisfaction.

Ching-Fu Chen (2008), investigated the relationships between service quality, perceived value, satisfaction, and behavioral intentions for air passengers using a two items scale which was adapted for the present research, the indicative items are:

1. *Considering the ticket price I pay for the airline, I believe that the airline offers sufficient services.*
2. *The ticket price of this airline is reasonable*

   The Cronbach alpha measuring the inter item reliability was calculated for the sample and reported as 0.857, which is above the threshold value of 0.7 and accepted.

**Operational Definition**

Operationally, 'Perceived Value' in this study is defined as the frequent flyer's overall assessment about the utility of core service attributes and loyalty programme attributes based on perceptions reflected on a rating scale that consists of indicators measuring the perceived benefits obtained from the loyalty programme, level of quality of services obtained in comparison with the ticket price paid and also the level of reasonability of airline fares.

### 3.6.4 Demographic variables

Demographic variables used in this study are the frequent traveler's age, level of education, occupation, annual income (in million INR), and gender status. Apart from this, categorical data such as purpose of travel, mode of setting travel plan and their current status of the frequent flyer programme were also collected for identifying differences across these variables. Differences that may arise due to the variations in the categorical variables need to be analyzed before arriving at the conclusions. Details of the demographic variables and profile of the sampling distribution are presented in Chapter V.

## 3.7 Validity analysis

Validity is defined as the extent to which any measuring instrument measures what it is intended to measure (Carmines and Zeller, 1990). Different validity terms are used to illustrate the various aspects of validity. A research instrument should be tested for validity, so that it could be used for significant analysis. The initial validity tests, namely content validity and face validity were performed for the draft questionnaire developed for the study.

### 3.7.1 Content validity

Content validity of an instrument refers to the degree to which it provides an adequate depiction of the conceptual domain that it is designed to cover (Hair et al., 1998). In the case of content validity, the evidence is subjective and logical, rather than statistical.

The instrument had been developed on the basis of a detailed review, discussions and analysis of the prescriptive, conceptual, practitioner and empirical literature, so as to ensure the content validity.

### 3.7.2 Face validity

Generally, a measure is considered to have 'face validity' if the items are reasonably related to the perceived purpose of the measure (Kaplan and Scauzzo, 1993). Face validity is the subjective assessment of the correspondence between the individual items and the concept through rating by expert judges (Hair et al., 1998). In face validity, one looks at the measure and judges whether it seems a good version of the construct under study. Face validity is also a subjective and logical measure, similar to content validity. The face validity was also established through review of the instrument by experts in the field (Hair et al., 1998).

The draft questionnaire was given to three senior airline professionals in the industry and three professors in marketing. They were briefed about the purpose of the study and its scope. The experts were requested to examine the questionnaire and to give their impressions regarding the relevance of contents of the questionnaire. They were requested to critically scrutinize the questionnaire, and to give objective feedback and suggestions with regard to the

comprehensiveness/coverage, redundancy level, consistency and number of items for each variable. They had to suggest necessary changes by simplifying, rewording, removing, replacing and supplementing the items. Based on the feedback from experts, the questionnaire was modified.

### 1.7.3 Discriminant validity

Discriminant validity shows that a test of a construct is not highly correlated with other tests designed to measure theoretically different constructs. Campbell and Fiske (1959) introduced the concept of discriminant validity within their discussion on evaluating test validity. However the Heterotrait – Monotrait (HTMT) ratio method proved to be more authentic to measure discriminant validity among constructs used in a model. As a criterion, if the value of HTMT is higher than threshold – then there is lack of Discriminant validity. Clark & Watson (1995) and Kline (2011) set threshold as 0.85, whereas Gold et.al. (2001) set it as 0.90, usually referred as $HTMT_{.85}$ and $HTMT_{.90}$ respectively. A result greater than .85, however, tells us that the two constructs overlap greatly and they are likely measuring the same thing.

The discriminant validity was ensured for all the constructs used in this study (see table 3.1) by using samples collected from the pilot survey. Values obtained for each construct were below .85 which shows discriminant validity.

Table 3.1: Discriminant Validity - Heterotrait – Monotrait (HTMT) Ratio

| | ASQ SAT | BRAND IMAGE | FFP SAT | FFP1 | FFP2 | RBI | ASQ1 | ASQ2 | ASQ3 |
|---|---|---|---|---|---|---|---|---|---|
| ASQ SAT | | | | | | | | | |
| BRAND IMAGE | 0.782 | | | | | | | | |
| FFP SAT | 0.603 | 0.490 | | | | | | | |
| FFP1 | 0.536 | 0.407 | 0.602 | | | | | | |
| FFP2 | 0.285 | 0.421 | 0.531 | 0.650 | | | | | |
| RBI | 0.786 | 0.744 | 0.473 | 0.490 | 0.525 | | | | |
| ASQ1 | 0.668 | 0.427 | 0.477 | 0.548 | 0.322 | 0.536 | | | |
| ASQ2 | 0.685 | 0.421 | 0.312 | 0.362 | 0.023 | 0.390 | 0.591 | | |
| ASQ3 | 0.541 | 0.330 | 0.235 | 0.253 | 0.110 | 0.449 | 0.505 | 0.571 | |
| TRUST | 0.697 | 0.704 | 0.337 | 0.264 | 0.282 | 0.653 | 0.628 | 0.582 | 0.475 |

*Source: Smart PLS – result output*

### 3.7.4 Convergent validity

There are a few measures that are useful for establishing validity and reliability such as Composite Reliability (CR) and Average Variance Extracted (AVE) as given by Hair et al. (2010). The thresholds for these values are:

1. Composite Reliability (CR) value > 0.7
2. Average Variance Extracted (AVE) > 0.5

Convergent Validity can be ensured If CR > AVE, provided AVE > 0.5. Table 3.2 provides the details of validity measures of the constructs. It was found that all the values of AVE are above 0.5 and the composite reliability values are

greater than 0.7, simultaneously satisfying the condition that all composite values are greater than corresponding AVE values.

Table 3.2: Reliability & Convergent validity of constructs

| Constructs | C R value | AVE | (CR – AVE) is +ve |
|---|---|---|---|
| ASQ SAT | 0.857 | 0.668 | 0.189 |
| BRAND IMAGE | 0.913 | 0.777 | 0.136 |
| FFP SAT | 0.903 | 0.757 | 0.146 |
| FFP1 | 0.876 | 0.639 | 0.237 |
| FFP2 | 0.812 | 0.523 | 0.289 |
| RBI | 0.908 | 0.767 | 0.141 |
| ASQ1 | 0.829 | 0.548 | 0.281 |
| ASQ2 | 0.793 | 0.563 | 0.23 |
| ASQ3 | 0.908 | 0.832 | 0.076 |
| TRUST | 0.866 | 0.684 | 0.182 |

*Source: Smart PLS – result output*

## 3.8 Pilot study

The pilot questionnaire was administrated to a sample of 100 frequent passengers having at least one year of travel experience. The goal of this exercise was to obtain a general assessment about the instruments' appearance, to further eliminate items that did not affect significantly the value of the instrument, and to understand the underlying dimensions of the exogenous constructs under study.

As some of the respondents, especially business category passengers expressed their disagreement with the length of the questionnaire; the researcher then identified and approached these passengers at a convenient place at the airport; whilst these passengers waiting for boarding the flight. Since significant number of the respondents was coming under the elegant class of the society, they were not ready to answer outsized number of questions without the support of the researcher. Hence, all the identified respondents were interviewed /

administered the questionnaire personally during the main survey, than just leaving the questionnaires to the passengers.

The multivariate normality assumptions (De Carlo, L. T., 1997) set for structural equation modeling using AMOS (see annexure III) was checked before testing the model for confirmatory factor analysis.

## 3.9 Sampling design

### 3.9.1 Population of the study

Cochin international airport is the 4th largest International Airport in India in terms of international passenger traffic. The annual passenger traffic touched 6.4 million in 2014-15. The airport handles more than 1100 aircraft movements per week. Over 18 International carriers offer direct flights to the Middle East, Singapore, Malaysia and direct connectivity to UK, Europe, United States, Far East & the Pacific region (as per website www.cial.aero.in).

All frequent passengers having at least one Frequent Flyer Programme (FFP) membership with any airline constitute the population of the study. All types of frequent flyers with various levels of travel experience were included in the study. Airline passengers' intensity of usage of airline were reflected by their loyalty programme statuses which generally include 'Blue', 'Silver', 'Gold' and 'Platinum' cards. (Please refer Annexure II for details of the benefits given to FFP statuses by airlines)

The variables under study especially frequent flyer programme of airlines are not any airport specific programme. The applications of the programme and service quality of the airline all are standardized and all passengers will be treated as same by airlines irrespective of the airport.

The passengers flying from Cochin to various destinations will become passengers of those airport destinations also, so the data collected from a typical passenger at Cochin or from the destination airport can be the same.

### 3.9.2 Sampling method:

Passengers were located mostly at departure areas of both domestic and international terminals of Cochin International Airport, nevertheless frequent passengers, except foreign citizens travelling to almost all major destinations of India and abroad were included in the sample. Care was taken to include passengers traveling to all destinations which include passengers from outside Kerala. However, the study was designed to find out the re-buy intention behavior of frequent passengers who travel to various destinations irrespective of their place of residence. Judgment sampling method was used to include all types and category of passengers with various frequency of travel & purpose of travel. For this purpose support from airline officials were received. Using the services of reliable airline sources, Email addresses of frequent passengers were collected and some responses were also collected through online survey.

### 3.9.3 Sample size:

Since the actual size of population of the study was not known, it was not practically possible to arrive at a sampling frame and the size of the sample was estimated using statistical software.

The squared multiple correlations of the independent variables are determined from the initial sample obtained from pilot study and these values were applied in the PASS13 software. The type I error was set at five percent and the power of the tests was set at 90%. The sample sizes were estimated for each type of statistical analyses and the biggest sample size so estimated was 326. However 554 responses obtained from the survey was used for testing the

structural model, since certain fit indices such as GFI, RFI and AGFI are sensitive to sample size. Muthen & Muthen (2002) projected a sample size of 315 which shall adequately represent a population if other parameters are well within the limit. G Power test was also performed to cross check the estimated sample size. Hoelter value indicating the adequacy of sample size in AMOS software was also found to be above the expected level of 200.

554 completed and usable questionnaires were obtained from an overwhelmed number of 650 frequent flyers approached for the purpose of collection of primary data.

### 3.9.4 Methods of data collection

Special permission from airport authorities was obtained for data collection. Airport Entry Pass (AEP) from Bureau of Civil Aviation Security (BCAS) was secured. This AEP facilitated entry into passenger terminal areas including FFP Lounges and Security Hold Areas (SHA) of the airport where passengers wait for boarding the aircraft. Passengers with premium statuses like 'Gold' and 'Platinum' were located initially at the check-in area; since airlines provide separate check-in counters for these premium FFP members.

FFP lounges and security hold passenger waiting area of the airport were relatively convenient for the passengers to read the questionnaire and to provide responses as by then they had completed all the formalities such as check-in, emigration, customs and security check for boarding the aircraft.

As the passengers were approached individually for the survey, respondents were provided with all clarifications to the queries about the questionnaire items and all questions were answered by the respondents and therefore no missing values found in the data.

A structured questionnaire was used to collect responses from the frequent flyers. Frequent flyers were asked whether they use frequent flyer programme of any airline and the survey was continued only when they affirmed positively. Those frequent flyers who have no options other than to travel by an airline through the frequent flyer programme membership held / supported by their company were not included in this study. Only those FFP members, either company officials or businessmen or any other category of passengers who exercise full freedom in choosing an FFP programme and an airline of their choice are included in the sample. Moreover, the respondents were asked to provide their responses about an airline and its frequent flyer programme which they use mostly irrespective of the airline they travel at that moment. So this study focuses on the frequent passengers' re-buy intention behavior with respect to the frequent flyer programme of the airline they travel mostly. All items in the questionnaire were intended to capture data with respect to the above mentioned category of passengers, about the frequent flyer programme they use mostly and the quality of services provided by that airline.

## 3.10 Chapter summary

This chapter presented various aspects of research methodology used in the study. It outlined the conceptual model prepared based on literature review. It also explained the preparation of questionnaire, which was edited by experts to improve its content and face validity. The chapter outlined the principles underlying the design of the study and the operational definitions of independent and dependent variables used. The details regarding the measurement of validity of the constructs used, data sources, sampling method used, and the statistical tools that are made use of are also brought out in this chapter. The chapter shows that the study endeavors to adhere to the scientific principles of research.

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Chapter - 4

# EXOGENOUS VARIABLES: PRECISION & VALIDATION OF MEASUREMENT MODELS

*This chapter deals with the development and validation of measurement models that expose the underlying dimensions of two exogenous variables in this study vide (i) Frequent Flyer Programme attribute - level performance and (ii) Airline Service Quality attribute - level performance.*

## 4.1 Introduction

Since the sub dimensions of the exogenous variables (Hair et al., 2013) of the study i.e. frequent flyer programme and airline service quality from an attribute-level performance perspective was not available in the literature, the various sub dimensions of the above constructs are explored for validation. Besides, suitable measurement scale items under each of the sub dimension was recognized by using Exploratory Factor Analysis (EFA) and validated through Confirmatory Factor Analysis (CFA) method. Two different approaches, i.e. use of same sample set and two different sample sets, are seen in confirming the factors explored using EFA method. Jan-Willem and Willem A. (2001) used single sample for confirming measurement model for EFA, and CFA. Bollen (1989); Conway & Huffcutt (2003) used two different sets of samples for conducting EFA and CFA. In this study EFA and CFA were conducted using same sample as well as different sample sets and got valid results in both cases. Please see Annexure V and VI for the summary of model fit indices of measurement models with the same data used for EFA for FFP and ASQ variables respectively.

The details of measurement scale items developed and its validation with the support of model fit indices are given later in this chapter.

## 4.2 Items generation

Focus in this section was to develop a comprehensive instrument to measure the constructs vide attribute-level performances of both frequent flyer programme and airline service quality. These variables were applied as exogenous variables in the conceptual model of this study. The selection of items was done based on the extensive survey of literature described in chapter two. Ekiz et al. (2006) developed an AIRQUAL scale to overcome the psychometrical application problems of the existing quality scales, as per the guidance of Churchill (1979) and also with Parasuraman et al. (1988). Although, they successfully developed the AIRQUAL scale, failed to link it to repurchase intentions which is proven to be very significant in customer loyalty (Dean, 2007; Kau and Loh, 2006; Schiffman and Kanuk, 2004; Yi, 1990). Considering this limitation and echoing importance of the construct namely re-buy intention, this dependent variable is influenced by ASQ and FFP performances. A measurement model of airline service quality was developed and empirically tested from its attribute –level performance perspective.

Similarly, items related to attribute – level performance dimensions of frequent flyer programme was generated based on the exhaustive survey of literature described in chapter two and also based on discussions and suggestions obtained from airline officials who handle or deal with frequent flyer programme of various airlines.

The review of literature and discussions with airline marketing officials resulted in a pool of 22 items and 15 items that influence airline service quality and frequent flyer programme respectively. The respondent had to indicate the attribute-level performance of each item on a five point Likert scale (1 - strongly disagree; 2 - disagree; 3 - neither agree nor disagree; 4 - agree and 5 - strongly agree).

## 4.3 Initial validity tests

As referred in chapter III, any research instrument should be tested for validity, so that it could be used for correct measurement and meaningful analysis. The initial validity tests, namely content validity and face validity were performed for the pooled item questions as explained below.

### 4.3.1 Content validity

In the case of content validity, the evidence is subjective and logical, rather than statistical. As indicated earlier, content validity can be ensured if the items representing the various constructs of an instrument are substantiated by a comprehensive review of the relevant literature.

### 4.3.2 Face validity

Generally, 'face validity' is ensured if the items are reasonably related to the perceived purpose of the measure (Kaplan and Scauzzo, 1993).

The draft pool of attribute items were given to three senior airline professionals from the industry and three senior academicians in Marketing. They were briefed about the idea and the purpose of pooling indicative items. The

experts were requested to scrutinize the questionnaire items and give their impressions regarding the relevance of contents of these indicative items. Based on the feedback from experts, the draft questionnaire items were modified. This resulted in a new fine tuned questionnaire, containing 16 items under ASQ construct and 12 items under FFP construct.

### 4.3.3 Discriminant Validity

The discriminant validity was ensured for each constructs (please refer session 3.8.4 under Chapter III.

## 4.4 Pilot test for construct measurement items

The questionnaire was administrated to a convenient sample of 100 frequent travelers holding at least one frequent flyer programme and minimum of three times travel experience per year. The goal of this exercise was to obtain a general assessment of the instrument, to further eliminate items that did not contribute significantly to the value of the instrument, and to understand the underlying dimensions of the constructs under study. The data collected from the pilot group was first scrutinized to identify the no response questions. If more than 80% of the respondents did not respond to a question, it was to be removed or reworded.

## 4.5 Exploratory Factor Analysis: Development of measurement dimensions of FFP attribute- level performance.

Since little is known with regard to the factors that influence passenger's perceptions and responses to frequent flyer programme from an attribute –level performance perspective, the researcher explored the important dimensions of FFP attribute –level performance after reviewing the available literature and discussions with airline officials in the concerned field.

For conducting Exploratory Factor Analysis (EFA), 150 frequent flyer responses were used. Statistical Package for Social Science (SPSS) was used to conduct factor analysis. Principal axis factoring method with oblique rotation technique vide direct-oblimin rotation was used for exploring factor components since correlations among the items were presumed in this study (Conway & Huffcutt (2003).

To arrive at a range of FFP attribute level performance indicators, airline experts' opinion were gathered and also based on the various attributes acknowledged in the literature, 12 items were concurrently congregated. The attribute items of FFP which were rated by the respondents in 5 point Likert scale are given below.

1 *The ability to reduce the overall cost of air travel due to benefits and free trips*

2 *Performance of the system in updating /maintaining FFP status of passengers*

3 *Treating members better than other travelers who do not belong to the programme*

4 *Priority in baggage or check-in*

5 *Ease in obtaining preferred seat*

6 *Provides better facilities in lounges, and in flights*

7 *Increased baggage allowance*

8 *Helps in better airline connectivity / net work alliances*

9 *Easy and flexible to redeem benefits earned from the programme*

10 *Being a member of the programme makes the passenger feel special*

11 *Sufficiency of duration / validity of the programme*

12 *Provides occasional upgrades, including certificates/ coupons*

### 4.5.1 Test of sampling adequacy

Exploratory Factor Analysis (EFA) was conducted using 150 responses from frequent flyers using structured questionnaires. To check the adequacy of the sample used for factor analysis, Kaiser- Meyer- Oklin (KMO) and Bartlett's test was used, the results of which indicate significant values. KMO value 0.880 (see Table 4.1) - higher than the threshold value of 0.6, and the correlation matrix diagonal values in anti image matrices values (above 0.5) also indicated good measure of sampling adequacy (MSA). The correlation index among factors was also at moderate level and did not exceed the cut-off point of 0.85 (Kline, 2005).

Table 4.1 KMO and Bartlett's test results

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .880 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 547.35 |
| | Df | 66 |
| | Sig. | .000 |

*Source: Primary data*

### 4.5.2 Total variance explained and number of factors extracted (FFP)

Two principal factors were extracted which explained about 60 percent of the variation after extraction sums of squared loadings based on eigen values above one. Since the method used for the analysis was principal axis factoring, Pattern matrix values were taken for rotated component selection. See Table 4.2 for details.

Table 4.2 Rotated components with two principal factors

| Pattern Matrix[a] | Factor | |
|---|---|---|
| | I | II |
| **Priority in Check In & Baggage** | **0.843** | -0.144 |
| **Ease in obtaining preferred Seat** | **0.784** | -0.061 |
| **Treats members better than others** | **0.692** | 0.058 |
| **Better facilities in lounges/ flights** | **0.667** | 0.122 |
| Increased baggage allowance | 0.479 | 0.081 |
| Better airline connectivity / Net work | 0.377 | 0.148 |
| ***Easy and flexible to redeem benefits*** | *-0.081* | ***0.761*** |
| ***Duration / Validity of FFP*** | *0.025* | ***0.619*** |
| ***System performance in updating FFP status*** | *-0.018* | ***0.588*** |
| ***FFP status makes the passenger feel special*** | *0.156* | ***0.552*** |
| *Occasional upgrades, including coupons* | *0.279* | *0.326* |
| *FFP reduce the overall cost of air travel* | *0.166* | *0.208* |

a. *Rotation converged in 7 iterations.*

### 4.5.3 Interpretation of factors extracted

As it was evident from Table 4.2, two principal factor dimensions were extracted. It is very clear from the factor loadings that (see bold figures in table 4.2) passengers have made clear demarcation on attribute items and factor I can be logically interpreted as those underlying attributes which explain the dimension that was closely related to within loyalty programme service aspects during the course of travel or intent to travel. Whereas, factor II represents those attributes which influence passengers specifically by the programme features/ structure related aspects. Moreover the factor II attributes are not directly linked with the passengers while they are on travel.

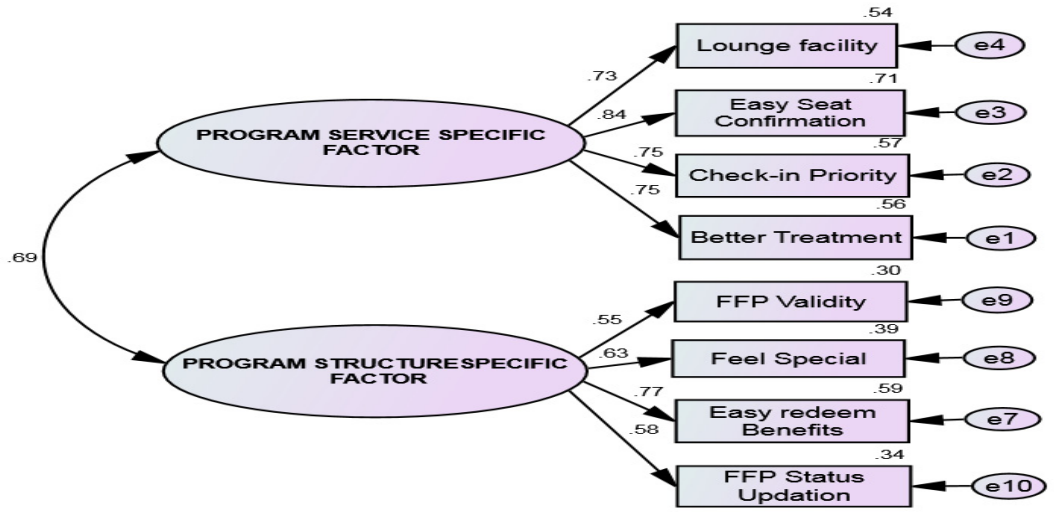
As noted in the output, the items having factor loading less than 0.50 shall be eliminated (Hair et al, 1996). The factor loadings of item "Increased baggage allowance" has got low loading (less than 0.5) may be attributed to the fact that generally frequent business passengers do not carry heavy luggage as they travel for employment/official purpose, and increased baggage allowance attributed by FFP may not be a very significant aspect for them. Similarly another item "better airline connectivity" has also got low loading (less than 0.5), in tune with the findings of Weber (2005) where the expanded route network were not rated high in their study.

## 4.6 Confirmatory Factor Analysis for validation of the FFP measurement model

According to Ahire, Golhar and Waller (1996) Confirmatory Factor Analysis (CFA) provides enhanced control for assessing unidimensionality than Exploratory Factor Analysis and is more in line with the overall process of construct validation. Unidimensionality measures the extent to which all the items in a scale measure the same construct (Venkatraman, 1989). Though the measurement model was validated by CFA method using the same sample data used for EFA, responses of a separate sample of 250 frequent flyers were also collected and did the Confirmatory Factor Analysis. CFA provide information on confirmation of the measurement model with the dimensions explored by EFA method (Kazi, 2011).

This analysis provided clarity on indicator items which are reflected in a given set of factor dimensions and its interrelationships are assessed with the goodness of fit indices. Figure 4.1 explains the hypothesized model followed by summary of model fit indices. It was found that the two explored underlying dimensions namely programme service specific factor and programme structure specific factor of frequent flyer programme performance attributes were statistically valid, and further there were no statistical evidences to reject the model.

Figure 4.1: FFP attribute-level performance dimensions - measurement model




**Model Fit Summary**
**CMIN**

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| Default model | 17 | 28.503 | 19 | .074 | 1.500 |

### 4.6.1 Statistical Inferences – Measurement Model (FFP)

The fit indices of the SEM model validates the factors explored previously from a sample of 150 frequent flyers as shown in table 4.3, there was no statistical evidences to reject the model as per the accepted levels of model fit results (Kazi, 2011). The probability of rejecting the null hypothesis was not accepted since the 'P' value obtained is greater than .05 (Model Fit Summary – Figure 4.1). CMIN/DF is called as the minimum discrepancy which was obtained as 1.5. Wheaton et.al (1987) suggested that if the minimum discrepancy is less than 5 the model is reasonably fit. Model indices which are less sensitive to sample size like CFI, TLI, RMSEA are also showing good fit results. Therefore with 95 percent confidence it can be inferred that the two factors with reflecting

indicators best fit the model confirming frequent flyer programme performance attribute factors.

Table 4.3 Model fit indices for FFP structure specific and service specific factors

**RMR, GFI**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .046 | .973 | .950 | .514 |

**Baseline Comparisons**

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| Default model | .961 | .943 | .987 | .980 | .987 |

**Parsimony-Adjusted Measures**

| Model | PRATIO | PNFI | PCFI |
|---|---|---|---|
| Default model | .679 | .652 | .669 |

**RMSEA**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .045 | .000 | .077 | .565 |

Jöreskog & Long (1993); Bollen's (1989) and Bentler & Bonett (1980), suggested that if the base line comparison Index values are greater than 0.9, and RMSEA value is less than 0.05, a good model fit is indicated.

Some of the important validity tests generally considered includes construct validity and convergent validity.

### 4.6.2 Construct validity

In order to check for unidimensionality, a measurement model was specified for each construct and CFA was run for the entire construct. If a Comparative Fit Index (CFI) is 0.90 or above for the model, there is a strong evidence of unidimensionality (Byrne, 1998). CFI value for this construct is specified in table 4.3 and indicates a strong evidence of unidimensionality for the scale.

### 4.6.3 Convergent validity

Convergent validity is the degree to which multiple methods of measuring a variable provides the same results (O'Leary-Kelly and Vokurka, 1998). Convergent validity of the constructs was established and explained under session 3.8.4 in chapter III. Convergent validity can also be established using a coefficient called Bentler- Bonett coefficient. This index measures the extent to which different approaches to measuring a construct produces the same results (Hair et al, 1996). According to a rule of thumb, NFI values of 0.90 or greater than that indicates an adequate model fit (Bentler, 1980). The Bentler- Bonett Normed Fit Index (NFI) from CFA is 0.961 (table 4.3) in this research which is valid.

Table 4.4 indicates the strength of relationship between the indicator items and its respective latent factor variables. It was found that all the regression weights are significant (P values < 0.05).

Table 4.4 Estimates of regression weights – FFP model

| Indicator Items (attributes) | Factor dimensions | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|
| *Better treatment* | ***FFP 1 (Service specific)*** | 0.857 | 0.07 | 12.25 | *** |
| *Check in priority* | | 1 | | | |
| *Easy confirmation* | | 0.86 | 0.06 | 12.63 | *** |
| *Lounge facility* | | 0.874 | 0.07 | 12.56 | *** |
| Easy to redeem benefits | **FFP 2 (Structure specific)** | 1.031 | 0.14 | 7.171 | *** |
| FFP makes feel special | | 1.402 | 0.17 | 7.882 | *** |
| FFP validity | | 1 | | | |
| FFP status updating | | 0.915 | 0.13 | 6.574 | *** |

### 4.6.4 Test of multi co linearity of factor dimensions

Test of multi-co linearity was examined with SPSS by applying regression statistic on co linearity and coefficients were compared with each other with mean value of Factor I items as dependent variable and with items in factor II as independent variables and vice versa.

Results of all VIF values obtained are below the threshold of 3.00 indicating no multi co linearity of factor items. According to Kutner et al. (2004) there is no multi co linearity of factor items if the VIF values are below 5.00. See Table 4.5 and 4.6 for details.

Table 4.5 FFP: Factor I with all items in factor 2 – VIF Coefficients [a]

| Model | Co linearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| Updating of FFP | .786 | 1.272 |
| Easy redeem benefits | .705 | 1.419 |
| Feel special | .662 | 1.511 |
| FFP validity | .739 | 1.353 |

a. Dependent Variable: Factor I items (mean value)

Table 4.6 FFP: Factor II with all items in factor 1 VIF Coefficients [b]

| Model | Co linearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| Better treatment | .566 | 1.766 |
| Check-in priority | .429 | 2.331 |
| Easy seat confirmation | .526 | 1.900 |
| Lounge facility | .531 | 1.882 |

b. Dependent Variable: Factor II items ( mean value)

### 4.6.5 Internal consistency of the items extracted

Internal consistency of each factor item was checked using SPSS - reliability analysis scale items. Cronbach alpha values obtained for Factor I and factor II are 0.852 and 0.729 respectively. As both the values are above the

acceptable threshold value of 0.7 (Nunnally, 1978), internal consistency (reliability) of scale items are valid. Moreover, the squared correlation values are also shown significant in the SEM model which indicates scale item consistency.

### 4.6.6 Test Re- test reliability of factor items

A fresh sample of 35 respondents was used to establish the test re-test reliability. This test result provided further evidence of validity of the factor constructs explored from the study. The reliability scores obtained for Factor I and Factor II items are 0.857 and 0.773 respectively, which are above the acceptable threshold value of 0.7.

## 4.7 Exploratory Factor Analysis: Development of measurement dimensions of ASQ attribute- level performance.

In spite of variety of versions and perspectives of Airline Service Quality (ASQ) in the marketing literature, little is known about the dimensions that influences passenger's perceptions and responses with respect to its attribute-level performance. So an Exploratory Factor Analysis (EFA) was conducted using data from 220 respondents. Statistical Package for Social Science (SPSS) was used to conduct factor analysis.

As done in the previous measurement model, Principal Axis Factoring (PAF) method with oblique rotation technique vide direct-oblimin rotation was used for exploring factor components since correlations among the items were presumed in the study. To arrive at a range of ASQ attribute level performance indicators, in this case also airline experts' opinions were gathered and 16 items

were concurrently identified based on the various attributes acknowledged in the literature. The attribute items which were rated by the respondents in 5 point Likert scale are given below.

1. *Airline staff provides services at the promised time*
2. *Airline physical facilities are visually appealing*
3. *Feel safe in transactions with the airline's employees*
4. *The service provided by airline flight attendants is good*
5. *Airline personnel give exact answers to the questions*
6. *The airline has up-to-date equipment / Technology*
7. *Airline baggage handling is prompt and efficient*
8. *Airline check-in is efficient*
9. *Airline plane seats and in flight comfort are good*
10. *On-time arrival and departure of airline is sufficient for consumers*
11. *Airline food and beverage service is good*
12. *Airline in-flight entertainment facilities are adequate*
13. *Airline offers sufficient flight frequency ( sufficient number of flights)*
14. *Airline offers sufficient connecting flights (net work)*
15. *Airline provides delayed flight status promptly*
16. *Airline offers excellent service recovery for service failures*

### 4.7.1 Test of sampling adequacy

For conducting exploratory factor analysis, 220 frequent passengers were interviewed. To check the adequacy of the sample used for factor analysis, Kaiser- Meyer- Oklin (KMO) and Bartlett's Test is used, results of which indicate significant values. KMO value 0.898 (see Table 4.7) - higher than the threshold

value of 0.6, and the correlation matrix diagonal values in anti image matrices values are above 0.5 indicate good measure of sampling adequacy (MSA).

Table 4.7 ASQ: KMO and Bartlett's test results

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .898 |
| Bartlett's test of sphericity | Approx. Chi-Square | 1468.85 |
| | Df | 120 |
| | Sig. | .000 |

### 4.7.2 Total variance explained and number of factors extracted

Three principal factors were extracted based on Eigen values above one which explained collectively about 57 percent of the variation. Since the method used for the analysis was principal axis factoring, Pattern matrix values were taken for rotated component selection. See Table 4.8 for details.

Table 4.8 - ASQ: rotated components with three principal factors

| Pattern Matrix | Factor | | |
|---|---|---|---|
| Attribute items | I | II | III |
| Feel safe in transactions with the airline's employees | **.855** | .090 | -.292 |
| The service provided by airline flight attendants is good | **.710** | -.001 | .002 |
| The airline provides its services at the time it promises to do so | **.642** | .035 | .093 |
| Airline check-in is efficient | **.589** | .055 | .082 |
| Airline personnel give exact answers to the questions | **.589** | .075 | .022 |
| Airline baggage handling is prompt and efficient | .565 | -.034 | .225 |
| The airline physical facilities are visually appealing | .548 | .007 | .151 |
| The airline has up-to-date equipment / Technology | .479 | -.036 | .311 |
| Airline offers sufficient flight frequency ( sufficient number of flights) | .016 | **.856** | -.015 |
| Airline enables sufficient connecting flights (net work / availability) | .080 | **.733** | .042 |
| Airline provides delayed flight status promptly | .229 | .311 | .229 |
| Airline food and beverage service is good | .129 | .101 | **.573** |
| Airline in-flight entertainment facilities are adequate | -.141 | .283 | **.547** |
| Airline plane seats and in flight comfort are good | .214 | -.064 | **.538** |
| The airline offers excellent service recovery for service failures | .187 | .169 | .450 |
| On-time arrival and departure of airline is sufficient for consumers | .132 | .175 | .354 |

*Source : Exploratory factor analysis: principal axis factoring method, pattern matrix*

### 4.7.3 Interpretation of factors extracted

As it is evident from table 4.8, three principal factor dimensions were extracted. It is very obvious from the factor loadings that ( see bold figures in table 4.8) passengers have made clear differentiation on attribute items and Factor I can be logically interpreted as those underlying attributes which explain the dimension that is closely related to airline employee specific service aspects during the course of travel or intent to travel. Whereas, Factor II represents those attributes which influence passengers specifically by the airline schedule / availability (frequency of service). Moreover the Factor III attributes are straight away linked with the product specific services related to in-flight comfort perceived by passengers.

As noted in the factor analysis output, the items having factor loading less than 0.50 shall be eliminated for further analysis (Hair et.al, 1996). On-time performance could be an important attribute for the frequent passengers, which has got low loading (0.354) and thereby not explored as an indicator. This may be due to the fact that all delays are not fully under the control of the airlines, further no airline wants to delay their arrival and departure nevertheless it happens many circumstances due to the reasons beyond their control. Moreover the attribute related to the delays that are caused by the airline are already incorporated in the employee specific dimension as 'timely service' of employees.

### 4.7.4 Selection of attribute items as indicators of factor dimension

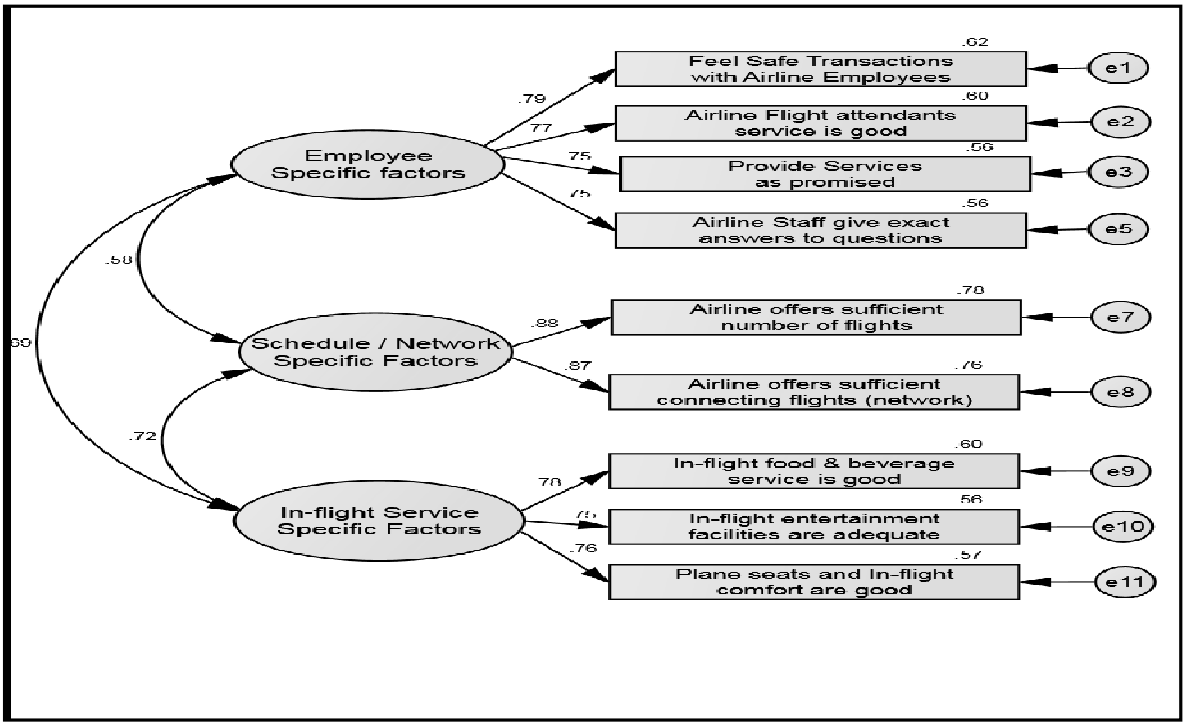
As revealed in table 4.8, the factors rotated with direct oblimin method and factor loadings were obtained. Factor items with relatively high loadings (above 0.5) were taken for further confirmatory factor analysis (CFA) using SEM. So four underlying items were grouped under Factor I named as Employee specific factor, which are related to airline employee performance, two indicator items come under Factor II named as Schedule/ Network specific factor and three items reflect Factor III namely In-flight service specific factor , altogether nine items were extracted for running CFA.

## 4.8 Confirmatory Factor Analysis for validation of the ASQ measurement model

Data collected from 334 frequent passengers were used for confirmatory factor analysis (CFA). CFA carried out with the dimensions explored through EFA. Structural equation modeling technique was applied using AMOS with maximum likelihood estimation method for CFA.

CFA provide information on affirmation of the measurement model with three dimensions as explored by EFA method. This analysis provided clarity on indicator items which are reflected in a given set of factor dimensions. The interrelationships are assessed with the goodness of fit indices. Figure 4.2 explains the measurement model followed by summary of model fit indices. It was found that the three explored underlying dimensions of 'attribute-level performance' of airline service quality were statistically valid, and further proved that there are no statistical evidences to reject the model.

Figure 4.2 Airline service quality, attribute-level performance dimensions - measurement model




*Note: SEM output figures on the arrow indicate standardized regression weights & the figure above the rectangle show squared multiple correlation values*

### 4.8.1 Statistical inferences – Measurement model (ASQ)

The fit indices values indicate good fit of the SEM model and validate the factors explored (see table 4.9); there is no statistical evidence to reject the model. CMIN/DF is called as the minimum discrepancy which is obtained as 2.09. Wheaton et.al (1987) suggested that if the minimum discrepancy is less than 5, the model is reasonably fit. Model indices which are less sensitive to sample size like CFI, TLI, and RMSEA are also showing good fit results. Therefore with 95 percent confidence it can be inferred that the three factors best fit the measurement model, confirming 'Attribute-level performance' dimensions of airline

service quality. Some of the important validity tests considered include construct validity and convergent validity.

Table 4.9 Model fit indices for the Airline Service Quality specific factors

**CMIN**

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| Default model | 21 | 50.384 | 24 | .001 | 2.099 |

**RMR, GFI**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .036 | .967 | .938 | .516 |

**Baseline Comparisons**

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| Default model | .967 | .950 | .982 | .973 | .982 |

**Parsimony-Adjusted Measures**

| Model | PRATIO | PNFI | PCFI |
|---|---|---|---|
| Default model | .667 | .644 | .655 |

**RMSEA**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .057 | .035 | .080 | .268 |

Bentler and Bonett (1980); Bollen's (1989) and Bentler (1980), suggested that if the baseline comparisons Index values are greater than 0.9 and if RMSEA value is less than 0.08, model is fit and can be accepted.

### 4.8.2 Construct validity

In order to check for unidimensionality, a measurement model was specified for each construct and CFA was run for the entire construct. Since the Comparative Fit Index (CFI) obtained was above 0.90 for the model, there is a

strong evidence of unidimensionality. CFI value for this construct is specified in table 4.9.

### 4.8.3 Convergent validity

Convergent validity is the degree to which multiple methods of measuring a variable provides the same results (O'Leary-Kelly and Vokurka, 1998). Convergent validity of the constructs was established and explained under session 3.8.4 in chapter III. Convergent validity can also be established using a coefficient called Bentler- Bonett coefficient. This index measures the extent to which different approaches to measuring a construct produces the same results (Hair et al, 1996). The Bentler- Bonett Normed Fit Index (NFI) from CFA is 0.967 (see Table 4.9), which is valid.

### 4.8.4 Strength of indicator items explaining factor dimensions

Table 4.10 indicates the strength of relationship between the indicator items and its respective latent variables. It was found that all the regression weights are significant (P values < 0.01 indicated by three dotted stars) which means that all the indicative items express its latent constructs with high degree of regression. Moreover, the critical ratio (CR value) was well above 12 for each indicative item.

Table 4.10 Estimates of regression weights: ASQ measurement model

| Indicator Items (attributes) | Factor dimensions | Estimate | S.E. | C.R. | P Sig. @ 1% |
|---|---|---|---|---|---|
| *Feel safe in transactions with airline employees* | Factor I Employee specific factor | 1.000 | | | |
| *Airline flight attendants service is good* | | .942 | .067 | 14.10 | *** |
| *Provide services as promised* | | .907 | .067 | 13.54 | *** |
| *Airline staff give exact answers to questions* | | .951 | .070 | 13.53 | *** |
| *Airline offers sufficient number of flights* | Factor II Schedule / Network specific factor | 1.000 | | | |
| Airline offers sufficient connecting flights (network) | | .966 | .060 | 16.02 | *** |
| In-flight food & beverage service is good | Factor III In-flight service specific factor | 1.000 | | | |
| In-flight entertainment facilities are adequate | | 1.108 | .086 | 12.94 | *** |
| Plane seats and In-flight comfort are good | | .959 | .073 | 13.05 | *** |

### 4.8.5 Test of multi co linearity of factor dimensions

Multi co linearity between extracted factor items may affect the uniqueness and discriminant validity of the factor dimensions. Fornell and Larcker (1981) confirm discriminant validity, if the AVE is higher than the squared correlations among the explored dimensions.

Test of multi-co linearity was examined with SPSS by applying regression statistic on co linearity and coefficients were compared with one another with mean value of Factor I items as dependent variable and with items in factor II and factor III separately as independent variables and vice versa.

Results of all VIF values obtained are below the threshold of 3.00 indicating that there is no multi co linearity of factor items. Since the VIF values are below 5.00, there is no multi co linearity of factor items. See Table 4.10.1 and 4.10.2 and 4.10.3 for details.

Table 4.10.1 ASQ: Factor I with all items in factor II (Network) – VIF Coefficients

| Model | Co linearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| Airline offers sufficient number of flights | .408 | 2.451 |
| Airline offers sufficient connecting flights (network) | .408 | 2.451 |

a. Dependent variable: Factor I items (Employee specific)(mean value)

Table 4.10.2 ASQ: Factor I with all items in factor III (In-flight service) VIF Coefficients [b]

| Model | Co linearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| In-flight food & beverage service is good | .621 | 1.611 |
| In-flight entertainment facilities are adequate | .538 | 1.860 |
| Plane seats and In-flight comfort are good | .560 | 1.785 |

b. Dependent variable: Factor I items (Employee specific) ( mean value)

Table 4.10.3 ASQ: Factor III with all items in factor I (Employee specific) VIF Coefficients [c]

| Model | Co linearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| Feel Safe in Transactions with Airline Employees | .561 | 1.783 |
| Airline Flight attendants service is good | .493 | 2.029 |
| Provide Services as promised | .499 | 2.005 |
| Airline Staff give exact answers to questions | .560 | 1.785 |

c. Dependent variable: Factor III items (In-flight service) ( mean value)

### 4.8.6 Internal consistency of the items extracted

Internal consistency of factor items was checked using SPSS - under reliability analysis of scale items. Cronbach alpha values obtained for Factor I, factor II and factor III are 0.847, .870 and 0.801 respectively. As all the values were above the acceptable threshold value of 0.7, internal consistency (reliability) of scale items are found to be valid. Moreover, the square correlation values are also seen significant in the SEM model which indicates scale item consistency.

### 4.8.7 Test re - test reliability of factor items

A fresh sample of 50 respondents was used to establish the test re-test reliability. This test result provided further evidence of validity of the factor constructs explored from the study. The reliability scores obtained for Factor I, Factor II and Factor III items are 0.879, 0.858 and 0.728 respectively, which are above the acceptable threshold value of 0.7.

## 4.9 Chapter summary

The attribute-level performance dimensions of frequent flyer programme and airline service quality were explored through factor analysis which were then confirmed and validated by confirmatory factor analysis using structural equation modeling.

As found in the results of factor analysis, measurement items of two constructs are showing acceptable level of factor loadings and communalities. Correlations between items observed are also found within the acceptable limits.

This shows the independency of the items used in the scale, while maintaining its construct and convergent validity. The sub dimensions extracted in the measurement models of each constructs were validated and these respective scale items were used for further analysis described in the next chapter.

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# PART TWO

- *Data Analysis & Interpretation*
- *Findings & Discussion*
- *Implications, Suggestions & Conclusion*

# Chapter - 5

# ANALYSIS & INTERPRETATION OF DATA

*This chapter explains the profile of the samples, descriptive statistics of the collected data and its analysis in tune with the objectives and hypotheses set for the study. The model which explains the influence of exogenous and endogenous variables on the re-buy intention of frequent travelers is depicted in this chapter. The effect of mediation of satisfaction, brand image and passengers' trust in the airline and moderation of perceived value, travel frequency and FFP possession level are tested and reported.*

## 5.1 Sample Profile

The sampling design was described in section 3.10 of chapter III. Questionnaires were given to 650 frequent passengers who were approached personally at departure terminal check-in area; frequent flyer lounge and security hold waiting area of the airport. After confirming the appropriateness of the respondents for the sample, 566 filled-up questionnaires from frequent passengers were considered for the study. The survey was carried out by direct interaction with frequent flyers. Special permission was gathered from Bureau of Civil Aviation Security (BCAS) and top officials of the airport for the Airport Entry Permit (AEP) (see annexure IV). A scrutiny resulted in dropping 12 samples due to omission errors etc. Thus the effective sample size came to 554. Sampling distribution of the study is given in table 5.1 which gives the purpose of journey.

### 5.1.1 Passengers' purpose of travel

Table 5.1 Sampling distribution of passengers on the basis of travel purpose

| | Category | Frequency | Percent |
|---|---|---|---|
| No. of passengers | Business / official | 434 | 78.3 |
| | Visiting Friends & Relatives | 53 | 9.6 |
| | Leisure / Tourist | 63 | 11.4 |
| | Others * | 4 | 0.7 |
| | Total | 554 | 100.0 |

** Others include passengers travelling mostly for education purposes*

Majority (78%) of the trave lers who uses frequent flyer programme are travelling for business or official purposes. It is a fairly accepted fact that business or official category of travelers normally requires frequent trips as part of their occupation and they eventually become active members of loyalty programmes offered by airlines. About 12 % of the sample respondents were using FFP for their leisure or tourist purposes.

Even though it was ensured from passengers during the time of survey that all respondents exercised their full freedom in the selection decision to join an FFP membership of the airline of their choice, their mode of booking can vary according to the situation. The mode of booking of tickets by different frequent flyers was examined, and table 5.2 gives the details.

### 5.1.2 Mode of booking air ticket

Table 5.2 Mode of booking air ticket by passengers

| | *Booking mode* | *Frequency* | *Percent* |
|---|---|---|---|
| No. of passengers | Through Agent | 55 | 9.9 |
| | Through Firm / Company channels | 201 | 36.3 |
| | Self Booking | 298 | 53.8 |
| | Total | 554 | 100.0 |

About 54 percent of the frequent flyers in the sample are using self booking mode either by person or through website of airlines. Only about 10 % of the sample respondents were using agents for booking their tickets.

Some passengers at the time of contact revealed that they have opted to book air ticket through company channel / facilities even though they can very well decide on the airline brand and the travel schedule; however those respondents who are forced to travel only through the company owned membership scheme of a prescribed airline on all occasions were purposefully excluded from the sample.

### 5.1.3 Age of frequent passengers

Table 5.3 shows the sampling distribution in terms of age of frequent flyers.

Table 5.3 Sampling distribution based on age

| | *Age in Years* | *Frequency* | *Percent* |
|---|---|---|---|
| No. of passengers | Up to 30 Years | 56 | 10.1 |
| | Above 30 years and up to 40 Years | 179 | 32.3 |
| | Above 40 years and up to 50 Years | 185 | 33.4 |
| | Above 50 Years | 134 | 24.2 |
| | Total | 554 | 100 |

Nearly 24 percent of the respondents were aged above 50 years, 34 percent with age between 40 and 50 years, and 32 percent with age between 30 and 40 years and only 10 percent of frequent flyers in the sample are below 30 years of age (table 5.3).

The fact that very young people are not travelling much by using frequent flyer programme could be attributed to their nature of occupation as well as their relatively lower income level which may not demand enough to spend more for air travel.

### 5.1.4 Occupation

As far as respondents' occupations are concerned (table 5.4), approximately 25 percent of the passengers were occupied in Business; 70 percent of the sample respondents were employed and only about 5 percent was occupied in other category, comprising of students, retired persons and housewives.

Table 5.4 Sampling distribution with respect to occupation

| | Occupation | Frequency | Percent |
|---|---|---|---|
| No. of Passengers | Business | 136 | 24.5 |
| | Employed | 388 | 70.0 |
| | Others | 30 | 5.4 |
| | Total | 554 | 100.0 |

Note: *Others include students, retired hands and housewives*

### 5.1.5 Annual income

Table 5.5 shows details of respondents' annual income.

Table 5.5 Sample profile in terms of Income category

| | Income in Rupees per annuam | Frequency | Percent |
|---|---|---|---|
| No. of passengers | Less than 5 Lakhs p.a. | 23.0 | 04.2 |
| | 5 to 15 lakhs p.a. | 275.0 | 49.6 |
| | 15 to 25 lakhs p.a. | 188.0 | 33.9 |
| | Above 25 lakhs p.a. | 68.0 | 12.3 |
| | Total | 554 | 100 |

Only less than five percent of the respondents have less than Rs half a million annual income and 12 percent had more than Rs. 25 lakhs per annuam. About 46 percent has more than Rs 15 lakhs p.a. as income.

### 5.1.6 Level of education

Passengers' education level may influence their buying intentions and behavior, so the level of education of respondents was examined. Table 5.6 gives the details.

Table 5.6 Sampling distribution as per education level

| | Education level | Frequency | Percent |
|---|---|---|---|
| No. of Passengers | Non Graduate | 15 | 2.7 |
| | Graduate | 202 | 36.5 |
| | Post Graduate | 337 | 60.8 |
| | Total | 554 | 100.0 |

Majority (61%) of the respondents in the sample are post graduates and only very few (less than 3 %) of the sample were non- graduates.

### 5.1.7 Gender status of passengers

Table 5.7 Gender wise sampling distribution

| | Gender | Frequency | Percent |
|---|---|---|---|
| No. of Passengers | Female | 30 | 5.4 |
| | Male | 524 | 94.6 |
| | Total | 554 | 100.0 |

As seen in table 5.7, almost 95 percent of the sample respondents were males and this male – female ratio among frequent flyers was inconsistent with the airline official's view who dealt with frequent passengers of an airline. Generally in Indian context, more 'male' passengers were using frequent flyer programme of airlines. As the sample constituted of only about 5% women the scope for further analysis based on gender status was limited in this study.

### 5.1.8 FFP membership and Status

It was noticed in the review of literature that a good number of frequent flyers were using multiple number of FFP memberships. This feature was examined and the profile of sample with respect to no. of FFP memberships is provided in table 5.8

Table 5.8 Sampling distribution based on no. of FFP membership

| | No. of FFP membership | Frequency | Percent |
|---|---|---|---|
| No. of Passengers | Possess only one FFP | 248 | 44.8 |
| | Two FFP retained | 171 | 30.9 |
| | Possess three or more FFP | 135 | 24.4 |

Majority of the respondents (55%) hold more than one FFP card, among these 31% possess two loyalty programme memberships and 24 percent use three or more FFP privilege cards of different airlines. About half of the respondents (45%) use only one FFP membership of their regular airline. These results are consistent with previous findings (Toh and Hu, 1988; Weber, 2005).

FFP status was revealed by 333 respondents only, since some of the respondents who possess more FFPs find it difficult to remember the updated status of the airline FFP about which they were asked to refer in the questionnaire as the most used airline, while they travel in a different airline at the time of filling up the questionnaire. Some respondents do not wish to reveal their present status although they could provide responses to all other questions. These 333 respondents were stretched across various status levels as 91 hold 'Blue' / 'Blue Plus' card, 107 of the respondents were in 'Silver' category, 96 possessed 'Gold' status and 39 respondents had power over 'Platinum' cards.

Cross analyses of the above referred demographic variables were done using correspondence analysis and the relative position of each category with respect to other relevant variables was plotted in the charts. Please see annexure VII to X for details.

## 5.2 Descriptive Analysis of Variables

### 5.2.1 Airline frequent flyer programme (FFP) attribute-level performance

Attribute–level performance of frequent flyer programme was explored and confirmed through factor analysis (see session 4.5 and 4.6 under Chapter IV). The identified two dimensions were taken into the final research model. The two dimensions evolved are namely frequent flyer programme - structure specific and frequent flyer programme - service specific factors.

### 5.2.1. (a) Frequent flyer programme - structure specific factor

This factor represents those attributes which influence passengers specifically by programme features / structure related aspects. Moreover, these attributes are not instantaneously linked with the passengers while they are on travel.

### 5.2.1. (b) Frequent flyer programme service specific factor

This factor was logically interpreted as those underlying attributes which explain the construct that is closely related to service aspects within the loyalty programme, moreover these services are experienced during the course of travel or intent to travel. Table 5.9 provides the descriptive statistic of the constructs.

Table 5.9 Descriptive statistics – FFP and ASQ - factor dimensions

| Constructs | | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| FFP factor dimensions | FFP structure specific factor | 554 | 1.00 | 5.00 | 3.25 | 0.84 |
| | FFP service specific factor | 554 | 1.00 | 5.00 | 3.46 | 0.98 |
| ASQ factor dimensions | ASQ - employee service specific factor | 554 | 1.00 | 5.00 | 3.57 | 0.75 |
| | ASQ- Network Service Specific factor | 554 | 1.00 | 5.00 | 3.50 | 0.89 |
| | ASQ- In-flight Service Specific factor | 554 | 1.00 | 5.00 | 3.27 | 0.90 |

### 5.2.2 Airline Service Quality (ASQ) attribute-level performance

Attribute–level performance of Airline Service Quality (ASQ) was explored and confirmed through factor analysis (see session 4.7 and 4.8 under Chapter IV) and three dimensions were identified and taken to the final research model. The three dimensions evolved that come under Airline Service Quality (ASQ) are ASQ employee specific, ASQ schedule / network specific and ASQ in-flight service specific factors. Descriptive statistic results are shown in table 5.9.

## 5.3. Endogenous (independent) variables & dependent variable

Endogenous (independent) variables taken for the study involve FFP satisfaction, ASQ satisfaction, Perceived value, Airline brand image and Passenger trust. These variables were identified and appropriate measurement scales were adapted through the review of literature. Descriptive statistics of the variables are shown below in table 5.10

Table 5.10 Descriptive statistics of independent (endogenous) and dependent variable.

| | Variables | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| Independent variables | FFP - Satisfaction | 554 | 1.00 | 5.00 | 3.27 | 0.92 |
| | ASQ - Satisfaction | 554 | 1.00 | 5.00 | 3.40 | 0.84 |
| | Perceived value | 554 | 1.00 | 5.00 | 3.06 | 0.97 |
| | Airline brand image | 554 | 1.00 | 5.00 | 3.59 | 0.85 |
| | Airline trust worthiness | 554 | 1.00 | 5.00 | 3.59 | 0.81 |
| Dependent variable | Re-buy intention | 554 | 1.00 | 5.00 | 3.58 | 0.93 |

## 5.4 Comparison of passenger re-buy intentions, satisfaction on loyalty programme and service quality based on national and foreign carriers

The variations in passengers' perception based on country of origin of airline vide national vs. foreign was tabulated and table 5.11 provides the frequency of respondents travelled through national and foreign carriers and their respective mean values of FFP satisfaction, ASQ satisfaction and re-buy intention.

Major domestic carriers travelled by respondents included in this study were from Air India and Jet Airways. Major International carriers included Emirates, Qatar Airways, Etihad Airlines, Oman Airways, Air Asia and Singapore airlines.

Table 5.11 Satisfaction & Re-buy intention - National vs. Foreign carriers

| Parameters | Type of airline used | |
|---|---|---|
| | Domestic carriers | International carriers |
| No. of respondents (total 554) | 358 | 196 |
| FFP satisfaction (mean value) | 3.15 | 3.49 |
| standard deviation | .925 | .873 |
| ASQ satisfaction (mean value) | 3.32 | 3.67 |
| standard deviation | .753 | .789 |
| Re-buy intention (mean value) | 3.46 | 3.81 |
| standard deviation | .938 | .866 |

The mean values obtained for FFP satisfaction, ASQ satisfaction, and Re-buy intention were showing differences between national and international carriers. It was observed that the mean value of ASQ satisfaction is dominant compared with FFP satisfaction in both categories of airlines.

To verify the level of significance between the differences in the mean values, Independent sample t test was administered. Table 5.12 presents the values obtained from t test.

Table 5.12 Test for comparing mean values of national and foreign carriers- Independent samples test

| | | Levene's test for equality of variances | | t-test for equality of means | | | |
|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | P value Sig. (2-tailed) | Std. Error Difference |
| FFP satisfaction | Equal variances assumed | 0.266 | .606 | -4.310 | 552.0 | .000 | .080 |
| | Equal variances not assumed | | | -4.384 | 421.5 | .000 | .079 |
| ASQ satisfaction | Equal variances assumed | 0.847 | .358 | -5.152 | 552.0 | .000 | .068 |
| | Equal variances not assumed | | | -5.081 | 385.4 | .000 | .068 |
| Re- buy intention | Equal variances assumed | 2.779 | .096 | -4.381 | 552.0 | .000 | .081 |
| | Equal variances not assumed | | | -4.484 | 429.2 | .000 | .079 |

It is evident from the test results that the mean values obtained (P value less than 0.01) for national and foreign airlines were significantly different in all the three variables. Hence it is inferred that, foreign airlines are perceived significantly better in their performance with respect to FFP, ASQ and the re-buy intention of passengers.

## 5.5 Comparison of passengers' Re-buy intention, satisfaction on frequent flyer- programme and service quality with respect to age group

It was not known whether the respondents' age would affect the satisfaction level and re-buy intentions. Respondents were classified into different age category as per the suggestions and through discussions with airline officials. The respective mean score obtained for FFP satisfaction, ASQ satisfaction and re-buy intention were compared with respect to different age groups. Details are shown in table 5.13

Table 5.13 Comparison of satisfactions & re-buy intention with respect to age

| Variable | age groups | N | mean | std. deviation |
|---|---|---|---|---|
| FFP satisfaction | Up to 30 years | 56 | 3.297 | 1.002 |
| | Above 30 & up to 40 years | 179 | 3.258 | .876 |
| | Above 40 & up to 50 years | 185 | 3.236 | .965 |
| | Above 50 years | 134 | 3.328 | .891 |
| | Total | 554 | 3.272 | .922 |
| ASQ satisfaction | Up to 30 years | 56 | 3.529 | .847 |
| | Above 30 & up to 40 years | 179 | 3.374 | .752 |
| | Above 40 & up to 50 years | 185 | 3.437 | .814 |
| | Above 50 years | 134 | 3.514 | .749 |
| | Total | 554 | 3.445 | .783 |
| Re-buy intention | Up to 30 years | 56 | 3.827 | .857 |
| | Above 30 & up to 40 years | 179 | 3.495 | .892 |
| | Above 40 & up to 50 years | 185 | 3.542 | .959 |
| | Above 50 years | 134 | 3.654 | .948 |
| | Total | 554 | 3.583 | .928 |

Assumption of homogeneity of variance is to be satisfied for comparing the mean values using one-way ANOVA. Table 5.14 given below show the details.

Table 5.14 Test of homogeneity of variances – age groups

| | Levene statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| FFP satisfaction | .724 | 3 | 550 | .538 |
| ASQ satisfaction | 1.132 | 3 | 550 | .336 |
| Re- buy intention | .874 | 3 | 550 | .454 |

Since the Levene statistic values for all the variables are not significant (P value > .01), indicate that there is no significant differences in the parameter under consideration among the various age groups. The assumption of homogeneity of variance is satisfied. Table 5.15 provides the details of the ANOVA test conducted for comparing the mean values for different age groups.

Table 5.15 ANOVA test for comparing mean values with respect to age groups

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| FFP Satisfaction | Between Groups | .733 | 3 | .244 | .286 | .835 |
| | Within Groups | 469.403 | 550 | .853 | | |
| | Total | 470.136 | 553 | | | |
| ASQ Satisfaction | Between Groups | 1.962 | 3 | .654 | 1.066 | .363 |
| | Within Groups | 337.322 | 550 | .613 | | |
| | Total | 339.284 | 553 | | | |
| Re Buy Intention | Between Groups | 5.705 | 3 | 1.902 | 2.219 | .085 |
| | Within Groups | 471.420 | 550 | .857 | | |
| | Total | 477.125 | 553 | | | |

The One way ANOVA results obtained by comparison of mean values for all the three variables indicated that among different age groups, the levels of

satisfaction and re-buy intention were not significantly different. So it can be interpreted that age of the frequent passenger did not confirm any significant variation as far as satisfactions level and re-buy intention are concerned.

## 5.6 Comparison of passenger re - buy intention, satisfactions on frequent flyer- programme and service quality with respect to occupation

To know whether occupation of the passenger would influence satisfaction and re-buy intentions, independent samples t test was used. Respondents with occupation either in 'business' or in 'employed' category only were taken into consideration, 'others' category being less in frequency was not considered for analysis. Table 5.16 gives the group statistics and their respective mean and standard deviation.

Table 5.16 Group statistics with respect to occupation

| | occupation level | N | mean | std. deviation |
|---|---|---|---|---|
| FFP satisfaction | Business | 136 | 3.301 | .911 |
| | Employed | 388 | 3.242 | .934 |
| ASQ satisfaction | Business | 136 | 3.590 | .775 |
| | Employed | 388 | 3.378 | .780 |
| Re-buy intention | Business | 136 | 3.605 | .906 |
| | Employed | 388 | 3.567 | .943 |

To know the level of variation and its significance, independent samples t test were administered, details are shown in table 5.17.

Table 5.17 Comparison of mean values based on occupation.

| | | Levene's test for equality of variances | | t-test for equality of means | | |
|---|---|---|---|---|---|---|
| | | F | sig. | t | df | sig. (2-tailed) |
| FFP satisfaction | Equal variances assumed | .181 | .670 | .640 | 522 | .522 |
| | Equal variances not assumed | | | .648 | 241.2 | .518 |
| ASQ satisfaction | Equal variances assumed | .343 | .559 | 2.740 | 522 | .006 |
| | Equal variances not assumed | | | 2.749 | 237.5 | .006 |
| Re-buy intention | Equal variances assumed | .412 | .521 | .413 | 522 | .680 |
| | Equal variances not assumed | | | .420 | 244.5 | .675 |

Significant variation in the level of satisfaction only with respect to airline service quality was found. As observed from the mean values given in table 5.16, business category passengers are more distinct in nature and influenced by service quality facet compared to other category of passengers.

This result is supporting the contention of airline officials who were interacted during the pilot study that business travelers would be more inclined to the service quality attributes in comparison with the frequent flyer programme attributes. This justifies the rationale behind in providing categorization of different passenger classes in airline cabins and variations in providing in-flight services by full service carriers (e.g. Business class, executive class, first class etc.)

## 5.7 Comparison of passenger re- buy intention, satisfaction on frequent flyer- programme and service quality with respect to education level

Independent samples t test was employed since respondents with only two categories of education i.e. either graduation or post graduation (above graduation) were taken into consideration, "not -a- graduate" category being less in frequency (02.7%) was not considered for this analysis. Table 5.18 provides the details of mean and standard deviation of the variables.

Table 5.18 Group statistics with respect to education of respondents

| | Level of education | N | Mean | Std. Deviation |
|---|---|---|---|---|
| FFP satisfaction | Post graduate | 337 | 3.278 | .920 |
| | Graduate | 202 | 3.255 | .920 |
| ASQ satisfaction | Post graduate | 337 | 3.427 | .779 |
| | Graduate | 202 | 3.473 | .785 |
| Re-buy intention | Post graduate | 337 | 3.549 | .961 |
| | Graduate | 202 | 3.648 | .865 |

To understand the level of variation and its significance, Independent samples t test were administered, details are shown in table 5.19.

Table 5.19 Test for comparing mean value of level of education

| | | Levene's test for equality of variances | | t-test for equality of means | | |
|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) |
| FFP satisfaction | Equal variances assumed | .025 | .874 | .283 | 537 | .778 |
| | Equal variances not assumed | | | .283 | 423.41 | .778 |
| ASQ satisfaction | Equal variances assumed | .066 | .798 | -.666 | 537 | .506 |
| | Equal variances not assumed | | | -.664 | 420.38 | .507 |
| Re-buy intention | Equal variances assumed | 4.354 | .037 | -1.207 | 537 | .228 |
| | Equal variances not assumed | | | -1.240 | 458.38 | .216 |

The test results (P value above 0.01) indicate that, among two levels of education groups, the level of satisfactions and re-buy intentions are not significantly different. So it can be inferred that education level of the frequent passenger did not show any significant role in settling on satisfaction and re-buy intention.

## 5.8 Comparison of passenger re- buy intention, satisfaction on frequent flyer- programme and service quality with respect to annual income

It was required to assess if there is any variation exist with respect to satisfactions and re-buy intentions among passengers along with the change in their annual income. Table 5.20 gives the description of the annual income of the respondents.

Table 5.20 Group statistics with respect to annual Income of respondents

| | Income level per annuam | N | mean | Std. deviation |
|---|---|---|---|---|
| FFP satisfaction | Less than 5 lakhs | 23 | 3.37 | 1.069 |
| | 5 lakhs - up to 15 Lakhs | 275 | 3.24 | .898 |
| | > 15 lakhs - up to 25 Lakhs | 188 | 3.27 | .951 |
| | Above 25 Lakhs | 68 | 3.31 | .898 |
| | Total | 554 | 3.27 | .922 |
| ASQ satisfaction | Less than 5 lakhs | 23 | 3.79 | .886 |
| | 5 lakhs - up to 15 Lakhs | 275 | 3.41 | .778 |
| | > 15 lakhs - up to 25 Lakhs | 188 | 3.43 | .766 |
| | Above 25 Lakhs | 68 | 3.47 | .800 |
| | Total | 554 | 3.44 | .783 |
| Re-buy intention | Less than 5 lakhs | 23 | 4.04 | .933 |
| | 5 lakhs - up to 15 Lakhs | 275 | 3.52 | .918 |
| | > 15 lakhs - up to 25 Lakhs | 188 | 3.57 | .947 |
| | Above 25 Lakhs | 68 | 3.70 | .881 |
| | Total | 554 | 3.58 | .928 |

Table 5.21 provides the test results with respect to assumption of homogeneity of variance.

Table 5.21 Test of homogeneity of variances – income levels

| | Levene statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| FFP satisfaction | .397 | 3 | 550 | .755 |
| ASQ satisfaction | .140 | 3 | 550 | .936 |
| Re-buy intention | .696 | 3 | 550 | .555 |

The Levene statistic values for all the variables are not significant (P value > .01), which indicate that there is no significant difference in the variances under consideration and hence assumption of homogeneity of variance is satisfied. Table 5.22 provides the details of the ANOVA test conducted for comparing the mean values.

Table 5.22 Comparison of mean values with respect to annual income

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| FFP satisfaction | Between Groups | .576 | 3 | .192 | .225 | .879 |
| | Within Groups | 469.559 | 550 | .854 | | |
| | Total | 470.136 | 553 | | | |
| ASQ satisfaction | Between Groups | 3.150 | 3 | 1.050 | 1.718 | .162 |
| | Within Groups | 336.134 | 550 | .611 | | |
| | Total | 339.284 | 553 | | | |
| Re-buy intention | Between Groups | 6.887 | 3 | 2.296 | 2.685 | .046 |
| | Within Groups | 470.238 | 550 | .855 | | |
| | Total | 477.125 | 553 | | | |

The One way ANOVA results of comparison of mean values for all the three constructs indicate that among all income groups, the level of satisfactions and re-buy intentions are not significantly different at 1% level of significance. So it can be interpreted that income level of the frequent passengers did not explain any significant role in settling on satisfaction and re-buy intention. However it was noted that re-buy intentions vary with income at 5% level of significance, which is important to be noted for all practical purposes.

## 5.9 Comparison of passenger re - buy intention, satisfaction in frequent flyer- programme and service quality based on FFP possession level

The possibility of variation in the satisfaction level and re-buy intention in accordance with the no. of FFP cards possessed by frequent flyers are tested using one way ANOVA. Table 5.23 gives the descriptive statistics of the variables based on FFP cards possessed by the respondents.

Table 5.23 Description of FFP cards possessed by frequent travelers

| Variables | FFP possession levels | N | Mean | Std. Deviation |
|---|---|---|---|---|
| FFP satisfaction | Only one FFP membership | 249 | 3.16 | .946 |
| | Two FFP membership | 170 | 3.30 | .887 |
| | Three or more FFP membership | 135 | 3.43 | .900 |
| | Total / average | 554 | 3.27 | .922 |
| ASQ satisfaction | Only one FFP membership | 249 | 3.46 | .772 |
| | Two FFP membership | 170 | 3.40 | .748 |
| | Three or more FFP membership | 135 | 3.48 | .848 |
| | Total / average | 554 | 3.45 | .783 |
| Re- buy intention | Only one FFP membership | 249 | 3.54 | .914 |
| | Two FFP membership | 170 | 3.60 | .929 |
| | Three or more FFP membership | 135 | 3.65 | .958 |
| | Total / average | 554 | 3.58 | .929 |

Table 5.24 provides the test results with respect to assumption of homogeneity of variance.

Table 5.24 Test of homogeneity of variances – FFP possession levels

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| FFP satisfaction | .624 | 2 | 551 | .536 |
| ASQ satisfaction | 1.714 | 2 | 551 | .181 |
| Re-buy intention | .004 | 2 | 551 | .996 |

The Levene statistic values for all the variables are not significant (P value > .01), indicate that there is no significant difference in the variance value among groups and hence assumption of homogeneity of variance is satisfied.

Table 5.25 ANOVA results- Comparison of mean values based on No. of FFPs held

| | | Sum of squares | df | Mean square | F | Sig. |
|---|---|---|---|---|---|---|
| FFP satisfaction | Between Groups | 6.575 | 2 | 3.287 | 3.907 | .021 |
| | Within Groups | 463.561 | 551 | .841 | | |
| | Total | 470.136 | 553 | | | |
| ASQ satisfaction | Between Groups | .613 | 2 | .306 | .498 | .608 |
| | Within Groups | 338.671 | 551 | .615 | | |
| | Total | 339.284 | 553 | | | |
| Re-buy intention | Between Groups | 1.091 | 2 | .545 | .631 | .532 |
| | Within Groups | 476.034 | 551 | .864 | | |
| | Total | 477.125 | 553 | | | |

The one way ANOVA results of comparison of mean values for all the three constructs (table 5.25) indicate that amongst the frequent passengers, significant difference was found only with respect to FFP satisfaction. So it can be interpreted that the number of FFPs held by the frequent passengers and the level of satisfaction with the loyalty programme are related, whereas no association was found with respect to satisfaction in ASQ and in re-buy intentions.

Post hoc test was administrated to find out the particular group that causes the variation. Results are given in table 5.26

Table 5.26 Multiple comparison with Tukey HSD for FFP satisfaction

| Dependent variable | (I) FFP possession level | (J) FFP possession level | mean difference (I-J) | std. error | sig. |
|---|---|---|---|---|---|
| FFP satisfaction | Only one FFP membership | Two FFP membership | -.140 | .091 | .273 |
| | | Three or more FFP membership | -.268* | .098 | .017 |
| | Two FFP membership | Only one FFP membership | .140 | .091 | .273 |
| | | Three or more FFP membership | -.128 | .105 | .446 |
| | Three or more FFP membership | Only one FFP membership | .268* | .098 | .017 |
| | | Two FFP membership | .128 | .105 | .446 |

** The mean difference is significant at the 0.05 level*

It was evident from the table 5.26 that the variation in FFP satisfaction occurred with respect to the extreme levels i.e. higher end group (with more than three no. of FFPs) and the least (only one FFP membership) group of passengers.

The passengers who are very much inclined to the FFP programme will have more number of FFPs. Multiple FFPs help them to have a better choice of airline and enjoy more benefits from every trip. This would enhance their opportunity to avail FFP usage and will naturally make them more satisfied compared to those having only one FFP of their choice.

So it can be deduced that passengers who possess more number of FFPs and travelling through a particular airline may be more inclined and satisfied towards the frequent flyer programme of that airline. The effect of mediation role of satisfaction with regard to these categories of passengers is presented at a later stage in this chapter.

## 5.10 Comparison of passenger re- buy intention, satisfaction on frequent flyer- programme and service quality with respect to travel purpose

Respondents were asked to provide information regarding their purpose of travel and the FFP they use most of the time.

One way ANOVA test was employed to assess the variation in satisfaction levels and re-buy intentions with respect to the variation in passengers' travel purpose. So categories like 'Business', 'Leisure' and 'Visiting Friends & Relatives' (VFR) were taken into consideration, 'others' category being less in frequency was

not considered for analysis. Table 5.27 given below provides the descriptive statistics of the various travel categories.

Table 5.27 Descriptive statistics based on travel purposes

| Variable | Travel purpose | N | Mean | Std. Deviation |
|---|---|---|---|---|
| FFP satisfaction | Business | 434 | 3.29 | .894 |
| | Leisure | 63 | 3.40 | .888 |
| | Visiting friends & relatives | 53 | 3.03 | 1.108 |
| | Total | 550 | 3.27 | .918 |
| ASQ satisfaction | Business | 434 | 3.42 | .778 |
| | Leisure | 63 | 3.64 | .812 |
| | Visiting friends & relatives | 53 | 3.38 | .796 |
| | Total | 550 | 3.44 | .785 |
| Re-buy intention | business | 434 | 3.57 | .944 |
| | Leisure | 63 | 3.67 | .864 |
| | Visiting friends & relatives | 53 | 3.50 | .902 |
| | Total | 550 | 3.58 | .930 |

Table 5.28 provide the test results with respect to assumption of homogeneity of variance

Table 5.28 Test of homogeneity of variances – Travel purpose

| | Levene statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| FFP satisfaction | 2.636 | 2 | 547 | .073 |
| ASQ satisfaction | .021 | 2 | 547 | .979 |
| Re-buy intention | .728 | 2 | 547 | .484 |

Since the Levene statistic values for all three variables are not significant (P value > .01), there is no significant difference in the variances under consideration and thereby satisfied with the assumption of homogeneity of variance. Table 5.29 provides the details of ANOVA test results of comparing the mean values.

Table 5.29 ANOVA for the comparison of mean values for travel category groups

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| FFP satisfaction | Between groups | 4.103 | 2 | 2.052 | 2.446 | .088 |
| | Within groups | 458.852 | 547 | .839 | | |
| | Total | 462.955 | 549 | | | |
| ASQ satisfaction | Between groups | 2.765 | 2 | 1.382 | 2.249 | .107 |
| | Within groups | 336.246 | 547 | .615 | | |
| | Total | 339.011 | 549 | | | |
| Re-buy intention | Between groups | .841 | 2 | .420 | .484 | .616 |
| | Within groups | 474.645 | 547 | .868 | | |
| | Total | 475.486 | 549 | | | |

The one way ANOVA results of comparison of mean values indicate that the constructs - level of satisfactions and re-buy intentions are not significantly different at 5% level of significance. So it can be interpreted that purpose of travel of the frequent passengers did not explain significantly any variation in settling satisfaction and re-buy intentions. This may be attributed to the fact that frequent travelers use airline for multiple purposes.

## 5.11 Analysis of constructs based on FFP status levels

Generally all airlines follow more or less the same pattern of FFP statuses starting from 'Blue' (entry level) to the 'Platinum' (highest level). According to the status accomplished, the frequent flyers avail benefits that are envisaged in the programme. Apart from these benefits, passengers can upgrade ticket by redeeming some of their accrued miles/ points or they can avail other non-travel service benefits. In the views of airline managers who are in connection with customer services, those passengers who have just joined the programme and have attained only the entry (Blue) status can get only very limited benefits such as some priority consideration compared with non frequent travelers. However, these passengers hold aspirations or desire to achieve higher statuses by way of accumulating points or miles on every future travel.

### 5.11.1 Comparison of FFP satisfaction level based on FFP status

Satisfaction regarding the performance of frequent flyer programme was compared in terms of each status level.

Table 5.30 Descriptive statistics: FFP satisfaction at various FFP status levels

| FFP status levels | N | Mean | Std. Deviation |
|---|---|---|---|
| Blue (entry level) | 91 | 3.02 | 1.081 |
| Silver | 107 | 3.09 | .823 |
| Gold | 96 | 3.46 | .812 |
| Platinum | 39 | 3.77 | .553 |
| Total / average | 333 | 3.25 | .908 |

It was noted that the mean score of FFP satisfaction value increases with the advancement in the status level (Table 5.30). One way ANOVA test was performed to know the level of variation at 5% significance (Table 5.31).

Table 5.31 One way ANOVA - comparing mean values of FFP satisfaction among different FFP status

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 22.601 | 3 | 7.534 | 9.852 | .000 |
| Within Groups | 251.572 | 329 | .765 | | |
| Total | 274.173 | 332 | | | |

The one way ANOVA test results indicate that FFP satisfaction among FFP status levels was significantly different at 5% level. So it can be interpreted that FFP status level of frequent passengers did explicate significant variation in

mending up FFP satisfaction. To find out the particular status group/(s) that cause this variation, Dunnett T3 Post hoc test was administered since the homogeneity of variance assumption was not valid in this case. Results are given in table 5.32.

Table 5.32 Multiple comparisons of FFP status groups

| (I) FFP status level | (j) FFP status level | Mean difference (i - j) | Std. Error | Sig. |
|---|---|---|---|---|
| Blue- entry level | Silver | -.06836 | .138 | .997 |
| | Gold | -.43983* | .140 | .012 |
| | Platinum | -.75580* | .143 | .000 |
| Silver | Blue- entry level | .06836 | .138 | .997 |
| | Gold | -.37146* | .114 | .009 |
| | Platinum | -.68744* | .119 | .000 |
| Gold | Blue- entry level | .43983* | .140 | .012 |
| | Silver | .37146* | .114 | .009 |
| | Platinum | -.31597 | .121 | .061 |
| Platinum | Blue- entry level | .75580* | .143 | .000 |
| | Silver | .68744* | .119 | .000 |
| | Gold | .31597 | .121 | .061 |

** The mean difference is significant at the 0.05 level*

It was observed that FFP satisfaction at entry level adjacent groups like 'Blue' and 'Silver' statuses does not vary significantly whereas the differences in satisfaction observed with respect to extreme levels like (Blue/ Sliver) vs. (Gold/ Platinum) are significant. This is in consonance with the expectations of the experts in the Industry since these differences are envisaged by the programme, which means higher the FFP status level, higher should be the satisfaction about the programme. However it is noted that the variations in FFP satisfaction between Gold and Platinum statuses are not significant at 5% level of significance. Same is the case with Blue and Silver statuses whereas noticeable differences observed between two adjacent statuses like Silver and Gold.

### 5.11.2 Comparison of ASQ satisfaction levels based on FFP statuses

The satisfaction in terms of performance of airline service quality was also analyzed with respect to the programme status levels. Table 5.33 gives the descriptive statistics about the satisfaction of ASQ in terms of FFP status

Table 5.33 Descriptive statistics: ASQ satisfaction at various FFP status levels

| FFP Status | N | Mean | Std. Deviation |
|---|---|---|---|
| Blue- entry level | 91 | 3.381 | .893 |
| Silver | 107 | 3.439 | .708 |
| Gold | 96 | 3.354 | .795 |
| Platinum | 39 | 3.726 | .643 |
| Total | 333 | 3.432 | .786 |

There seems to be variation in the mean values of ASQ satisfaction level of passengers with respect to different FFP status levels. To know whether these variations between FFP statuses are significant, test of one way ANOVA was conducted. See table 5.34 for the results.

Table 5.34 One way ANOVA: comparing mean values of ASQ satisfaction

| | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 4.207 | 3 | 1.402 | 2.294 | .078 |
| Within Groups | 201.079 | 329 | .611 | | |
| Total | 205.285 | 332 | | | |

The One way ANOVA results of comparison of mean values indicate that among FFP status levels, ASQ satisfaction is not significantly different at 5% level but show a difference at 10% level. So it can be deduced that FFP status level of frequent passengers may explicate some variation in settling on ASQ satisfaction. In order to know the status level that cause the variation ASQ satisfaction, Dunnett T3 post hoc test was administrated since the homogeneity of variance assumption was not valid in this case. Details of the status group that causes the variation are given in table 5.35

Table 5.35 Multiple comparisons of FFP status groups based on ASQ satisfaction

| (I) FFP status level | (j) FFP status level | Mean Difference (I-J) | Std. Error | Sig. |
|---|---|---|---|---|
| Blue- entry level | Silver | -.05830 | .11608 | .997 |
| | Gold | .02679 | .12401 | 1.000 |
| | Platinum | -.34554 | .13931 | .085 |
| Silver | Blue- entry level | .05830 | .11608 | .997 |
| | Gold | .08509 | .10627 | .963 |
| | Platinum | -.28724 | .12378 | .129 |
| Gold | Blue- entry level | -.02679 | .12401 | 1.000 |
| | Silver | -.08509 | .10627 | .963 |
| | Platinum | -.37233* | .13125 | .033 |
| Platinum | Blue- entry level | .34554 | .13931 | .085 |
| | Silver | .28724 | .12378 | .129 |
| | Gold | .37233* | .13125 | .033 |

** The mean difference is significant at the 0.05 level*

It was seen that the differences are found to be significant at the two upper levels only, i.e. for 'Gold' and 'Platinum'. As observed in table 5.34, the ASQ satisfaction is lowest for the Gold status group, and reported high for the 'Platinum' group. This significant variation in satisfaction levels between Gold and Platinum statuses are not found in FFP satisfaction in which FFP satisfaction was

significantly higher for the Gold group when compared with lower status levels and this higher level satisfaction is not observed in the case of ASQ satisfaction for the Gold group.

### 5.11.3 Comparison of re-buy intention levels in terms of FFP statuses

Table 5.36 gives the descriptive statistics about the re-buy intention in terms of FFP status. The re-buy intention strength could vary with respect to the programme status level.

Table 5.36 Descriptive statistics: Re-buy intention based on FFP status levels

| FFP status level | N | Mean | Std. Deviation |
|---|---|---|---|
| Blue- entry level | 91 | 3.527 | .917 |
| Silver | 107 | 3.439 | .991 |
| Gold | 96 | 3.625 | .909 |
| Platinum | 39 | 3.965 | .732 |
| Total / average | 333 | 3.578 | .930 |

Some variation in the mean values of re-buy intention of passengers with respect to different FFP status levels was observed. To know whether these variations among FFP statuses are significant or not, test of one way ANOVA was conducted. See table 5.37 for the results.

Table 5.37 One way ANOVA: Comparing mean values of re-buy intention among FFP status

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 8.370 | 3 | 2.790 | 3.292 | .021 |
| Within Groups | 278.824 | 329 | .847 | | |
| Total | 287.194 | 332 | | | |

The one way ANOVA results indicate that amongst FFP status levels, the mean score of re-buy intention is significantly different at 5% level and it can be interpreted that FFP status level of frequent passengers can cause some variation in the re-buy intentions. In order to know the status level that shows these variations in re-buy intention, Dunnett T3 post hoc test was administrated since the homogeneity of variance assumption was not valid in this case. Details of the status group that cause the variation are given in Table 5.38.

Table 5.38 Multiple comparisons of FFP status groups based on re-buy intention

| (I) FFP status level | (j) FFP status level | Mean Difference (I-J) | Std. Error | Sig. |
|---|---|---|---|---|
| Blue- entry level | Silver | .0882 | .135 | .987 |
| | Gold | -.0975 | .133 | .976 |
| | Platinum | -.4383* | .151 | .029 |
| Silver | Blue- entry level | -.0882 | .135 | .987 |
| | Gold | -.1857 | .133 | .658 |
| | Platinum | -.5265* | .151 | .005 |
| Gold | Blue- entry level | .0975 | .133 | .976 |
| | Silver | .1857 | .133 | .658 |
| | Platinum | -.3408 | .149 | .140 |
| Platinum | Blue- entry level | .4383* | .151 | .029 |
| | Silver | .5265* | .151 | .005 |
| | Gold | .3408 | .149 | .140 |

** The mean difference is significant at the 0.05 level*

'Blue', 'Silver' and 'Gold' statuses did not show significant variations in re-buy intentions; but, the re-buy intention for the extreme level (i.e. 'Platinum' group) was significantly different from other statuses. Therefore, it is evident that more the level of status, more will be the level of re-buy intention, though influences of other variables are not considered concurrently.

## 5.12 CONFIRMATORY FACTOR ANALYSIS – MEASUREMENT MODELS

Confirmatory Factor Analysis (CFA) provides the validity of the measurement models adapted for the research; table 5.39 gives the fit indices of the measurement model estimated separately for each construct used in the study.

Table 5.39 Fit indices* of each construct measurement models used in the study.

| Construct | P Value | C MIN/ D.F. | RMR | GFI | AGFI | NFI | TLI | CFI | RMSEA |
|---|---|---|---|---|---|---|---|---|---|
| FFP-satisfaction | 0.155 | 2.02 | 0.023 | .998 | .985 | .998 | .997 | .999 | 0.043 |
| ASQ-satisfaction | 0.043 | 4.09 | 0.031 | .995 | .971 | .994 | .986 | .995 | 0.075 |
| Perceived value | 0.479 | 0.501 | 0.010 | .999 | .996 | .999 | 1.000 | 1.000 | 0.000 |
| Brand image | 0.008 | 6.94 | 0.031 | .992 | .950 | .993 | .982 | .994 | 0.104 |
| Trust worthiness | 0.017 | 4.09 | 0.034 | .991 | .972 | .991 | .990 | .993 | 0.075 |
| Re-buy intention | 0.052 | 3.77 | 0.031 | .995 | .973 | .996 | .992 | .997 | 0.071 |

*Source: CFA results obtained separately for each construct measurement models*

** Fit indices: C MIN/ D.F.= Chi square Min. value/ degrees of freedom; RMR = Root Mean square Residual; GFI = Goodness of Fit Index; AGFI= Adjusted Goodness of Fit Index; NFI= Normed Fit Index; TLI*= Tucker-Lewis coefficient/ Index; CFI= Comparative Fit Index; RMSEA= Root Mean Square Error of Approximation

As evident from the results obtained, all measurement models are showing good fit results on the selected fit indices. RMR and RMSEA values are generally acceptable if it is below .08. In the case of other indices which include GFI, AGFI, NFI, TLI and CFI shows good fit since the values are more than 0.9 (Hair, 2013). In case of P value, the acceptable level is above 0.05, which is observed in the case of 'Re-buy intention', 'perceived value' and 'FFP satisfaction'. Similar fit measures have been found acceptable in previous researches (Hair et al., 1998; Henry and Stone, 1994).

## 5.13 Confirmatory Factor Analysis: Fit indices of structural model testing inter-relationship between variables

The structural equation model explains the significance of the hypothesized relationships set for the study. The structural equation model used maximum likely hood methods in estimating multiple regression weights using AMOS software.

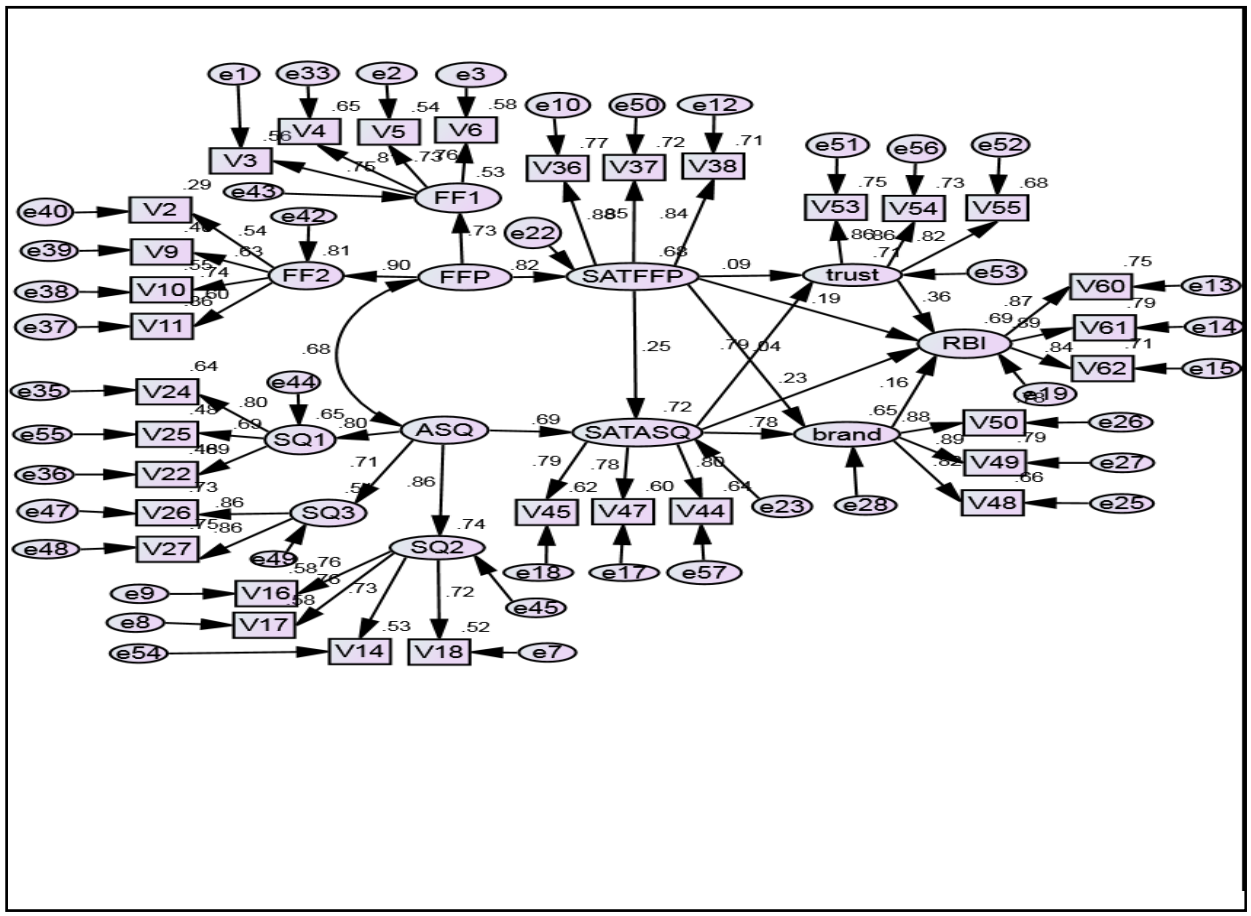
The level of significance was set at five percent to accept or reject the model. The model was tested with 554 samples and the minimum achieved with Chi Square value was 921.667 and degrees of freedom 447. The model was recursive in nature.

The attribute- level performance dimensions of frequent flyer programme and airline service quality was developed and the measurement model so obtained was confirmed using CFA (see chapter IV). These measurement models were incorporated in the final structural model to analyze the combined effect of individual constructs on the dependent variable (please refer to section 3.3 for the

conceptual model of the study). It was significant for this research to establish a valid model which explains the combined effect of service quality and frequent flyer programme. Once the final model is tested and found valid, further indirect effects of constructs within the model can be estimated; moreover the moderation effect of perceived value, FFP status on the relevant paths of the structural model can also be ascertained.

The test output results of the model provide the strength of inter-relationship among the antecedent variables and the dependent variable which are pictorially depicted in figure 5.1

Figure 5.1 Structural Equation Model for testing study hypotheses 1 through 11




*Source: SEM output results*
*V2 to V64 are indicative observed variables measuring each construct & e1 to e57 are error items.*

Chi Square Minimum / Degrees of freedom (CMIN/DF) is called as the minimum discrepancy which is obtained as 2.062. Wheaton et al. (1987) suggested that if the minimum discrepancy is less than 5, the model is reasonably fit. Model indices which are less sensitive to sample size like CFI, TLI and RMSEA are also showing good fit results. As evident from the results obtained, the structural equation model is showing good fit results. Hoelter's (1983) value reflects the appropriateness of sample size with respect to the model parameters fixed for the study. It was given that if the Hoelter value is above 200 levels it indicate sufficiency of sample size for the given model. The SEM output results obtained Hoelter values at 5% level of significance as 299 and at 1% level as 312 which show sample adequateness for the model.

### 5.13.1 Maximum likelihood estimation of regression weights

Regression weights obtained in the structural equation model (SEM) with maximum likelihood estimates method and their critical ratios (CR), P Values (*** indicate the level of significance at 1%) for the constructs; between constructs and its sub dimensions; between construct and their indicators are shown in the tables 5.40, 5.41 and 5.42 respectively.

Table 5.40 Estimation of regression weights between constructs in the model

| Relationship | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|
| SATFFP <--- FFP | 1.205 | .099 | 12.143 | *** |
| SATASQ <--- ASQ | .902 | .085 | 10.646 | *** |
| SATASQ <--- SATFFP | .199 | .038 | 5.209 | *** |
| Brand <--- SATASQ | .821 | .059 | 13.937 | *** |
| Trust <--- SATFFP | .074 | .038 | 1.942 | .052 |
| Trust <--- SATASQ | .795 | .057 | 13.948 | *** |
| Brand <--- SATFFP | .039 | .041 | .939 | .348 |
| RBI <--- SATASQ | .294 | .129 | 2.289 | .022 |
| RBI <--- Trust | .447 | .092 | 4.842 | *** |
| RBI <--- brand | .192 | .074 | 2.592 | .010 |
| RBI <--- SATFFP | .197 | .044 | 4.527 | *** |

*Source : SEM output results*

It was observed from the SEM output results that all the hypothesized relationships between the constructs under study are valid at 5 % level of significance except for the relationship predicting (a) satisfaction of FFP to brand image relationship and (b) satisfaction of FFP to trust relationship. It was also noted that satisfaction with Airline Service Quality to Re-Buy Intention and passenger brand image to Re-Buy Intention relationship are significant at 5% level of significance.

It was obvious from the tables (table 5.41 & 5.42) that the regression weights are significant for the relationship among exogenous variables namely FFP & ASQ and its sub dimensions and also with the construct - indicator relationships.

Table 5.41 Regression weights between construct and its sub dimensions

| Relationship* between Exogenous variables and sub dimensions | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|
| FF1 <--- FFP | 1.000 | | | |
| FF2 <--- FFP | .951 | .094 | 10.099 | *** |
| SQ1 <--- ASQ | .953 | .084 | 11.410 | *** |
| SQ2 <--- ASQ | 1.000 | | | |
| SQ3 <--- ASQ | 1.012 | .085 | 11.945 | *** |

*Source : SEM output results*

** FF1 and FF2 are the sub dimensions of FFP variable*

** SQ1, SQ2 & SQ3 are the sub dimensions of ASQ variable*

The Critical Ratio (C.R.) values obtained for the sub dimensions of the exogenous variables (FFP and ASQ) are also found to be above 10 (table 5.41). This indicates a strong representation of the underlying dimensions of the FFP and ASQ variables under consideration.

Table 5.42 Regression weights between construct and its indicators

| Relationship | Estimate | S.E. | C.R. | P (Sig. level) |
|---|---|---|---|---|
| V60 <--- RBI | 1.000 | | | |
| V61 <--- RBI | .916 | .033 | 27.481 | *** |
| V62 <--- RBI | .808 | .032 | 25.267 | *** |
| V45 <--- SATASQ | .984 | .049 | 20.200 | *** |
| V49 <--- brand | 1.082 | .039 | 27.615 | *** |
| V50 <--- brand | 1.000 | | | |
| V47 <--- SATASQ | .960 | .049 | 19.751 | *** |
| V6 <--- FF1 | 1.028 | .060 | 17.006 | *** |
| V3 <--- FF1 | 1.000 | | | |
| V9 <--- FF2 | 1.032 | .091 | 11.324 | *** |
| V10 <--- FF2 | 1.314 | .106 | 12.434 | *** |
| V11 <--- FF2 | 1.000 | | | |
| V16 <--- SQ2 | 1.040 | .064 | 16.329 | *** |
| V17 <--- SQ2 | 1.016 | .062 | 16.375 | *** |
| V18 <--- SQ2 | 1.000 | | | |
| V24 <--- SQ1 | 1.202 | .080 | 15.040 | *** |
| V22 <--- SQ1 | 1.000 | | | |
| V2 <--- FF2 | .883 | .088 | 10.030 | *** |
| V5 <--- FF1 | .970 | .059 | 16.411 | *** |
| V26 <--- SQ3 | .991 | .055 | 18.085 | *** |
| V27 <--- SQ3 | 1.000 | | | |
| V38 <--- SATFFP | .876 | .035 | 25.089 | *** |
| V37 <--- SATFFP | .918 | .036 | 25.224 | *** |
| V53 <--- trust | .956 | .040 | 23.705 | *** |
| V55 <--- trust | 1.000 | | | |
| V14 <--- SQ2 | .997 | .064 | 15.666 | *** |
| V25 <--- SQ1 | 1.227 | .089 | 13.746 | *** |
| V54 <--- trust | 1.014 | .043 | 23.406 | *** |
| V44 <--- SATASQ | 1.000 | | | |
| V36 <--- SATFFP | 1.000 | | | |
| V4 <--- FF1 | 1.107 | .062 | 17.963 | *** |
| V48 <--- brand | .922 | .038 | 24.178 | *** |

*Source: SEM output results*

## 5.14 Testing of hypotheses:

### 5.14. (a) Hypotheses with direct relationship between variables:

Table 5.43 provides the summary of hypotheses test results obtained for the direct relationship between variables. All the hypotheses mentioned are tested at 5% level of significance.

Table 5.43 Summary of hypotheses test results: Direct relationship between variables

| No. | Statement of hypothesis | Result |
|---|---|---|
| H1: | There is a significant relationship between attribute level performance of airline frequent flyer programme (FFP) and satisfaction. | Accepted |
| H2: | There is a significant relationship between FFP satisfaction and passenger re- buy intention (RBI). | Accepted |
| H3: | There is a significant relationship between FFP satisfaction and passenger trust. | Rejected |
| H4: | There is a significant relationship between FFP satisfaction and brand image. | Rejected |
| H5: | There is a significant relationship between attribute level performance of airline service quality (ASQ) and passenger satisfaction in ASQ. | Accepted |
| H6: | There is a significant relationship between satisfaction in ASQ and passenger trust. | Accepted |
| H7: | There is a significant relationship between satisfaction in ASQ and brand image. | Accepted |
| H8: | There is a significant relationship between satisfaction in ASQ and RBI. | Accepted |
| H9: | Passenger perceived brand image has a significant effect on RBI. | Accepted |
| H10: | Passenger trust in the airline has a significant effect on RBI. | Accepted |
| H11: | FFP satisfaction significantly influences ASQ satisfaction. | Accepted |

### 5.14. (b) Indirect effect of mediators on the relationship between variables

Hypotheses with indirect effect were set for the current research. These hypotheses were tested using mediation principles with the support of bootstrapping technique applied in AMOS software. A bootstrap sample of 2000 with bias-corrected confidence interval level at 95 % was employed for testing all indirect effects.

## 5.15 Tests of mediation

Effect of mediation was tested by comparing the direct and indirect effect of Independent variable on the designated dependent variable. Table 5.44 provides the principle followed in ascertaining the effect of mediation. To determine the direct effect, only the independent variable and the dependent variable were allowed in the path diagram and the standardized regression values were estimated without mediator. For ascertaining the indirect effect, the path of the mediator variable was added in the model and bootstrapping was performed and path coefficients were evaluated by running AMOS. Similarly the levels of significance (bias corrected p values – two tailed test) were obtained with the support of bootstrapping technique in AMOS.

Table 5.44 Ascertaining the effect of mediation under different situations.

| Sl. No. | Mediation situation |
|---|---|
| 1 | **No Mediation situation** |
| | * If indirect effect is not significant |
| | * If effect of Independent variable on mediator is insignificant or direct effect from mediator to dependent variable is insignificant |
| 2 | **Indirect Effects** |
| | * Both direct effects are not significant, but indirect effect is significant |
| 3 | **'Full Mediation'** |
| | * Given the direct effects were significant prior to adding the mediator and |
| | * If Indirect effect is significant and direct (with mediator) is not significant |
| 4 | **'Partial Mediation'** |
| | * if direct (with mediator) and indirect are significant |

*Source: Lyytinen & Gaskin, Mediation and multi-group analysis, http://www.kolobkreations.com*

### 5.15.1. Mediation effect of satisfaction on re - buy intention.

There were two exogenous variables included in this study namely attribute-level performance of (i) airline frequent flyer programme and (ii) airline service quality. This study basically investigates the effect of these variables on re-buy intention of frequent passengers. However various studies in other sectors pointed out the indirect effect of performance variables on re-buy intentions through satisfaction; the same as referred in chapter II. Hence the mediation role of satisfaction on the effect of these exogenous variables in making re-buy intention in the airline context needs to be verified and confirmed.

Table 5.45 gives the test results and explains the type of mediation observed. Hypothesis 12 (a) postulated for assessing the level of mediation based on FFP was derived from H1 and H2 which can be stated as:

H12 (a): There is an indirect positive effect of passenger satisfaction on the relationship between frequent flyer programme performance and re-buy intention.

Table 5.45 Mediation effect of satisfaction on FFP attribute-level performance & re-buy intention

| Hypothesis | Direct beta without mediator | Direct beta with mediator | P value | Indirect beta | P value | Mediation type observed |
|---|---|---|---|---|---|---|
| Mediation as: FFP- SAT - RBI | 0.62 *** | 0.229 (n.s.) | 0.118 | 0.128 ** | 0.006 | Full mediation |

This result strongly support the mediation role of satisfaction in determining re-buy intention of frequent flyer passengers, moreover the introduction of mediator variable makes the direct relationship become insignificant. Full mediation was observed due to the mediator role of satisfaction.

Hypothesis 12 (b) postulated for assessing the level of mediation based on ASQ is derived from H5 and H8 which can be stated as:

H12 (b): There is an indirect positive effect of passenger satisfaction on the relationship between service quality performance and re-buy intention.

Table 5.46 gives the test results and explains the type of mediation observed.

Table 5.46 Mediation effect of satisfaction between ASQ attribute-level performance and re-buy intention

| Hypothesis | Direct beta without mediator | Direct beta with mediator | P value | Indirect beta | P value | Mediation type observed |
|---|---|---|---|---|---|---|
| Mediation as: ASQ- ASQ sat - RBI | .67 *** | .067 (n.s.) | 0.587 | .602 ** | 0.001 | Full Mediation |

This result strongly supports the mediation role of satisfaction with respect to airline service quality in determining re-buy intention of frequent passengers. The introduction of mediator variable- 'satisfaction' makes the direct relationship between ASQ attribute- level performance and Re-buy intention insignificant. Full mediation was observed due to the mediator role of satisfaction.

Satisfaction exerted full mediation effect on re-buy intention caused by attribute level performance of ASQ and FFP.

### 5.15.2. Brand image as mediator between satisfaction and re-buy intention.

It was referred in the review of literature that customer satisfaction can cause brand image and this brand image leads to passengers' re-buy intention. Table 5.47 given below provided the test results and explains the type of mediation observed.

Two hypotheses, H12 (c) derived from H4 and H9; and H12 (d) derived from H7 and H9 given below were tested for verifying the said relationship.

H12 (c): There is an indirect positive effect of brand image on the link between frequent flyer programme satisfaction and re-buy intention.

H12 (d): There is an indirect positive effect of brand image on the relationship between service quality satisfaction and re-buy intention

Table 5.47 Mediation effect of brand image between FFP / ASQ satisfaction and re-buy intention

| Hypothesis: *Mediation as* | Direct beta without mediator | Direct beta with mediator | P value | Indirect beta | P value | Mediation type observed |
|---|---|---|---|---|---|---|
| FFPSAT- brand image - RBI | .258 *** | 0.235 ** | 0.001 | .015 (n.s.) | 0.217 | no mediation |
| ASQSAT- Brand image - RBI | .595 *** | 0.426 ** | 0.001 | .178 ** | 0.003 | Partial mediation |

** indicate Level of significance (P Value less than 0.05), ** indicate Level of significance (P Value less than 0.01), *** indicate Level of significance (P Value less than 0.001), (n.s.) indicate no significance*

The result of mediation test indicates that there exists partial mediation, caused by brand image as mediator between ASQ level satisfaction and re-buy intention. There exists significant direct relationship even after the introduction of mediator variable, while the indirect effect seemed to be significant.

On the other hand the satisfaction from frequent flyer programme did not cause any effect on re-buy intention through brand image of the airline and as a result no mediation observed. The indirect effect of mediating variable is

insignificant on the relationship between FFP satisfaction and re- buy intention, whereas the direct effect with and without mediator seemed to be significant.

### 5.15.3. Trust in airline as mediator between satisfaction and re-buy intention.

Geyskens (1999) pointed out that satisfaction from both service quality and loyalty programme can cause trust. As a result, it can be assumed that trust in the airline can lead to passengers' re-buy intention. Table 5.48 gives the test results and explains the type of mediation observed. Following two hypotheses H12 (e) was postulated based on H3 and H10 and H12 (f) was derived from H4 and H10 given below were tested for verifying the assumed relationship.

H12 (e): There is an indirect, positive effect of passenger trust on the link between frequent flyer programme satisfaction and re-buy intention.

H12 (f): There is an indirect positive effect of passenger trust on the relationship between service quality satisfaction and re - buy intention

Table 5.48 Mediation effect of trust in airline between ASQ satisfaction / FFP satisfaction and re-buy intention

| Hypothesis: Mediation as | Direct beta without mediator | Direct beta with mediator | P value | Indirect beta | P value | Mediation type observed |
|---|---|---|---|---|---|---|
| FFPSAT- trust - RBI | .258 *** | 0.199 ** | 0.001 | 0.061 * | 0.029 | Partial mediation |
| ASQSAT-trust - RBI | .595 *** | 0.306 ** | 0.001 | 0.292 ** | 0.001 | Partial mediation |

** indicate Level of significance (P Value less than 0.05), ** indicate Level of significance (P Value less than 0.01), *** indicate Level of significance (P Value less than 0.001)*

The results of mediation test indicate that there exists partial mediation caused by trust in the airline. The effect of both ASQ and FFP level satisfactions on re-buy intention are mediated through passenger trust. There was significant direct relationship observed after the introduction of mediator variable, while enduring the indirect effect significant which establishes partial mediation.

### 5.15.4. Airline service quality satisfaction as mediator on the link between FFP- satisfaction and re-buy intention.

According to Theory of Self Regulation (TSR), emotional reaction will cause behavioral outcome and there will be an effect of another emotional component which can influence or strengthen this behavioral outcome. This characteristic is signified in this research by way of setting re-buy intention as a behavioral outcome caused by the effect of both ASQ and FFP satisfactions referred as emotional reaction components which are comparable to the motivational factor proposed by Baumeister & Vohs (2007)

So it was implicit that satisfaction from frequent flyer programme causes re - buy intentions which is positively mediated through the satisfaction from the airline service quality. Table 5.49 provides the mediation test results and explains the type of mediation observed.

Following hypothesis H12 (h) was postulated for testing the assumed indirect relationship derived from H8 and H11.

H12 (h): The positive direct effect of frequent flyer programme satisfaction on re-buy intention is mediated positively through satisfaction from airline service quality.

Table 5.49 Mediation effect of ASQ satisfaction in the direct relationship between FFP satisfaction and Re-buy intention

| Hypothesis | Direct beta without mediator | Direct beta with mediator | P value | Indirect beta | P value | Mediation type observed |
|---|---|---|---|---|---|---|
| Mediation as: FFPSAT - ASQSAT - RBI | .649 *** | .258*** | 0.001 | 0.395** | 0.001 | Partial mediation |

** indicate level of significance (P value less than 0.05), ** indicate level of significance (P value less than 0.01), *** indicate level of significance (P value less than 0.001)*

It is evident from this result that the ASQ satisfaction did a mediation role in the direct relationship between FFP satisfaction and re-buy intention. The presence of ASQ satisfaction did not curtail the direct relationship between FFP satisfaction and Re-buy intention. Therefore partial mediation is observed and proved valid.

## 5.16 Mediation role of ASQ satisfaction on the link between FFP satisfaction and Re-buy intention in accordance with change in FFP possession levels

As seen in section 5.9 in this chapter, there are different categories of passengers in terms of number of FFPs possessed by them such as (i) possess only one FFP, (ii) two FFPs in hand, and (iii) hold more than two (many) FFPs. While comparing satisfactions and re-buy intention levels among these groups it was found that only 'FFP satisfaction' was significantly differed among these groups particularly with passengers with more number of FFPs in hand.

To test and compare the variations due to the effect of mediation by ASQ satisfaction on the relationship between FFP satisfaction and RBI in terms of passengers with number of FFPs held, all the three passenger categories were taken for comparison.

It can be logically argued that the effect of ASQ mediation (i.e. ASQ satisfaction on the relationship between FFP satisfaction and Re-buy intention) would be significantly high for those groups of passengers possessing more number of FFPs when compared with passengers holding less number of FFPs. Table 5.50 provides the details regarding the effect of mediation with respect to these three categories of passengers.

Table 5.50 Comparison of mediation effect of ASQ satisfaction on the relationship between FFP satisfaction and re-buy intention among three FFP categories of passengers

| Hypothesis situation - mediation effect when | Direct beta without mediator. | Direct beta with mediator. | P value | Indirect beta | P value | Mediation type observed |
|---|---|---|---|---|---|---|
| Passengers have only One FFP in hand | 0.66 *** | 0.292 | 0.003 | 0.372 ** | 0.001 | Partial mediation |
| Passengers have two FFP in hand | 0.67 *** | 0.294 | 0.008 | 0.381 *** | 0.000 | Partial mediation |
| Passengers have many (more than two) FFP in hand | 0.60 *** | 0.011 (*n.s.)* | 0.894 | 0.596 ** | 0.001 | Full mediation |

** indicate level of significance (P value less than 0.05), ** indicate level of significance (P value less than 0.01), *** indicate level of significance (P value less than 0.001) and ( n.s.) indicate not significant.*

As observed in table 5.50, the mediation effect eventually becomes more significant while the FFP membership level increases. There is clear cut differences observed with respect to the type of mediation among these groups. The mediation effect of ASQ driven satisfaction turned into full mediation which nullifies the direct effect of FFP satisfaction on re-buy intention in the case of passengers with multiple number of FFPs.

This gradual increase in the indirect effect (**β** coefficients) prompted to see whether FFP membership levels moderate the mediation effect of ASQ driven satisfaction on the link between FFP satisfaction and re-buy intention. Details of moderation test results are given under session 5.21 of this chapter. The result shows that the changes in values are significant and there exists moderation effect based on the number of FFPs held by passengers.

This is logically true in the sense that only ASQ satisfaction can mainly influence the intention of passengers to continue with an airline, since FFP is no more a motivator for this category of passengers (many FFPs in hand) in view of the fact that this group have a range of options to use different FFPs.

## 5.17 Association between FFP status level and no. of FFPs held by passengers

It was found that there is variation in the influence level of FFP satisfaction on re - buy intention in terms of the number of FFPs held by the frequent passengers. To verify the interrelationship between number of FFPs held by the passengers and their respective FFP status levels, Chi-square analysis testing

independence of variables was done with the following hypothesis at a significance level of 0.05 which is stated as:

H13: There is a positive association between FFP status level and number of FFPs held by frequent flyers.

Table 5.51 provides the details of FFP status level of passengers with their respective number of FFPs followed by the chi-square statistic test results shown in table 5.52

Table 5.51 FFP status levels and number of FFPs held by passengers

| | | No. of FFPs | | | Total |
|---|---|---|---|---|---|
| | | Only one FFP | Only two FFP | Three & above (Multiple) FFP | |
| FFP Status | BLUE | 61 | 18 | 12 | 91 |
| | SILVER | 47 | 36 | 24 | 107 |
| | GOLD | 29 | 34 | 33 | 96 |
| | PLATINUM | 8 | 12 | 19 | 39 |
| Total | | 145 | 100 | 88 | 333 |
| % of Total | | 43.5% | 30.0% | 26.4% | 100.0% |

Table 5.52 Chi-Square test – association between FFP status & no. of FFPs held

| | Value | D f | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 41.101[a] | 6 | .000 |
| Likelihood Ratio | 41.205 | 6 | .000 |
| Linear-by-Linear Association | 36.718 | 1 | .000 |
| N of Valid Cases | 333 | | |
| *a. 0 cells (0%) have expected count less than 5. The minimum expected count is 10.31.* | | | |

*Critical value of the chi-square at 5% level of significance is 12.592*

As the computed value of the Chi-Square statistic is much above the cut-off value of 12.59, the null hypothesis at a significance level of 0.05 is rejected and can be concluded that the FFP status level and number of FFPs held by passengers are not independent. This means, there is an association between FFP status level and number of FFPs held by frequent passengers. The graphical representation of the association of each category of passengers to the respective FFP status is drawn using correspondence analysis and is provided in Annexure VII.

## 5.18 Moderating effect of perceived value

As referred in the review of literature, large number of studies supports the antecedent role of perceived value in driving customer satisfaction levels in a re-buying framework. Chang and Wang (2011) found that e-service quality and customer perceived value influenced customer satisfaction, and then influenced customer loyalty in an online shopping environment.

In this research two levels of satisfactions evolved as consequent of two exogenous variables which are the attribute-level performances of FFP and the second, attribute-level performances of ASQ. There are literature supports from other fields of study which links the two types of satisfactions in a single model framework (Oliver & Swan, 1989; Mittal et al., 1999).

This research hypothesized the role of 'perceived value' as a moderator which enhances the effect of mediating variable vide 'ASQ satisfaction' on the relationship between 'FFP satisfaction' and 're-buy intention'. The hypothesis set for the above moderation situation is provided below:

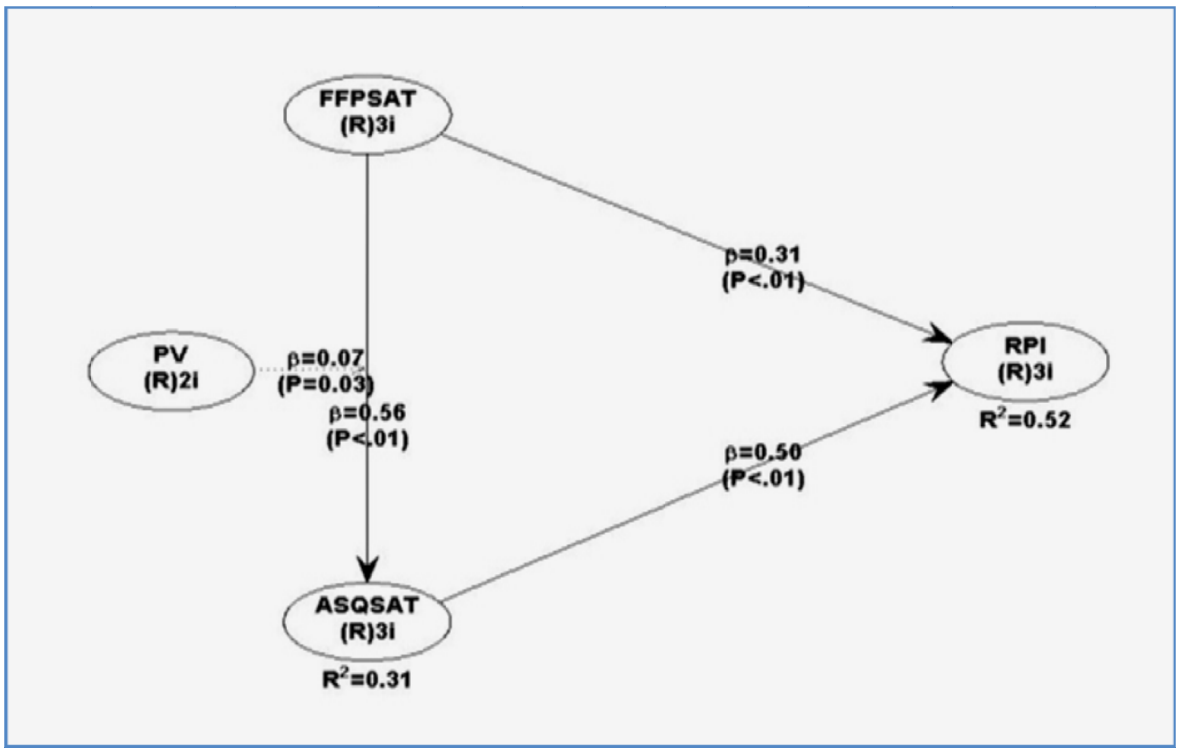
H14: The positive direct effect of frequent flyer programme satisfaction on service quality satisfaction is moderated positively by passenger perceived value.

For testing the above hypothesis, researcher used structural equation modeling technique with partial least square (Warp- PLS) method. The moderating variable perceived value (PV) was measured using a five point scale adapted from the literature. Since the data with respect to PV was continuous in nature PLS (warp) was used, moreover this software facilitated direct link of moderation to the relevant paths. The relevant path diagrams representing the concerned variables are taken for the analysis. Recent studies undertaken in other industry sectors (Theodorakis et al., 2014) provide evidences that customer value perceptions are found to be an important antecedent of satisfaction and finally this satisfaction predicted behavioral intentions. Furthermore in this study, full mediation effect was acknowledged by satisfaction from FFP and ASQ in

predicting re-buy intentions. Hence the mediation variables of satisfaction and re-buy intention were taken as relevant variables for assessing the effect of perceived value. The moderating effect of perceived value is depicted in figure 5.2.

The direct, indirect effects and path coefficient (β values) and the level of significance (p- values) are also provided.

Figure 5.2 The effect of moderation by perceived value on ASQ satisfaction.




*Statistical inferences:*

*Moderation: Significant, P value < 0.05, β value =0.07*

*Direct effect of FFP satisfaction on re-buy intention: 0.31 and P value < 0.01 which is significant and dominant.*

*Indirect effects of FFP satisfaction on re- buy intention through ASQ satisfaction: 0.28 and p value < 0.01, which is significant but not-dominant*

It was found that the moderation effect of perceived value on the satisfactions levels is significant at 5% level of significance though the β value (0.07) seemed to be low; the effect of variations explained by moderation is positive and significant hence accepted the hypothesis. The mediation result obtained earlier indicates that there is partial mediation of ASQ satisfaction on re-buy intention. This result strengthens the findings observed in section 5.15.4. See table 5.50 in this chapter.

Model fit and quality indices from the general results obtained after conducting structural equation modeling (SEM) analysis using the method of "warped" partial least squares are given below.

Average path coefficient (APC), Average R-squared (ARS) and Average Adjusted R-squared (AARS) values were 0.359, 0.414 and 0.412 respectively. The P values obtained for the above cases were less than 0.001 which was valid. Average block VIF (AVIF) =1.269 and Average full co linearity VIF (AFVIF) = 1.693 both were acceptable since the values were less than 5. Tenenhaus GoF (GoF) obtained as 0.579, which was found suitable for large sample as the value obtained was above 0.36. Sympson's Paradox Ratio (SPR) equal to 0.750 and Statistical Suppression Ratio (SSR) found to be equal to 1.000; both the ratios were acceptable since it was greater than 0.7 and R-squared contribution ratio (RSCR) was 0.984 which was also acceptable since the value was above 0.9.

In addition to the above results, the researcher intent to know further the variations in moderation level that may arise at par with the difference in FFP status groups.

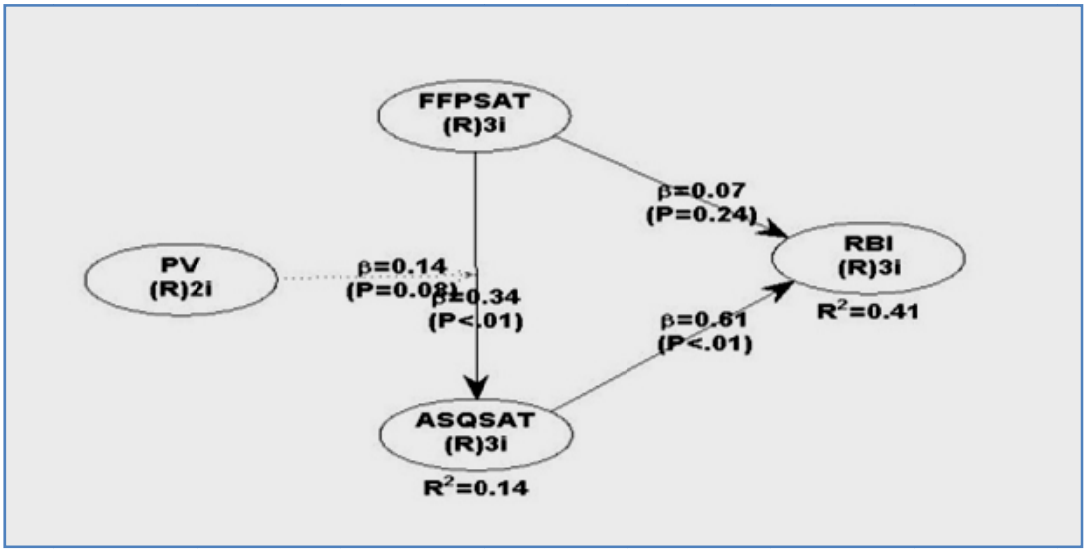
### 5.18.1 Effect of moderation & mediation based on FFP status levels

The moderation and mediation effect with regard to the concerned variables such as perceived value, FFP & ASQ satisfactions and re- buy intentions are taken for analysis in terms of passenger categories based on their FFP statuses. The model fit and quality indices values obtained from these category based analysis were also found within the acceptable limits.

### 5.18.2 Effect of moderation and mediation based on 'Platinum' status

The moderating effect of perceived value with respect to platinum FFP status is shown in Figure 5.3. The direct, indirect effects and path coefficient (β values) and the level of significance (P values) are also provided.

Figure 5.3 The effect of moderation and mediation based on Platinum status




*Statistical results:*

*Moderation: significant only at 10% (P value= 0.08, β value =0.14)*

*Direct effect – not significant and not dominant (P value > 0.1, β value =0.07)*

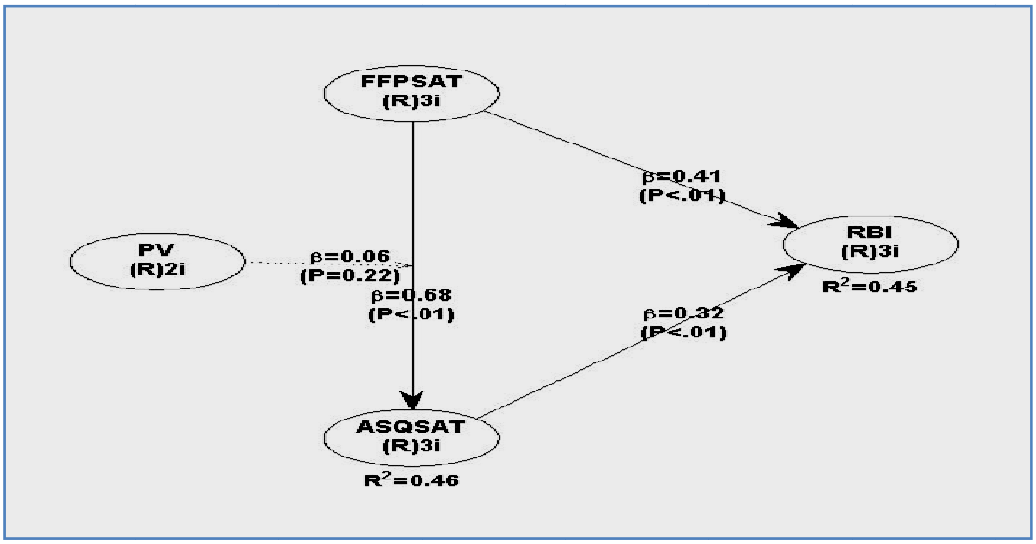
*Indirect effect - significant and dominant (β value =0.209, P < 0.01)*

The moderation effect of perceived value on the satisfactions levels was significant at 10% level of significance only, though the value of moderation increased to 0.14. The mediation results indicated that there is a full mediation effect through ASQ satisfaction on re-buy intentions in case of passengers holding 'Platinum' status.

### 5.18.3 Effect of moderation and mediation based on 'Gold' status

The relevant path diagrams representing the concerned variables are taken for the analysis. The moderating effect of perceived value with respect to 'Gold' FFP status is depicted in Figure 5.4 showing direct, indirect effects and path coefficient (β values) and the level of significance (P Values).

Figure 5.4 The effect of moderation and mediation based on Gold status




*Statistical results:*

*Moderation: Not significant (P value > 0.1, β value =0.06)*

*Direct effect – Significant and dominant (P value < 0.05, β value =0.41)*

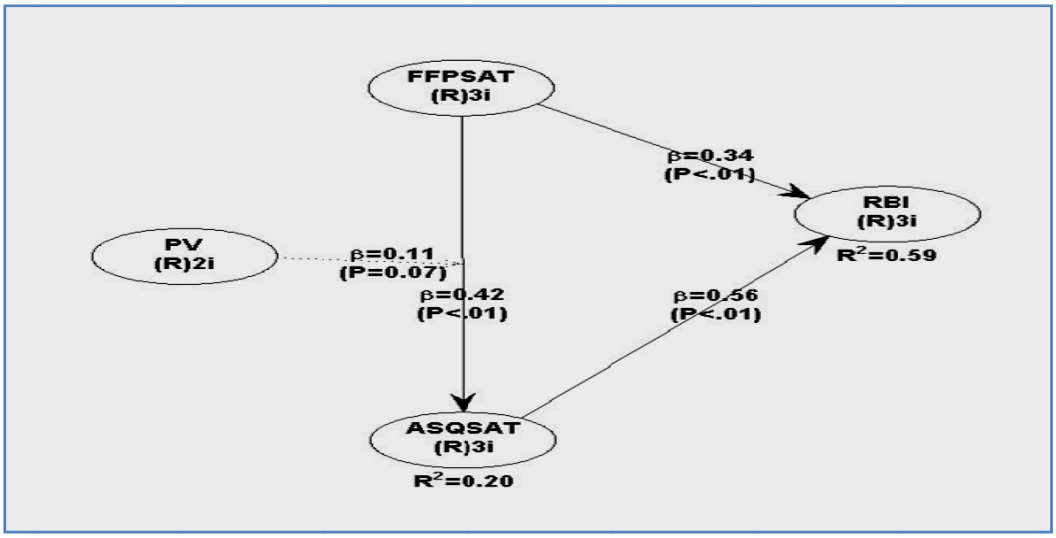
*Indirect effect- Significant but not dominant (β value =0.22, P< 0.001)*

The moderation effect of perceived value on the satisfactions levels was not significant. The mediation results indicate that there is partial mediation by ASQ satisfaction on re-buy intentions in which the direct effect of FFP satisfaction on re-buy intention was dominant compared to the indirect mediated effect through ASQ satisfaction in case of passengers holding 'Gold' status.

### 5.18.4 Effect of moderation and mediation based on 'Silver' status

The relevant path diagrams representing the concerned variables are taken for the analysis. The moderating effect of perceived value with respect to 'Silver' FFP status is given in Figure 5.5. The direct, indirect effects and path coefficient (β values) and the level of significance (P Values) are also provided.

Figure 5.5 The effect of moderation and mediation based on Silver status.




*Statistical results:*

*Moderation: Significant only at 10% (P value < 0.10, β value =0.11)*

*Direct effect – Significant and dominant (P value < 0.01, β value = 0.34)*

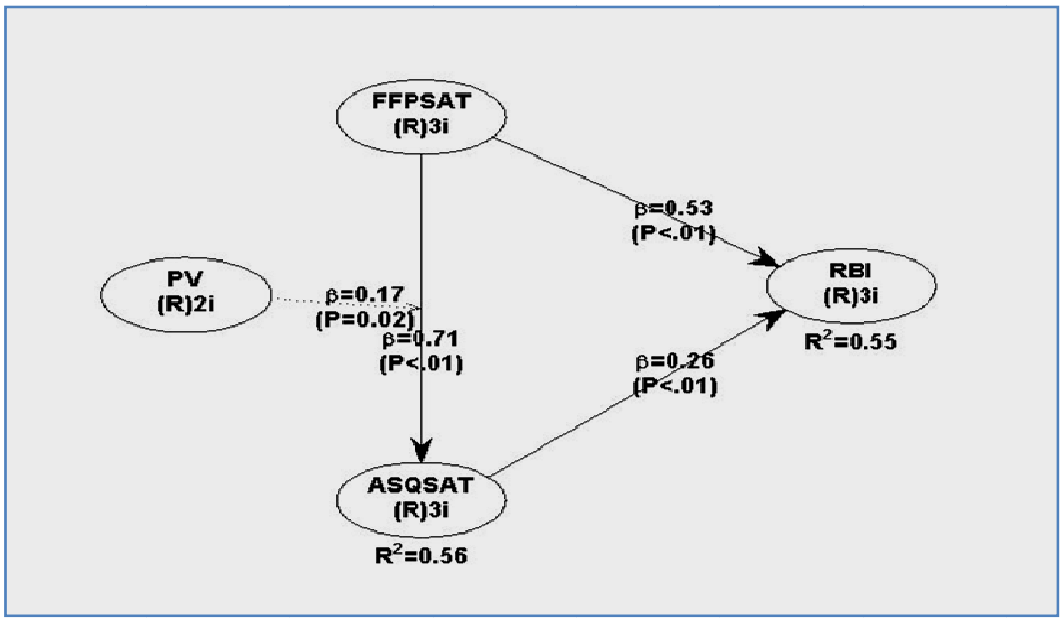
*Indirect effect- Significant but not dominant (β value =0.236, P < 0.001)*

The moderation effect of perceived value on the satisfactions levels was significant at 10% level of significance. The mediation results indicate that there is partial mediation by ASQ satisfaction on re-buy intentions in which the direct effect of FFP satisfaction on re-buy intention is dominant compared to the indirect mediated effect through ASQ satisfaction in case of passengers holding 'Silver' status.

### 5.18.5 Effect of moderation and mediation based on 'Blue' status

The relevant path diagrams representing the concerned variables are taken for the analysis. The moderating effect of perceived value with respect to 'Blue' FFP status is given in Figure 5.6. The direct, indirect effects and path coefficient (β values) and the level of significance (P values) are shown in figure 5.6.

Figure 5.6 The effect of moderation and mediation based on 'Blue' status.




*Statistical results:*

*Moderation: Significant (P value < 0.05, β value =0.17)*

*Direct effect: Significant and dominant (P value < 0.05, β value =0.53)*

*Indirect effect- Significant but not dominant (P< 0.001, β value =0.186)*

It was noticed that the moderation effect of perceived value on the satisfactions levels is significant at 5% level of significance; moreover the rate of moderation 0.17 is the highest when compared with other groups. The mediation results indicate that there is partial mediation by ASQ satisfaction in the effect of FFP satisfaction on re-buy intentions. The direct effect of FFP satisfaction on re-buy intention is dominant compared to the indirect mediated effect through ASQ satisfaction in the case of passengers holding 'Blue' status.

## 5.19 Comparison of the effect of moderation and mediation based on FFP status

The effect of 'perceived value' as moderator is not the same with respect to various FFP status levels while the model which combined all groups shows significant results. Similarly the mediation effect also shows variation when analyzed separately with FFP status. Table 5.53 gives the summary of moderation and mediation effects and total effects when compared with β coefficient and P values of FFP status groups.

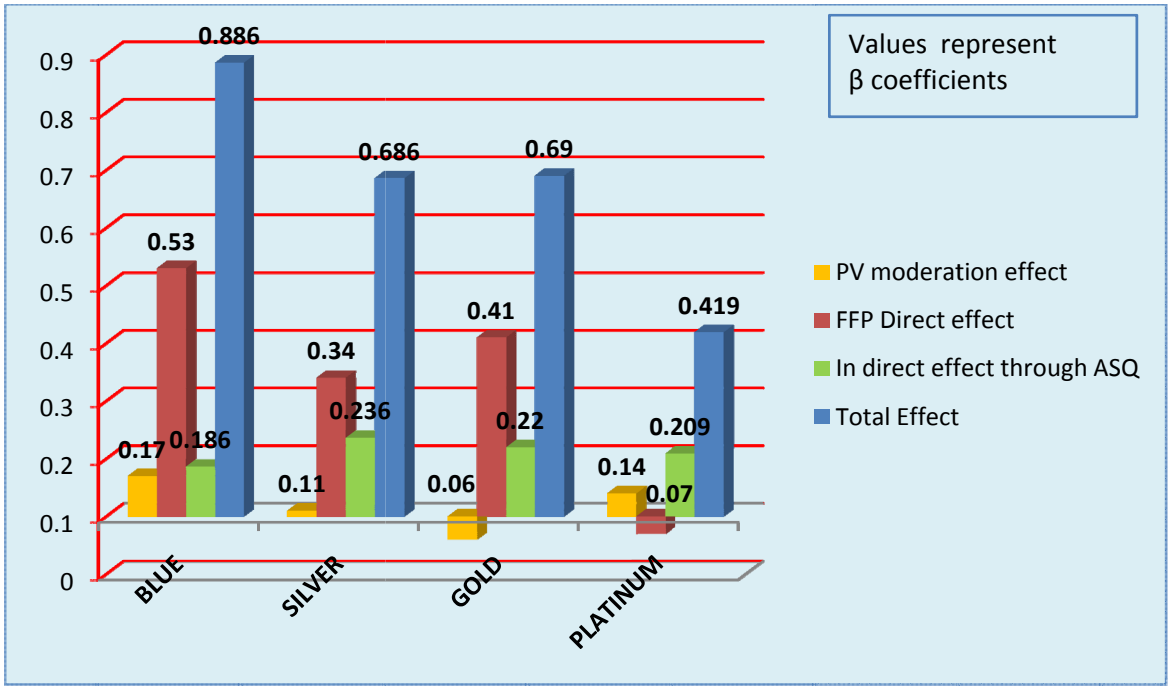
Table 5.53 Comparison of moderation & mediation among FFP status groups

| FFP status category | Effect of moderation by perceived value | Type of mediation<br>FFP satisfaction – ASQ satisfaction - RBI | Total effect β coefficient |
|---|---|---|---|
| Blue / Blue Plus | **Significant** (P value < 0.05, β value =0.17) | Partial mediation.<br>*Direct effect*: significant and dominant (P value < 0.05, β value =0.53)<br>*Indirect effect*- significant but not dominant (P value < 0.001, β value = 0.18) | 0.88 |
| Silver | Significant at10% (P value < 0.10, β value =0.11) | Partial mediation.<br>*Direct effect*: significant and dominant (P value < 0.05, β value =0.34)<br>*Indirect effect*- significant but not dominant (P value < 0.001, β value = 0.23) | 0.69 |
| Gold | **Not significant** (P value > 0.1, β value =0.06) | Partial mediation.<br>*Direct effect* – Significant and dominant (P value < 0.05,β value= 0.41)<br>*Indirect effect*- significant but not dominant (P value < 0.001, β value = 0.22) | 0.69 |
| Platinum | Significant at10% (P value < 0.10, β value =0.14) | Full Mediation<br>*Direct effect*: Not significant and not dominant (P value > 0.1, β value =0.07)<br>*Indirect effect*- significant and dominant (P value < 0.01, β value =0.21) | 0.42 |

*Source: Analysis of primary data*

Figure 5.7 shows the variations in β coefficient values of moderation, mediation and total effects when compared with all FFP status independently.

Figure 5.7 Moderation and mediation effects with regard to different FFP status




The overall model depicting the moderation and mediation relationship between variables leading to re-buy intention provide statistical evidences that satisfaction from frequent flyer programme leads to satisfaction in airline service quality. Airline service quality satisfaction play a partial mediation role in explaining re-buy intention of frequent passengers and this indirect effect is found to be higher than the direct effect of frequent flyer programme satisfaction on re-buy intention. The effect of passenger perceived value on moderating this satisfaction-relationship also found valid except in the case of 'Gold' status group.

A comparison of the mediation and moderation effect among various levels of FFP found that effect of moderation (PV) is decreasing from 'Blue' level to the 'Gold' level gradually and becomes insignificant at 'Gold' level though the effect of moderation is significant at 'Platinum' level.

Another observation arrived from the results was in terms of the direct effect of FFP satisfaction in explaining re-buy intention. At Platinum level, the direct effect of FFP satisfaction on re-buy intention was insignificant. This could be attributed to the fact that for Platinum group, FFP is no more a motivator other than providing benefits as stipulated by the programme, there is no further higher levels to be achieved. However the perceived satisfaction from the airline core service will act as a motivator to re-buy the airline services in future, furthermore platinum groups are entitled to receive all types of services provided by the airline.

On the other side, it was observed that for 'Blue' level category, a typical passenger is not entitled to all sorts of service benefits; however the aspiration level of the passenger could be at the higher side, by looking at the offerings through the structural component of the FFP. Passengers once joined the programme will be motivated to travel again due to the aspiration to reach higher levels of the programme. This feature is applicable for the 'Gold' category passengers too, since they can avail all sorts of privileges only once they attain the platinum level of the programme and hence they may possibly get motivated by the FFP.

## 5.20 Effect of moderation based on travel frequency.

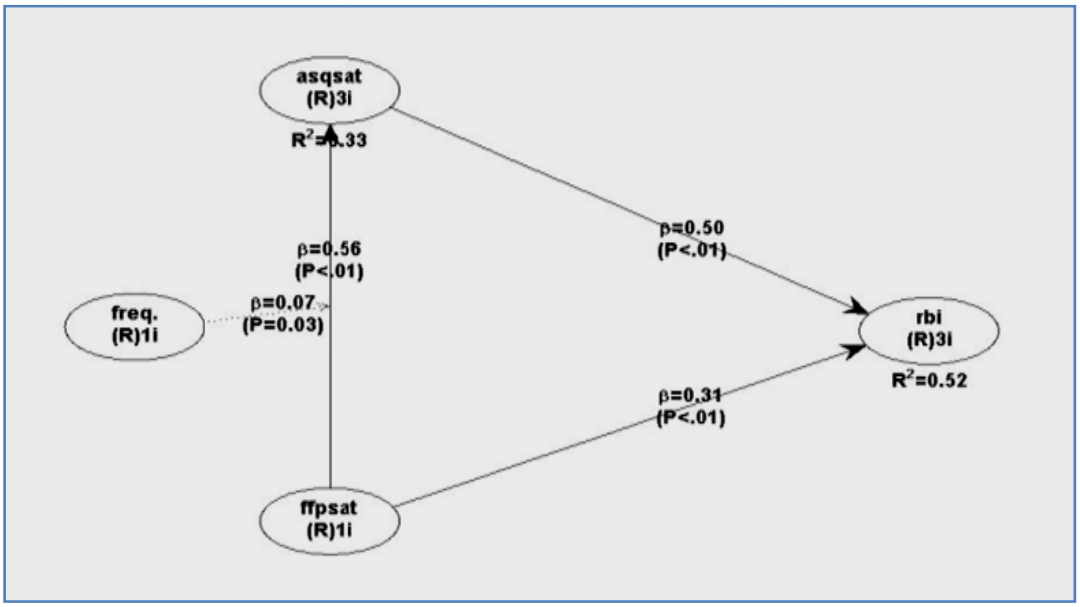
Since the travel frequency is very much connected by means of the FFP miles earned by the frequent flyers, this also may moderate the antecedent variables in affecting re-buy intentions. So it was hypothesized that the role of travel frequency can moderate the FFP- ASQ satisfactions link as in the case of FFP statuses. The above case is postulated in the form of hypothesis as stated below:

H14 (a): The positive direct effect of frequent flyer programme satisfaction on service quality satisfaction is moderated by passengers' frequency of travel.

The relevant path diagrams representing the concerned variables are taken for the analysis. Passengers' frequency of travel was ranging from a minimum of 3 trips to a maximum of 330 trips per annum.

The moderating effect of travel frequency on the relationship between FFP satisfactions on re-buy intention through ASQ satisfaction was tested using warp PLS. Path diagrams and details are given in Figure 5.8 The direct, indirect effects and path coefficient (β values) and the level of significance (P Values) are shown along with the figure.

Figure 5.8 The effect of moderation and mediation based on travel frequency.




*Statistical results:*

*Moderation: Significant (P value < 0.05, β value =0.07)*

*Direct effect: Significant and dominant (P value < 0.05, β value =0.31)*

*Indirect effect- Significant but not dominant (P< 0.001, β value =0.282)*

It was noticed that the moderation effect of travel frequency on the satisfactions levels is significant at 5% level, though the effect of moderation stood at only .07. Since the path coefficients are positive and significant at 5% level, the hypothesis was accepted. The mediation results indicate that there is partial mediation by ASQ satisfaction on re-buy intentions in which the direct effect of FFP satisfaction on re-buy intention is dominant when compared to the indirect mediated effect through ASQ satisfaction

## 5.21 Effect of moderation based on FFP possession level of passengers

The FFP status and number of FFPs held by frequent flyers are associated (refer Chi-Square test result under session 5.17, table 5.52). It was found that the indirect effect of ASQ satisfaction gets strengthened in progression with no. of FFP levels of passengers. The moderation effect of number of FFPs held by passengers on the link between satisfactions as done in the case of FFP statuses was tested.

The relevant path diagrams representing the concerned variables are taken for the analysis. No. of FFPs held by passengers in sample was ranging from a single FFP to a maximum of 8 FFPs. Since the moderation variable, 'no. of FFPs held by passengers' was purely a categorical data, and for simplicity in analysis based on the earlier results, two major relevant groups were identified as:

(a) Passengers hold one and only one FFP, and

(b) Passengers retain more than one (multiple) FFP

The moderating effect of FFP possession level on the relationship between FFP satisfactions on re-buy intention through ASQ satisfaction was tested using AMOS software and the comparison of regression weights and p values obtained for two groups are given in table 5.54.

Table 5.54 The effect of moderation based on no. of FFPs held by frequent flyers.

| | | | Single FFP Group | | Multiple FFP Group | | |
|---|---|---|---|---|---|---|---|
| Path in which the effect of moderation tested | | | Estimate | P value *** | Estimate | P value *** | z-score |
| SATASQ | <--- | SATFFP | 0.511 | 0.000 | 0.662 | 0.000 | **1.897*** |

*Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10*

*Source: SEM output results after comparison of group differences*

The Z score was obtained after comparing the regression weights obtained for each FFP group separately and also by using the matrix - critical ratios for differences between parameters.

**Statistical results:**

Moderation effect was observed: Though the Z score obtained was less than 1.96, yet greater than 1.645 which indicates that the moderation effect due to FFP possession level on the link between FFP satisfaction on ASQ satisfaction was significant at 10% level.

It can be interpreted that the effect of FFP satisfaction in causing re-buy intention through ASQ satisfaction is amplified with the number of FFPs held by the frequent passengers, which means more the number of FFPs possessed by the passengers more will be the mediation effect of ASQ satisfaction in forming re-buy intention. In other words the direct effect of FFP influencing re-buy intention gets diminished when passengers possess multiple FFPs.

## 5.22 Chapter summary

Profile of the sample and descriptive analysis of the data revealed that there is significant difference in passenger's perception on national and foreign carriers with respect to satisfaction on loyalty programme, service quality and re-buy intention. As far as frequent passengers' satisfaction on loyalty programme, service quality and re-buy intentions are concerned, demographic profiles like age, level of education, purpose of travel and income level did not explain significant variation. However significant differences in airline service quality were observed with respect to passenger's occupation. As far as passengers FFP possession level is concerned FFP satisfaction shows significant difference among various levels, while service quality satisfaction and re-buy intention did not show any significant variation. FFP satisfaction shows significant variation with respect to FFP status levels, particularly between extreme status levels. Significant differences in ASQ satisfaction was found only at the higher levels i.e. 'Gold' and 'Platinum'. The re-buy intention of 'Platinum' category passengers was significantly higher from other statuses.

Confirmatory factor analysis reveals that all the measurement models and the structural model shows good fit results on the selected fit indices. All the direct and indirect hypotheses postulated were tested and reported. Test of mediation was performed using bias corrected bootstrapping method in AMOS. It was found that satisfaction from service quality and loyalty programme considerably mediate the relationship between attribute-level performance of service quality and loyalty programme on re-buy intention. Moreover, airline service quality satisfaction

partially mediates the link between loyalty programme satisfaction and re-buy intention. It was observed that there is a significant association between FFP status level and number of FFPs held by frequent passengers.

Moderation effect of perceived value, travel frequency and FFP possession levels were found to be significant on the link between FFP satisfaction and ASQ satisfaction in affecting re-buy intention of passengers.

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# Chapter - 6

# FINDINGS & DISCUSSION

*This chapter provides the summary of major findings and discussion on effect of frequent flyer programme and airline service quality on airline brand image and passengers' trust in the airline, mediation effect of airline service quality satisfaction, indirect effect of airline service quality based on loyalty programme status levels, effect of perceived value and travel frequency as moderator on satisfaction & re-buy intention.*

In this chapter 6.1 deals with summary of findings and 6.2 to 6.7 are discussion on the findings.

## 6.1 Summary of findings

Majority of the frequent passengers travel for either business or official purposes; normally book tickets by self; and comes in the age category of 30 to 50 years. Respondents were mainly employees and majority of them were males with a post graduate education. Majority (55%) of the respondents have more than one FFP in hand. The sample profiles mentioned above are matching with the sample profile of other studies seen in the aviation literature.

Sub dimensions of frequent flyer programme in terms of attribute-level performances perceived by frequent flyers are explored. The service specific dimension is perceived better than structure specific dimension of the loyalty programme. This could be due to the peculiarity of the service specific factors which are directly linked with the travel phase of passengers; on the other hand

the structure specific factors are mostly related to non-travel facet of the programme.

As far as the descriptive statistics of the attribute–level performance of airline service quality (ASQ) is concerned, the employee-service specific dimension fetched maximum importance.

Frequent passengers perceived satisfaction from airline service quality more conspicuously than satisfaction from frequent flyer programme. This finding is in concurrence with the contention of Whyte (2003) which argue that passengers prefer service attributes above FFP miles / rewards.

While comparing the satisfaction levels and re-buy intentions, passengers who travel by foreign carriers were found to be more satisfied than passengers who use national based carriers, consequently they are more inclined to re-use foreign carriers. Moreover, ASQ satisfaction was perceived better when compared with FFP satisfaction for both categories, while the effects are at the higher side for international carriers and the differences in effects were also found to be significant. The proportions of respondents who use Indian carriers and foreign carriers were found to be more or less the same with regard to different FFP status levels of passengers. So the variation that can be found on FFP statuses would not be attributed by the disproportion in number of respondents in each category.

It was found that age of the passengers, level of their education, purposes of travel were not associated with satisfactions level and re – buy intentions, however with regard to occupation, business passengers are significantly prone

towards ASQ satisfaction. The proportion of respondents who held 'business' and 'employed' occupations were found to be consistent with regard to different FFP status levels of passengers.

There was no distinction in the satisfaction level of passengers as far as income levels are concerned, but slight variation was observed when compared with income and re-buy intention. FFP satisfaction differs in terms of the number of FFPs held by the passengers, whereas no significant difference was seen in ASQ satisfaction and re – buy intention based on number of FFPs held by passengers.

Significant variation was observed among different FFP statuses of passengers with regard to their satisfaction towards frequent flyer programme. Platinum class passengers were more satisfied with FFP when compared with lower status level passengers. This feature is similar with the findings of Nathalie et.al. (2011), that the existence of an FFP leads to higher prices paid by FFP members, and the notable FFP price premium of 5 – 6% on an average airfare that they claimed in their study was based on the intrinsic characteristic of the FFP structure itself, i.e. the variation in FFP status levels. In contrast, as per the results obtained this higher level of FFP satisfaction was not found to be instrumental in making re- buy intention, when analyzed in a combined structural model (see figure 5.1 in chapter V).

Significant differences among passengers possessing 'Gold' and 'Platinum' FFP statuses were found in terms of their satisfaction with airline service quality. 'Gold' status passengers are not very apprehensive with service quality as compared with other status groups, whereas in the case of re- buy intentions, both 'Gold' and 'Platinum' status groups show significantly higher levels of urge when compared with lower FFP status groups.

The influence of FFP and ASQ on re-buy intentions is better understood when the results generated with all the constructs taken together in a single structural equation model. The structural equation model (SEM) output results produced the combined effect of ASQ, FFP and selected antecedents such as 'brand image' and passengers' 'trust' with the airline. Testing the conceptual model without including perceived value resulted in the acceptance of the model. The test output indicates that all the hypothetical relationships were found to be valid and significant except the direct effect of FFP satisfaction on brand image and passenger trust. It was found that there exists a significant effect of mediation due to ASQ satisfaction in the relationship between FFP satisfaction and re- buy intention.

## 6.2 Effect of frequent flyer programme & airline service quality on brand image and passengers' trust in the airline

The two variables, 'brand image' and 'passengers' trust' in the airline were discussed in a joint frame work which operates as a consequent of satisfaction from frequent flyer programme and satisfaction from airline service quality. It was found that the two selected variables are no way affected by passengers' satisfaction in frequent flyer programme (FFP). This indicates that satisfaction from frequent flyer programme in no way induces either brand image or trust in the airline; on the other hand, airline service quality (ASQ) satisfaction causes brand image and trust in the airline. This signify a peculiar effect of frequent flyer programme, as a distinctive entity with its own independent role in making the re-buy intention of passengers though FFP alone did not affect any resounding outcome. This supports the findings of Sahoo and Vyas (2007) "people fly on those airlines where the brand experience is unique and frequent flyer programme system itself is no longer a differentiator to re-buy an airline". So passengers would really remain loyal to an airline which assures efficient and pleasing service and recognition of their preferences.

Dowling and Uncles (1997) claimed that customers end up associating their loyalty to a particular rewards programme rather than to the actual airline brand. Doganis (2006) argues that frequent flyers often are high yield passengers; they tend to be members of several FFPs. Hence it could be argued based on this research finding and other studies that the relevance of FFPs in terms of securing customer loyalty for a particular airline may diminish over a period of time. Liu and Yang (2009) analyzed the success of competing loyalty programme in the airline

industry and found that loyalty programme did not always lead to beneficial outcomes. So it can be argued that mere performance of ASQ or FFP attributes would not cause repeat buying intentions; the effect of the mediation role of satisfaction has to be discussed further.

## 6.3 Mediation effect of ASQ satisfaction

ASQ-satisfaction takes a mediation role in the relationship between satisfaction from FFP and re-buy intention. It was also noticed that the presence of ASQ-satisfaction did not curtail the direct relationship between FFP-satisfaction and re-buy intention. Therefore, partial mediation was observed which was statistically valid. It is evident that satisfaction of the passenger in the loyalty programme affects the re-buy intention; nevertheless this relationship was mediated positively and significantly by satisfaction from service quality of airline. It can also be made certain that re-buy intention of passengers are not only influenced by frequent flyer programme satisfaction but also by satisfaction obtained from airline service quality, which was already verified in the structural equation model. The construct 'FFP- satisfaction' takes a positive link to 'ASQ-satisfaction' (see the model in figure 5.1).

The findings of this study assert that re-buy intention of passengers is predominantly caused by satisfaction from service quality. Since the 'core product' element i.e. 'travel' is embedded in this construct only, effect of all other antecedent constructs were routed only through the satisfaction of this 'core service' constituent, despite the fact that there is a direct relationship of 'FFP-satisfaction', 'trust' and 'brand image' in making re-buy intention. Moreover, it was

also seen that ASQ satisfaction operates as an antecedent to brand image and trust, which in turn cause positive re-buy intention.

Hence it was realized that satisfaction from frequent flyer programme has an effect on re-buy intentions, but this effect was better explicated with the mediation effect of satisfaction from airline service quality.

Following discussion points put forward with respect to the significance of service quality-satisfaction as a mediating variable which elaborates upon the distinctiveness of FFP and its effect on re-buying intentions and also justifying the non-mediation role of FFP satisfaction as a consequent of ASQ satisfaction.

- Theoretical support explains the wider domain of airline service quality (ASQ) under which frequent flyer programme (FFP) can operate as a subset or an antecedent variable, even if FFP discriminates itself as a distinct entity that comes under promotion programme of the airline marketing. Evert & Gudmundsson (2012) referred FFP as a profit centre that has separate distinguishing performance attributes of its own.

- Airline marketing officials when interacted with during the study have pointed out situations where passengers misrepresent facts. One such situation is where passengers express their dissatisfaction about the quality of food supplied though it was reasonably good, for the unsatisfactory performances of other service factors. Here passengers capture food (service quality attribute) as a transitional tool to express their dissatisfaction experienced with other performance attributes. So it can be argued that any change in the

satisfaction level of FFP may possibly have an effect on the satisfaction level of airline core service quality. This facet sounds the interrelationship between FFP and ASQ constructs, whereas the reverse directional relationship is not practically plausible due to the distinctive performance characteristics of FFP which are not direct consequents of ASQ satisfaction. In other words, ASQ-satisfaction cannot cause change in FFP-satisfaction, instead FFP-satisfaction can cause change in ASQ-satisfaction. So the hypothesis postulated in section 5.14 (b) as "the positive direct effect of frequent flyer programme satisfaction on re-buy intention is mediated through satisfaction from service quality" is found statistically valid in this study.

It was found from this research that at the initial phase (during the phase just enrolled in a loyalty programme) the frequent travelers get attracted by the FFPs and satisfaction from FFP influences the intention to re-buy significantly. This supports the postulation of Bagozzi (1992) that emotional reactions will have a close link to intention. Here the 'desire' component proposed by Bagozzi in his model is allegorically enacted in this study as the 'desire' to get more service benefits through the advancement in FFP statuses. This desire component gets replicated in the form of desire to get satisfied and envisaged as 'ASQ-satisfaction' construct in this research. Frequent passengers always expect more quality of services as part of travel which is very much linked by way of a consequent to better status in the loyalty programme. More points/ miles resulted into better FFP status, which would lead to better quality of services (e.g. up gradation, better personal care, free trip etc – see Annexure II for an example). It was also evident

from the results that ASQ-satisfaction influences more than FFP-satisfaction at the later on stages of the loyalty programme, although the overall model explains the significance of both FFP-satisfaction and ASQ-satisfaction in predicting RBI. Moreover this study revealed the role of 'FFP status' and 'perceived value' in moderating the relationship between FFP-satisfaction and ASQ-satisfaction.

## 6.4 Indirect effect of airline service quality based on FFP status levels

Significant differences were found in the FFP-satisfaction levels among FFP status groups. The mean values of FFP-satisfaction gradually get increased while the status of FFP increases (when the mean scores were analyzed which were not included in a combined model). Although mean values of ASQ-satisfaction among FFP groups were not found significantly different at 5 % level of significance, post hoc test result shows that significant differences exist among 'Gold' and 'Platinum' category groups. This could be attributed to the reason that, the anticipation of 'Gold' passengers might be at higher levels than 'Platinum' status groups because 'Gold' passengers are required to redeem miles for extra (special) benefits solely enjoyed by Platinum group. One more FFP level need to be attained by 'Gold' category by way of earning and retaining miles, where as 'Platinum' passengers are already at the highest level possible, so they can easily avail all benefits envisaged in the programme. The effect of mediation caused by ASQ-satisfaction becomes more significant with the increase in FFP status levels.

Baumeister and Vohs (2007) examined the theory of self regulation (TSR) and indicated the importance of motivation as an additional component to be included in the TSR model. Similarity can be drawn here with effect of 'ASQ-

satisfaction' in the present research. In this study 'ASQ-satisfaction' construct operate in one way or other as a reflection of motivational component (as referred in section 6.3). Frequent passengers looking for better FFP status levels may possibly be directed by a goal directed behavior i.e. with an aim to acquire more ASQ benefits and comforts in the course of air travel. (Please refer Annexure II for an example of FFP status and corresponding benefits).

### 6.4.1 Variation in mediation effects of 'Gold' vs. 'Platinum' category passengers

Among 'Platinum' group, it was found that there is full mediation effect by ASQ- satisfaction in the relationship between FFP-satisfaction and re-buy intention since there is no significant direct effect of FFP-satisfaction on re-buy intention. However in the case of 'Gold' status group, the direct effect is very much significant. This phenomenon is further explained with the following theoretical underpinnings and discussion points:

- **Platinum group passengers:** Once a passenger reaches the platinum status level (considered as the highest possible level among FFP passengers), there is no further scope for upgrading the FFP status by participating more in the programme and hence no aspiration or motivation (Baumeister et al.; 2007) in making any sort of intention to re-use the airline programme to accrue more FFP miles, however these passengers will be concerned in retaining the same higher status. At this stage the element of motivation that may possibly drive-in is only the expected satisfaction level from the performance of ASQ attributes of the airline.

Moreover, it is obvious from the results obtained by testing the association between no. of FFPs held by the frequent travelers and their respective FFP status levels. The result shows a significant association i.e., more the status level, more likely will be the no. of FFPs held by them (Please see Annexure V). So it can be deduced that 'platinum' card holders tempt to have multiple no. of FFPs, which prevent their opportunity cost of forgoing points / miles when they choose another airline with a different FFP status. Hence the predominant role of 'service quality satisfaction' that influences intention to re-buy an airline particularly with respect to platinum category is justified.

Furthermore, it was found that "perceived value (PV) moderates the relationship between FFP satisfaction and ASQ satisfaction" was more evident in the case of platinum group. This could be attributed due to the following facts:

(a) Better cost-benefit comparison: Since 'platinum' status passengers can avail almost all benefits of the FFP and these benefits are actually consumed all the way through experiencing the core airline services in most situations, justifies the moderation role of PV in enhancing ASQ satisfaction.

(b) The effect of reasonability of price and other value added special in-flight services/ benefits can also enhance the satisfaction levels.

- **Gold group passengers:** As far as 'Gold' passengers are concerned, the influence of both FFP and ASQ attribute-level performance satisfaction on re-buy intention was observed. Although this type of passengers are in a position to avail FFP privileges' offered, (e.g. priority for check-in at the airport,

confirmed seat before 48 hours of boarding etc.) will be tempted to earn more miles by retaining with the programme (Dolnicar et al., 2011). So there is significant direct effect of FFP on re-buy intention in 'Gold' category at the same time, maintaining significant indirect effect through ASQ satisfaction.

In case of 'Gold' passengers perceived value did not moderate significantly the effect of FFP satisfaction on ASQ satisfaction. This could be due to the fact that 'Gold' passengers are not eligible to avail all special extra benefits which are readily offered for 'Platinum' passengers as per the nature of the programme. If desired for such extra benefits 'Gold' passengers are required to either redeem miles earned or pay extra for availing such special services and privileges. So the miles foregone would create a damping effect on PV for 'Gold' category passengers. For example, full waiver on cancellation charges is applicable only to 'platinum' category. This type of situations pulls down the effect of moderation due to perceived value, though the effect was not found to be negative. In fact, today some airlines offer elite-member-level perks even to programme non-members on an à la carte basis, selling a "perk package" for, say, $100 that provides expedited boarding and a lounge pass (family/ spouse) for just one flight.

- The effect of FFP-satisfaction on re-buy intention mediated through ASQ-satisfaction was found in the case of 'Blue' and 'Silver' category passengers even though these passengers are not eligible to avail many facilities which are offered to other higher status groups in the programme. Re-buy intentions rooted through FFP satisfaction for 'Blue' and 'Silver' status groups could be attributed to their higher levels of perceptions (desire) about the service benefits and privileges that can be availed once they attain higher status levels. This is

supported by a strong evidence pointed out in the literature (Osselaer, Alba & Manchanda, 2004), that passengers who are at the initial phases of the promotional programme were influenced by the programme points even when they are aware of truly discriminating information (e.g. variations in FFP privileges) though their study did not consider the effect of antecedent variable such as service quality. These lower status groups of passengers could feel themselves 'different' while compared with non FFP passengers by a syndrome referred as "Idiosyncratic fit heuristic" (Kivetz & Simonson, 2003).

Further, the chi-square test results (referred in section 5.17) revealed that there is a significant association between number of FFPs held by passengers and their respective FFP status level (see table 5.52). The lower level FFP status groups (Blue and Silver) generally do not carry more number of FFPs as compared to higher status levels, as a result these passengers will have no choice other than to focus on their limited number of FFPs to earn miles and points, which in turn affect direct relationship between FFP and re-buy intention.

## 6.5 Effect of perceived value as moderator

It was found that perceived value positively moderates the effect of FFP satisfaction on ASQ satisfaction. The moderation effect of perceived value (PV) on the path that links FFP satisfaction and ASQ satisfaction with respect to different FFP status groups was analyzed. It was found that the moderation effect of PV on the direct link between FFP-satisfaction and ASQ-satisfaction gradually gets decreased when moved from 'Blue' to 'Gold' status level. On the other hand the mediation effect of ASQ-satisfaction gets improved from 'Blue' to 'Gold' level.

In the case of 'Platinum' group, the significance of both FFP and ASQ weakened, while other factors like 'passengers' trust' and 'brand image' get dominancy. These results call for attention towards the diminishing effect of moderation due to perceived value once the status level goes up. In other words, the importance of perceived value gets diminished in tune with up gradation in FFP status levels while the role of ASQ-satisfaction takes dominance or is consistent in predicting re-buy intention.

## 6.6 Role of travel frequency as moderator on satisfaction & Re-buy intentions

The moderation effect of travel frequency (no. of air trips per annum) on the relationship between FFP-satisfaction and re-buy intention was hypothesized in this study taking into consideration the rational argument that travel frequency and FFP status are interlinked. This logical elucidation was found to be valid in this study. It was found that the level of satisfaction and thereby re-buy intentions increases in accordance with the increase in travel frequency. In other words more the travel frequency of passengers more will be their re-buy intention for a specific airline. This could be affected more through satisfaction from loyalty programme since the direct effect of FFP-satisfaction was found to be significant and dominant as per the results obtained (see figure 5.8).

## 6.7 Chapter summary

This chapter presented the discussion on the research findings of the study. Findings were discussed in the light of previous studies in the literature and the research objectives. To sum up the discussion on the findings of the study and conceptual model analysis, satisfaction from frequent flyer programme has an effect on re-buy intentions, however this effect was better explicated with the mediation effect of satisfaction from airline service quality. Variation in mediation effects of upper FFP statuses were discussed and explained which justifies the predominant role of service quality satisfaction that influences frequent passengers' intention to re-buy an airline.

Perceived value has a direct positive moderation effect on the important performance parameters of loyalty programme satisfaction and airline service quality satisfaction, though the moderation effect of perceived value diminishes once the status level goes up. The study also reveals the moderation effect of travel frequency and number of FFPs possessed by frequent passengers on re-buy intentions.

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Chapter - 7

# IMPLICATIONS, SUGGESTIONS & CONCLUSION

*This chapter deals with practical implications for the airlines based on the findings evolved from the study. The limitations of the present research are provided which will help the future researchers to design and structure their research work and aid better understanding about the effect of the dependent variable from a different perspective. The scope for future research also provided in this chapter as a guideline for the future researchers aiming the same field of study.*

The outcome of this research make certain that loyalty programme (FFP) leads to re-buy intentions but not leading to loyalty arousing antecedents such as 'trust' and 'brand image', however, service quality attributes leads to trust and brand image. It was found that FFP influences re-buy intentions till the passenger reaches the highest status level of the programme whereas re-buy intentions are more affected through ASQ driven satisfactions.

## 7.1 Implications from the study and suggestions for the airlines

### 7.1.1 Internal marketing for enhancing employee service quality

It is imperative for the airlines to look into the joint relationship of loyalty programme and service quality from its application perspective. Among the various attributes perceived by the frequent travelers, employee specific service dimensions fetch more importance. Therefore, airlines' marketing efforts should be focused more on the employee facet through internal marketing which makes the employees enthusiastic missionaries of the respective airlines. Loyalty

programme had some effect on the re-buy intentions, but that alone was not a differentiator, albeit the effect of FFP is vital for the beginners of the programme, airline service quality too play a vital role in strengthening the intentions to re-use the airline especially for passengers holding higher status of frequent flyer programme.

### 7.1.2 Perceived value as a moderator

Perceived value operates as a moderating variable which augmented the satisfaction levels of passengers and ultimately cause repeat buying intentions. The notable implication for the airlines was that 'perceived value' in its essence is not to be viewed as a reflection of cost incurred and benefit received for the passengers. It is to be viewed from the value proposition perspective as perceived by passengers in tune with their increase in status level and travel experience. As per the airline officials' view point and also based on the review of FFP related websites, a significantly huge portion of the FFP benefits are not redeemed by the passengers due to its validity limitation and other reasons. It should be noted that if airlines fail to provide services by recognizing the travel frequency and experience of passengers (no. of trips per annum), the passengers' perceived level of satisfaction on service quality will not be turned into favorable buying intentions. The perceptible value in terms of reasonable price or superior benefits anchored in the FFP statuses may possibly go in vain, if frequent passengers are not satisfied well with the service quality facets. This supports the contention of Dowling & Uncles (1997) referred to as the success of loyalty program under tough market conditions is based on a loyalty program's performance to enhance the overall value-proposition of the product or service. This in turn will help to

motivate buyers to make the next purchase of the product. So airline managers should be wise enough to assess the cost of the loyalty program before introducing it and compare these costs with a realistic assessment of the benefits of the program which goes beyond the rhetoric of relationship marketing.

### 7.1.3 Enhanced benefits for lower level FFP

Frequent flyer programme by itself would not influence any significant effect on trust or brand image; airlines should focus on providing more special services at par with the travel experience of passengers which can intensify the re-buy intentions. This can be made possible for airlines by using appropriate market information system to identify the total number of trips made by each status class of passengers irrespective of the airline brand.

There are apparent and true needs for the frequent flyers especially for the business passengers as indicated by Shaw (1950). Thus it is significant to deliver frequent flyer's specific needs in terms of underlying dimensions explored. It is important to segregate the attributes that have meaningless influence which give positive values when it is frequently paired with a positive outcome (Osselaer et al., 2004). Therefore airlines should differentiate the relevant attributes that really influence frequent travelers.

According to this study, frequent flyer programme largely influences beginners than high status groups. So the airlines can be little more lenient and flexible in the execution of frequent flyer programme in favor of low end passengers which could yield a long term customer relationship. This is in consonance with contention of Proussaloglou and Koppelman (1995) that any

major change to well-established FFPs may have serious implications for the airlines' customer base; Lederman (2007) also indicated similar findings. Airlines can use the FFP as a possible form of price discrimination, owing to the fact that most of the frequent flyers are holding more than one FFP. Any change in the status especially downgrading should not deter regular passengers. Passengers should feel special when airlines provide some minimum assured benefits in each tier / status level of the frequent flyer programme. Middle status groups like 'Silver' and 'Gold' have to be treated well with more employee oriented customer relationship management tactics, since these groups have relatively low level of re-buy intention influenced by airline service quality satisfaction.

Airlines should also look into those service specific dimensions covering service net work, schedule frequency particularly 'ease of availability' of flights and connectivity apart from providing in-flight travel comfort for the frequent passengers.

Since there is a strong relationship between the number of FFPs held by frequent flyers and their respective FFP status level the airline marketers may well facilitate high end status groups, particularly 'Platinum' category, with more service oriented approach, by means of providing more care from the airline employees to make them 'feel special'. It is also suggested that the lower end (entry level) passengers may be treated more with FFP related strategies (earning miles / points) and the higher end categories would be gratified by offering more ASQ related aspects which would create more repeated customers for the airline. This is supported by the research findings in other fields also. Mittal and Katrichis

(2000) cited by Mittal et al. (2001) indicates that newly acquired, and loyal customers of a firm put different levels of importance on the same attribute which implies that firms cannot treat newly acquired and loyal customers the same way, as the needs of newly acquired and loyal customers are very different.

### 7.1.4 Loyalty building through frequency of travel

It was evident that, more the travel frequency of passengers more will be the re-buy intention for a specific airline which was affected through satisfaction from loyalty programme. The airlines, particularly in the domestic sector, can focus loyalty building programme by offering more rewards based on number of trips instead of distance travelled. This is vital for those airlines that operate short haul routes particularly in domestic market with less number of code- share alliances.

## 7.2 Limitations and Challenges

The study was conducted with a cross sectional research design and the findings were based on a snapshot of passengers' perception about attribute-level performances at the time of the study; a longitudinal research design would perhaps give more clarity on the explored factors. It was not possible for the researcher to approach the same set of passengers again due to airline security reasons and passengers' constraints in providing responses for a second time.

Dearth of published material in the Indian context was a major challenge. This was overcome by the use of international literature and airline expert's opinion. Data collection from the frequent flyer programme users created the next

challenge. The senior officials of airlines had been taken into confidence with regard to the confidentiality and the strictly academic nature of the study. The airline officials were promised a consolidated report of the research findings without referring to any airline brand.

## 7.3 Scope for future research

Future research can be carried out on airline passengers based on the findings of this study and also can focus on the various facets of frequent flyers' loyalty to the airline and their switching behavior with a longitudinal research design. This research study has not extended fully to the 'loyalty' dimension of the frequent passengers, though re-buy intention is considered as one of the antecedent to airline passenger loyalty. The structural models developed in this research can be adapted by future researchers.

## 7.4 Conclusion

India has become a major target market of airlines both in domestic and international sectors and there is a high potential for passenger growth. The study has identified major sub dimensional factors of frequent flyer programme and airline service-quality that affect re-buy intention in the Indian context. The airline service quality satisfaction variable provided full mediation in predicting re-buy intention of frequent passengers. Increased levels of satisfaction from service quality have more influence than satisfaction from frequent flyer programme on the frequent passengers. It is the service quality satisfaction which yields trust and image in the airline, not the loyalty programme satisfaction. This perceptive was

found valid for various FFP status levels too. Perceived value moderated the effects of satisfaction in making re-buy intentions.

The empirically validated structural models grounded in theory and the findings of the study could be used by practicing managers of airlines especially those who are engaged in the handling of passenger service and loyalty programme of airlines, for better control on programme and service aspects.

The study throws light on the combined effect of airline frequent flyer programme and airline service quality variables on re-buy intention of frequent travelers. The findings will help the airlines to formulate strategies to have long lasting customer relationships with the frequent flyer passengers, thereby enhancing the profitability of the airlines.

This research was a very significant learning practice for the researcher. Though the researcher had dealt with an aviation management programme with an aviation academy for the last five years, this research has brought in new dimensions to the researcher's understanding. Also, this work helped to appreciate the role and application of research methodology in airline marketing research.

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……..✷ ♦ ✷……..

# ANNEXURE-1

## ANNEXURE I: Survey Questionnaire

**Respected Sir/ Madam,**

***Thank you for taking part in this survey. This survey is part of academic research study on Airline frequent travelers' Re-buy intentions.*** *I require your help to gather this data that takes around 10 – 15 minutes as response time to complete the questionnaire.* ***Neither the name nor the respondents' addresses are required. Kindly spend some of your valuable time to fill out this questionnaire.***

*Joemon Pappachan,*
*Asst. Professor / CIAL Academy*
*Research Scholar (PhD Programme) / CUSAT*

- *Please read the questions carefully and answer*
- *Kindly provide answer to all questions*
- *The respondent has to select the most appropriate choice for each question.*

(a) Are you a frequent flyer member of any Airline/s? **Yes** ☐ **No** ☐

(b) Average number of airplane trips undertaken per month? _____ (Approx.) Nos

(c) At present how many airlines frequent Flyer membership cards you own? _____ (Number/s)

(d) Please name the airline(s) in which you have frequent flyer membership (Privilege / Loyalty Card)
(1) _____, (2) _____ (3) _____

**(e) Please name the Airline Frequent Flyer Program (FFP) you use most** _____

(f) **Please tick your present status of the above Frequent Flyer program** you use mostly
Entry Level (Blue) ☐ Silver ☐ Gold ☐ Platinum ☐

---

***Please answer to the questions given below pertaining to the Airline mentioned in (e) above.***
**Please tick (√)** the most appropriate/ best matching score as responses to the questions or statements given below. ***Score 5*** *indicate* ***Max. Level of Performance / Importance*** to you and ***Score 1*** *indicate* ***Min. Level of Performance or Importance to you about the Frequent Flyer Program (FFP) / Loyalty Program mostly used.***

**1.** ***Airline Frequent Flyer Program (FFP) influencing attributes*** *Min value ⟷ Max value*

| | | | | | | |
|---|---|---|---|---|---|---|
| a | Frequent flyer program helps me reduce the overall cost of air travel | 1 | 2 | 3 | 4 | 5 |
| b | Regular updating & informing FFP status of passengers | 1 | 2 | 3 | 4 | 5 |
| c | Frequent Flyer Program treats members better than other travelers who do not belong to the program. | 1 | 2 | 3 | 4 | 5 |
| d | Priority in baggage & Check in facility due to this loyalty program | 1 | 2 | 3 | 4 | 5 |
| e | Easy booking & preferred Seating | 1 | 2 | 3 | 4 | 5 |
| f | Better facilities in lounges, and in flights due to this loyalty Program | 1 | 2 | 3 | 4 | 5 |
| g | Increased baggage allowance due to Flyer Program | 1 | 2 | 3 | 4 | 5 |
| h | Better connectivity / Net work alliances due to this loyalty Program | 1 | 2 | 3 | 4 | 5 |
| i | Easy and flexible to redeem benefits earned from frequent flyer Prog. | 1 | 2 | 3 | 4 | 5 |
| j | Being a member of frequent flyer program makes me feel very special. | 1 | 2 | 3 | 4 | 5 |
| k | Importance of duration / Validity of the Frequent Flyer Program | 1 | 2 | 3 | 4 | 5 |
| l | Occasional upgrades, including certificates/ coupons | 1 | 2 | 3 | 4 | 5 |

***Please indicate the extent to which you agree or disagree with the following statements <u>regarding the airline you use most frequently with FFP</u> by ticking the appropriate number. For instance, if you strongly disagree with a statement, then you would tick (√) the one (1).***

**2. *Airline Service Quality influencing attributes*** *1- Strongly Disagree ⟷ 5. Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | I like the quality of services provided by the airline | 1 | 2 | 3 | 4 | 5 |
| b. | The airline provides its services at the time it promises to do so | 1 | 2 | 3 | 4 | 5 |
| c. | The airline physical facilities are visually appealing | 1 | 2 | 3 | 4 | 5 |
| d. | I feel safe in transactions with the airline's employees | 1 | 2 | 3 | 4 | 5 |
| e. | The service provided by airline flight attendants is good | 1 | 2 | 3 | 4 | 5 |
| f. | Airline personnel give exact answers to my questions | 1 | 2 | 3 | 4 | 5 |
| g. | The airline has up-to-date equipment / Technology | 1 | 2 | 3 | 4 | 5 |
| h. | Airline baggage handling is prompt and efficient | 1 | 2 | 3 | 4 | 5 |
| i. | Airline check-in is efficient | 1 | 2 | 3 | 4 | 5 |
| j. | Airline plane seats and in flight comfort are good | 1 | 2 | 3 | 4 | 5 |
| k. | On-time arrival and departure of airline is sufficient for consumers | 1 | 2 | 3 | 4 | 5 |
| l. | Airline food and beverage service is good | 1 | 2 | 3 | 4 | 5 |
| m. | Airline in-flight entertainment facilities are adequate | 1 | 2 | 3 | 4 | 5 |
| n. | Airline offers sufficient flight frequency ( sufficient number of flights) | 1 | 2 | 3 | 4 | 5 |
| o. | Airline offers sufficient connecting flights (net work) | 1 | 2 | 3 | 4 | 5 |
| p. | Airline provides delayed flight status promptly | 1 | 2 | 3 | 4 | 5 |
| q. | I think, the airline offers excellent service recovery for service failures | 1 | 2 | 3 | 4 | 5 |

**3. *Passenger's Perceived Value about airline*** *1-Strongly Disagree ⟷ 5- Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | Considering the ticket price I pay for the airline, I believe that the airline offers sufficient services | 1 | 2 | 3 | 4 | 5 |
| b. | The ticket price of this airline is reasonable | 1 | 2 | 3 | 4 | 5 |

**4. *Satisfaction with Frequent Flyer Programme (FFP)*** *1-Strongly Disagree ⟷ 5- Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | My satisfaction with the airline has increased with its FFP membership | 1 | 2 | 3 | 4 | 5 |
| b. | I now have a more positive attitude towards this airline FFP | 1 | 2 | 3 | 4 | 5 |
| c. | I think that I did the right thing when I decided to use this airline FFP | 1 | 2 | 3 | 4 | 5 |

***Please indicate the extent to which you agree or disagree with the following statements <u>regarding the airline you use most frequently with FFP</u> by ticking the appropriate number.***

**<u>5. *Satisfaction with Airline Service Quality (ASQ)*</u>**

*1- Strongly Disagree ⟷ 5- Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | Over all I am very much satisfied with this airline | 1 | 2 | 3 | 4 | 5 |
| b. | My flight experiences of this airline have always been pleasant | 1 | 2 | 3 | 4 | 5 |
| c. | I am satisfied with the in-flight travel comfort provided by this airline | 1 | 2 | 3 | 4 | 5 |

**<u>6. *Perception about Brand / Airline Company image*</u>**

*1- Strongly Disagree ⟷ 5-Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | I have always had a good impression of this airline | 1 | 2 | 3 | 4 | 5 |
| b. | I believe this airline has a better image than its competitors | 1 | 2 | 3 | 4 | 5 |
| c. | In my opinion, this airline has a good image in the minds of passengers | 1 | 2 | 3 | 4 | 5 |

**<u>7. *Customer / Passenger Trust*</u>**

*1- Strongly Disagree ⟷ 5 - Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | I think that the airline brand is trustworthy and credible | 1 | 2 | 3 | 4 | 5 |
| b. | This airline brand always communicates openly and honestly | 1 | 2 | 3 | 4 | 5 |
| c. | I trust and am willing to depend on this airline | 1 | 2 | 3 | 4 | 5 |

**<u>8. *Re Purchase Intention*</u>**

*1-Strongly Disagree ⟷ 5- Strongly Agree*

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | I will fly with this airline again in the future | 1 | 2 | 3 | 4 | 5 |
| b. | I will recommend this airline to other people | 1 | 2 | 3 | 4 | 5 |
| c. | I consider this airline company my first choice for air transportation | 1 | 2 | 3 | 4 | 5 |

*9. Please tick (√) below the most appropriate responses that applies to you*

**a. Your purpose of air travel (Please tick the most frequent option)**

Business/official ☐ Leisure/ Tourist ☐ Visiting Friends & Relatives ☐
Others ☐ *Please specify* ( _____ )

**b. Who sets your travel plans? (most often)**

Company / firm ☐ Travel agent ☐ Self Choice ☐ Others ☐ _____

**c. Gender Status** Male ☐ Female ☐

**d. Age in Years** below 30 ☐ 31 – 40 ☐ 41 – 50 ☐ Above 50 ☐

**e. Education** Not a Graduate ☐ Graduate ☐ Post Graduate ☐

**f. Occupation** Business ☐ Employed ☐ Student ☐ others ☐

**g. Annual Income (Rs)** Below 5 lakh* ☐ 5 - 15 lakh ☐ 15 –25 Lakh ☐ Above 25 Lakh ☐

*(10 lakh is equal to 1 Million)*

***Thank you so much for your valuable responses.***

*Your remarks / suggestions if any*: _____
_____
_____
_____

# ANNEXURE-2

## ANNEXURE II - A

Details of privileges & benefits based on FFP statuses

*(For an illustration purpose only - not being part of the research data)*

The Jet Privilege programme offers members the following benefits and privileges based on their membership tier. (*Retrieved from Jet Airways website on 1st March 2015*)

*Source: Jet Airways website,* http://www.jetairways.com/JetPrivilege/BenefitsandPrivileges.aspx

In the chart below: Jet Airways & Etihad Airways

| Jet Privilege tier benefits at a glance | Applicable on | Blue | Blue Plus | Silver | Gold | Platinum |
|---|---|---|---|---|---|---|
| **Before you travel** | | | | | | |
| **Booking** | | | | | | |
| **Bonus JP Miles for e-services^ - Online / IVR / Jet Airways mobile app** | | | | | | |
| Jet Airways e-booking services - 500 Bonus JP Miles per flight | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Check-in** | | | | | | |
| Web / Kiosk Check-in* | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Tele Check-in** | | | | ✓ | ✓ | ✓ |
| **Reservations and cancellations** | | | | | | |
| Guaranteed reservations up to 24 hours prior to departure on a full-fare Economy ticket - Y / M class (9W code) for flights within India | | | | | ✓ | ✓ |
| "Seat Select" charges waived Off## | | | | | ✓ | ✓ |
| **Pre-reserve seat(s)** (331 days in advance and up to 48 hours prior to flight departure)^^ | | | | | | |
| International | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Within India for Jet Airways booked at jetairways.com | | | | | | ✓ |
| Cancellation fees waived on fares (flights within India) | | | | | | ✓ |
| **At the airport** | | | | | | |
| Check-in at Dedicated counters^^^ | | | | ✓ | ✓ | ✓ |
| Priority Stand-by at airport | | | | ✓ | ✓ | ✓ |
| Priority Baggage Tagging | | | | | ✓ | ✓ |
| **Cabin Baggage Allowance** | | | | | | |
| On Boeing / ATR | | 7 kgs | 7 kgs | 7 kgs | 10 kgs" | 10 kgs" |
| **Additional Checked-in Baggage Allowance – Within India** | | | | | | |
| On Boeing flights | | | | 10 kgs | 15 kgs | 20 kgs |
| On ATR flights | | | | | 15 kgs | 20 kgs |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Additional Checked- in Baggage Allowance - International** | | | | | | | |
| To / from USA and Canada to / from any destination | | | | | 1 piece @ 23 kgs | 1 piece @ 23 kgs | 1 piece @ 23 kgs |
| To / from India to Europe and UK and Vice Versa | | | | | 1 piece @ 23 kgs | 1 piece @ 23 kgs | 1 piece @ 23 kgs |
| All other sectors | | | | | 10 kgs | 15 kgs | 20 kgs |
| **Lounge Access within India (Self only)** | | | | | | | |
| Première | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Economy | | | | | | ✓ | ✓ |
| **Lounge Access within India (Self + 1)** | | | | | | | |
| Première | | | | | | | ✓ |
| Economy | | | | | | | ✓ |
| **Lounge Access International (Self only)** | | | | | | | |
| Première / First Class | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Economy | | | | | | ✓ | ✓ |
| **Lounge Access International (Self + 1)** | | | | | | | |
| Première / First Class | | | | | | | ✓ |
| Economy | | | | | | | ✓ |
| **Earning of JPMiles** | | | | | | | |
| Tier Points and Tier JPMiles on eligible classes | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 100% Base JPMiles across all Economy revenue fare types on Jet Airways (except G class - 75%) and in Première and First Class | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Cabin Bonus JPMiles | First Class | | 100% | 100% | 100% | 100% | 100% |
| | Première | | 50% | 50% | 50% | 50% | 50% |
| Tier Bonus JPMiles | | | | | 15% | 25% | 50% |
| Claim missing JPMiles online through jetairways.com | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Claim missing JPMiles by contacting the JetPrivilege Service Centre | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Purchase JPMiles (Rs. 1.25 per JPMile) | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| **Redemption of JPMiles** | | | | | | | |
| **Eligibility criteria: on accumulating 5000 JPMiles and 2 activities** | | | | | | | |
| Online / Offline / Redeem at Jet Privilege Service centre / IVR / online request form* | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Transfer JP Miles (Rs. 200 per block of 500 JP Miles) | | ✓ | ✓ | ✓ | ✓ | ✓ | |

| | | | | | | |
|---|---|---|---|---|---|---|
| JP Miles Upgrade | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cash N Miles for Jet Airways for select flights within India booked at jetairways.com | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Other Benefits** | | | | | | |
| First flight bonus: 250 Bonus JP Miles | | ✓ | | | | |
| Blue Plus tier attainment bonus: 750 Bonus JP Miles | | | ✓ | | | |
| Non-expiry of JP Miles | | | | | | ✓ |
| Upgrade vouchers** | | | | 1 | 3 | 5 |
| Jet Privilege account updates - online | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Baggage Tags | | | | 2 | 2 | 2 |
| **With Etihad Airways** | | | | | | |
| **At the airport** | | | | | | |
| Check-in at Dedicated counters ^^^ | | NA | NA | NA | ✓ | ✓ |
| **Additional baggage allowance** | | | | | | |
| Excess Baggage Allowance - Weight Concept | | NA | NA | 10Kgs | 15Kgs | 20Kgs |
| Excess Baggage Allowance - Piece Concept | | NA | NA | NA | NA | NA |
| Priority Baggage Tagging | | NA | NA | NA | ✓ | ✓ |
| Lounge Access | | NA | NA | NA | ✓ | ✓ |
| Priority Boarding | | NA | NA | NA | ✓ | ✓ |
| **Earning of JP Miles** | | | | | | |
| Tier Points/Tier JP Miles(Status Credit) | | 1 Tier Point | 1 Tier Point | 1 Tier Point | 1 Tier Point | 1 Tier Point |
| Tier Bonus JP Miles | | NA | NA | 15% | 25% | 50% |
| Accrual of Flown JP Miles | | ✓ | ✓ | ✓ | ✓ | ✓ |

## ANNEXURE II - B

*(For an illustration purpose only - not part of the research data)*

The Emirates – Skywards programme offers members the following benefits and privileges based on their membership tier. (*Retrieved from* Emirates airline *website on 1st September 2014*)

**Emirates FFP – Skywards – Membership benefits**

| Planning Your Trip | Blue | Silver | Gold | Platinum |
|---|---|---|---|---|
| Book Emirates rewards with Skywards Miles online (including flights and upgrades) | ✓ | ✓ | ✓ | ✓ |
| Special member-only offers and travel packages by tier | ✓ | ✓ | ✓ | ✓ |
| Earn Miles and book rewards with global partners | ✓ | ✓ | ✓ | ✓ |
| Nominate a personal travel coordinator | ✓ | ✓ | ✓ | ✓ |
| Personal preferences remembered | ✓ | ✓ | ✓ | ✓ |
| Waitlist priority | ✓ | ✓ | ✓ | ✓ |
| Bonus Skywards Miles when flying Emirates | | ✓ | ✓ | ✓ |
| Priority service through our Contact Centres | | | ✓ | ✓ |
| Guaranteed seats, even on fully-booked flights | | | ✓ | ✓ |
| 'Last seat' Skywards flex reward tickets | | | | ✓ |
| Gold Partner nomination | | | | ✓ |
| **At the Airport** | **Blue** | **Silver** | **Gold** | **Platinum** |
| Buy instant upgrades with Miles at check-in | ✓ | ✓ | ✓ | ✓ |
| E-gate service in Dubai | ✓ | ✓ | ✓ | ✓ |
| Priority check in and boarding | | ✓ | ✓ | ✓ |
| Excess baggage allowances | | ✓ | ✓ | ✓ |
| Lounge access in Dubai | | ✓ | ✓ | ✓ |
| Lounge access throughout the Emirates network | | | ✓ | ✓ |
| Lounge access for guests | | | ✓ | ✓ |
| **On board** | **Blue** | **Silver** | **Gold** | **Platinum** |
| Buy instant upgrades with Miles | | ✓ | ✓ | ✓ |
| **At your destination** | **Blue** | **Silver** | **Gold** | **Platinum** |
| Special member offers available by tier | ✓ | ✓ | ✓ | ✓ |
| Priority baggage delivery | | | ✓ | ✓ |

Source: www. emirates.com

# ANNEXURE-3

Test results of multivariate normality

********** Multivariate Statistics **********

Tests of multivariate skew:

Small's test (chisq)

| Q1 | df | p-value |
|---|---|---|
| 1.0850 | 3.0000 | .7807 |

Srivastava's test

| chi(b1p) | df | p-value |
|---|---|---|
| 2.5152 | 3.0000 | .4725 |

Tests of multivariate kurtosis:

A variant of Small's test (chisq)

| VQ2 | df | p-value |
|---|---|---|
| 2.0354 | 3.0000 | .5651 |

Srivastava's test

| b2p | N(b2p) | p-value |
|---|---|---|
| 3.5547 | 1.9612 | .0499 |

Mardia's test

| b2p | N(b2p) | p-value |
|---|---|---|
| 16.3521 | 1.2343 | .2171 |

Omnibus test of multivariate normality:

(based on Small's test, chisq)

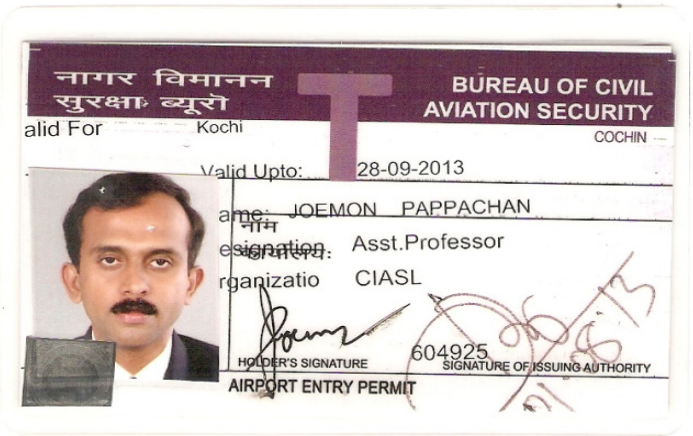
| VQ3 | df | p-value |
|---|---|---|
| 3.1205 | 6.0000 | .7936 |

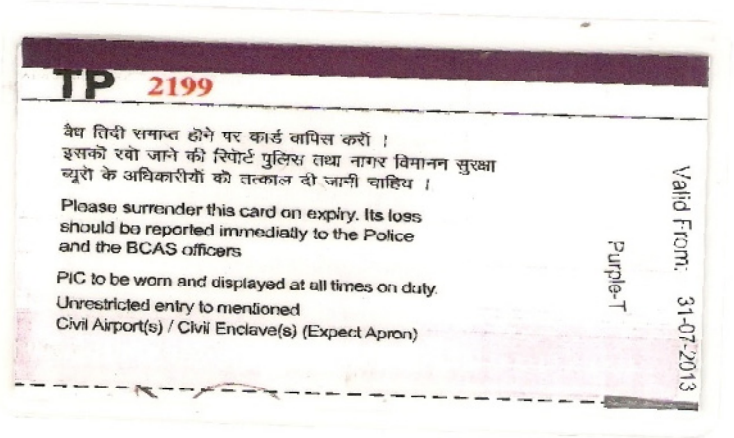
***Source: Test result of Multivariate skew and kurtosis based on*** *De Carlo, L. T. (1997)*

*Note: p values given above are greater than 0.05 indicate multivariate normality of data*

ANNEXURE IV

**True Copy of the Airport Entry Permit (AEP)***




*Issued by BCAS for conducting research survey among airline passengers inside the airport which include FFP lounges and Security Hold Areas of both domestic and International terminals of the airport.

## ANNEXURE V

# Model Fit Summary of FFP model – with 150 SAMPLES used for EFA

**CMIN**

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| Default model | 17 | 23.964 | 19 | .198 | 1.261 |
| Saturated model | 36 | .000 | 0 | | |
| Independence model | 8 | 398.957 | 28 | .000 | 14.248 |

**RMR, GFI**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .057 | .961 | .927 | .507 |
| Saturated model | .000 | 1.000 | | |
| Independence model | .461 | .475 | .325 | .370 |

**Baseline Comparisons**

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| Default model | .940 | .911 | .987 | .980 | .987 |
| Saturated model | 1.000 | | 1.000 | | 1.000 |
| Independence model | .000 | .000 | .000 | .000 | .000 |

**Parsimony-Adjusted Measures**

| Model | PRATIO | PNFI | PCFI |
|---|---|---|---|
| Default model | .679 | .638 | .669 |
| Saturated model | .000 | .000 | .000 |
| Independence model | 1.000 | .000 | .000 |

**RMSEA**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .042 | .000 | .087 | .566 |
| Independence model | .298 | .273 | .324 | .000 |

## ANNEXURE VI

# Model Fit Summary of ASQ model – with 220 SAMPLES used for EFA

**CMIN**

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| Default model | 21 | 40.165 | 24 | .021 | 1.674 |
| Saturated model | 45 | .000 | 0 | | |
| Independence model | 9 | 701.027 | 36 | .000 | 19.473 |

**RMR, GFI**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .046 | .961 | .927 | .513 |
| Saturated model | .000 | 1.000 | | |
| Independence model | .315 | .461 | .326 | .369 |

**Baseline Comparisons**

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| Default model | .943 | .914 | .976 | .964 | .976 |
| Saturated model | 1.000 | | 1.000 | | 1.000 |
| Independence model | .000 | .000 | .000 | .000 | .000 |

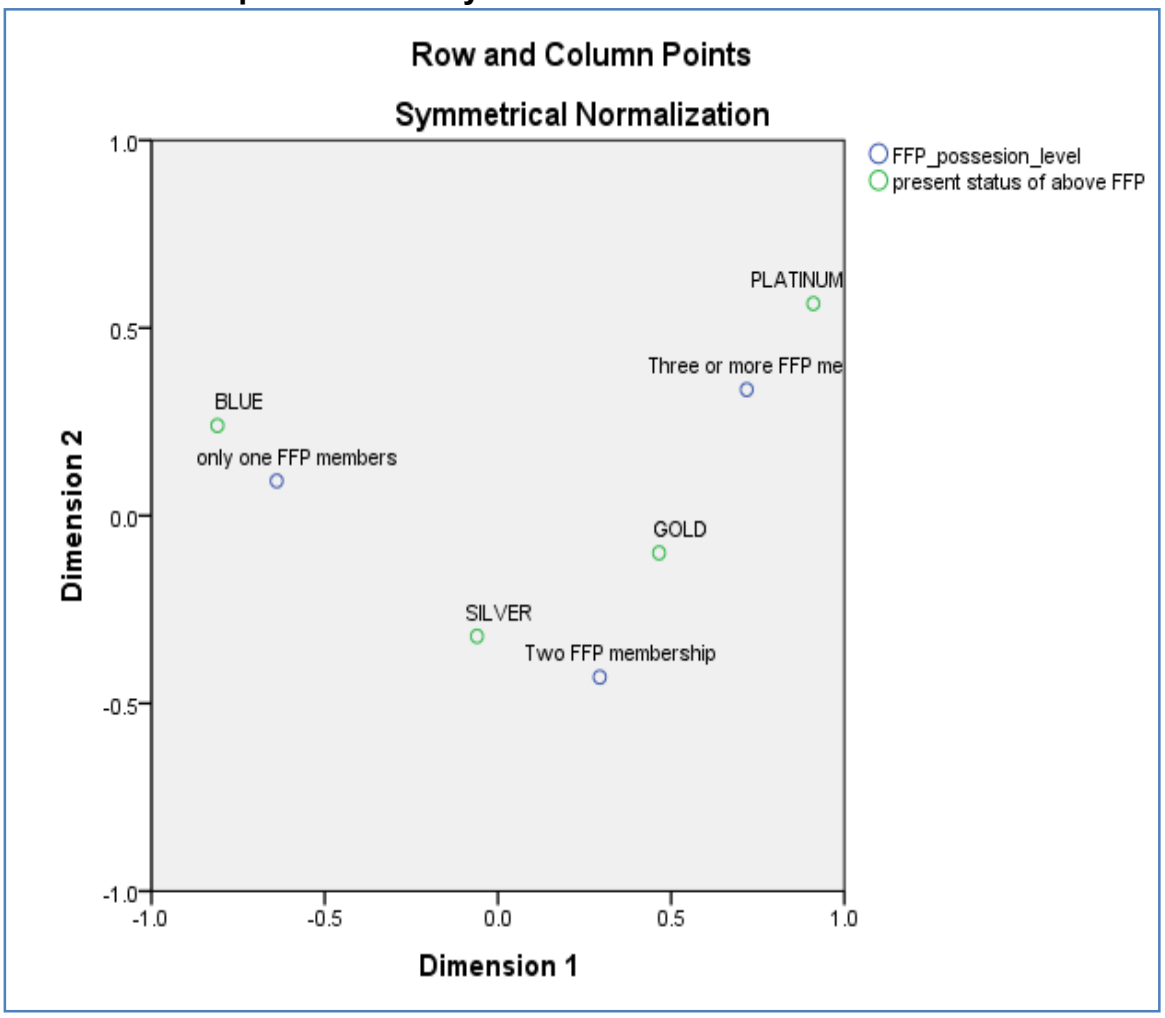
**Parsimony-Adjusted Measures**

| Model | PRATIO | PNFI | PCFI |
|---|---|---|---|
| Default model | .667 | .628 | .650 |
| Saturated model | .000 | .000 | .000 |
| Independence model | 1.000 | .000 | .000 |

**RMSEA**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .055 | .022 | .085 | .353 |
| Independence model | .290 | .272 | .309 | .000 |

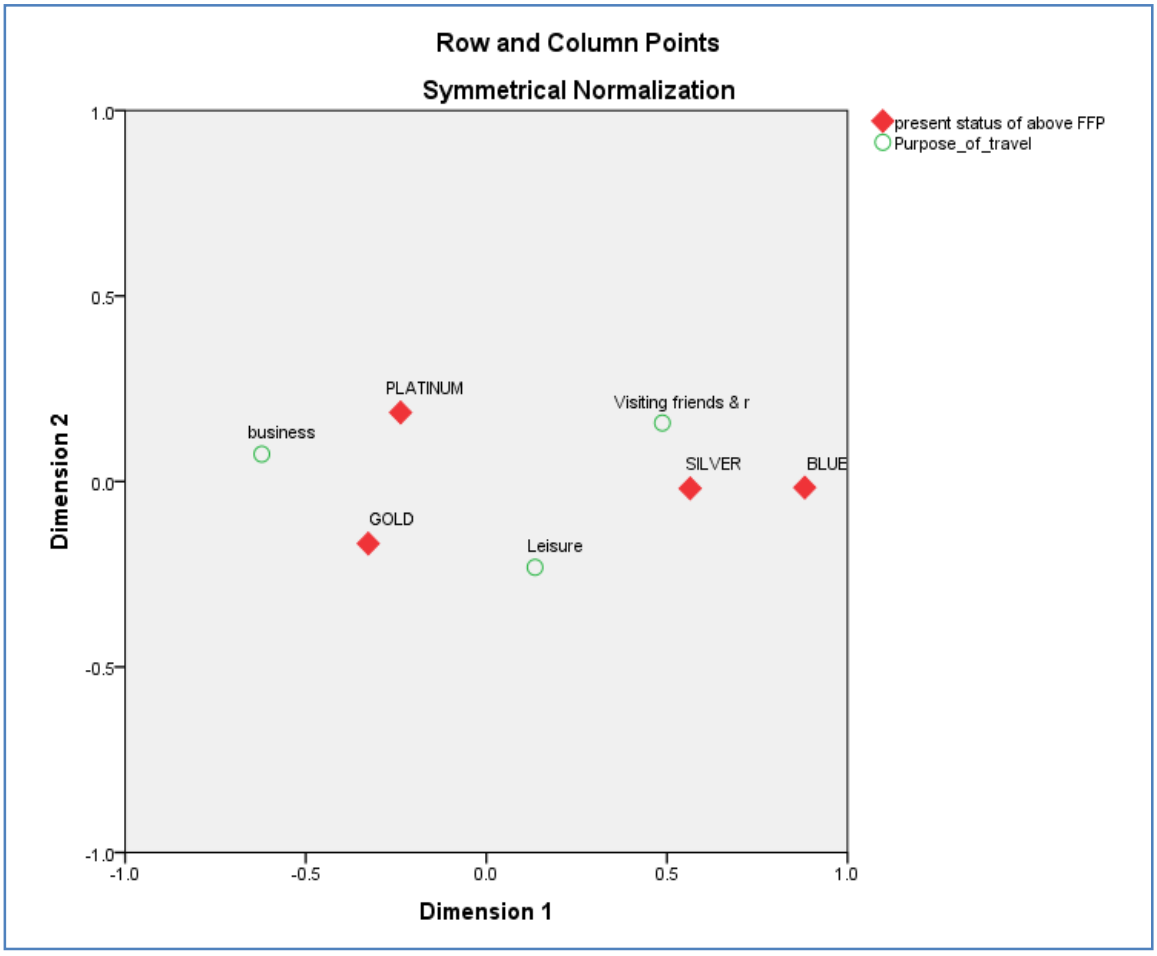
## ANNEXURE VII
## Correspondence analysis – FFP status vs. No. of FFPs held




*Source: Data analysis using SPSS - Correspondence analysis - output*
*It is important to note that the dimensions are empirically derived axes or eigen vectors and not simply the variables entered into the analysis. So, we could say that higher status (Platinum / Gold) passengers appear to have three or more FFP memberships and lower status passengers (Blue) appear to have single FFP membership.*

## ANNEXURE VIII

**Correspondence analysis – FFP status vs. Passengers' purpose of frequent travel**

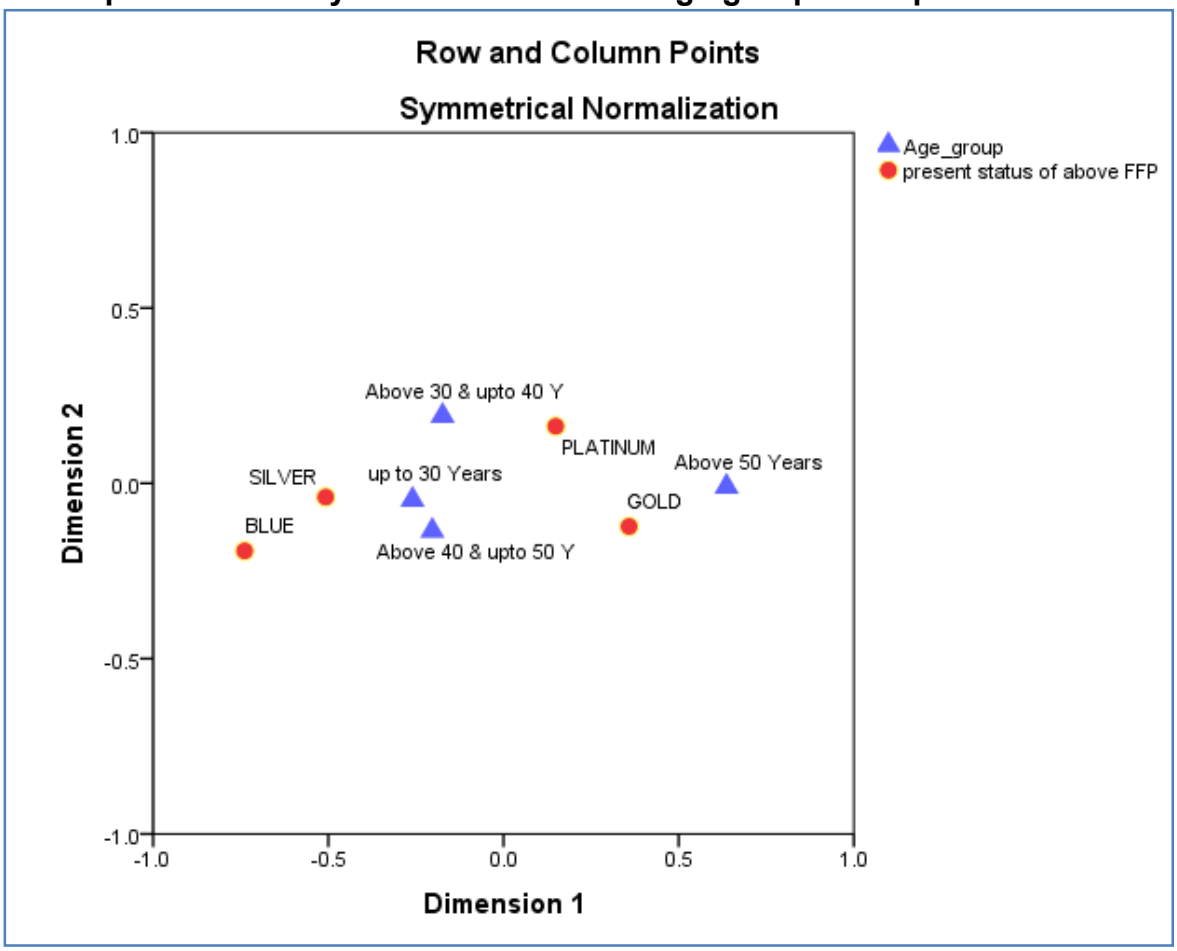



*Source: Data analysis using SPSS - Correspondence analysis - output*

*It is important to note that the dimensions are empirically derived axes or eigen vectors and not simply the variables entered into the analysis. So, we could say that higher status (Platinum / Gold) passengers appear to have business travels most often and lower status passengers (Blue / Silver) appear to have travel purposes for leisure or visiting friends and relatives.*

## ANNEXURE IX

**Correspondence analysis – FFP status vs. Age group of frequent travelers**

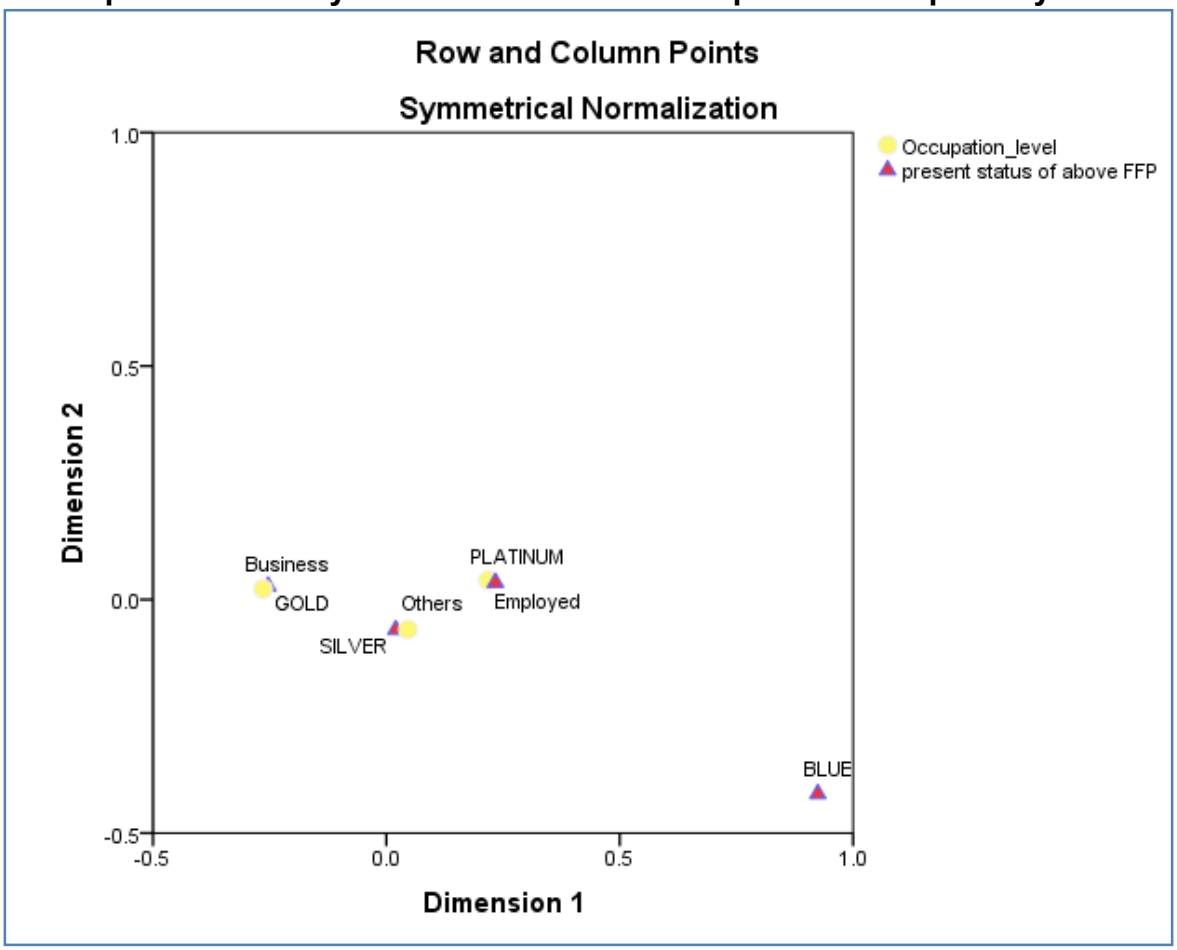



*Source: Data analysis using SPSS - Correspondence analysis - output*

*It is important to note that the dimensions are empirically derived axes or eigen vectors and not simply the variables entered into the analysis. So, we could say that higher status (Platinum / Gold) passengers appear to be above 50 years of age and lower status passengers (Blue / Silver) appear to have below 50 years of age.*

## ANNEXURE X

**Correspondence analysis – FFP status vs. Occupation of frequent flyers**




*Source: Data analysis using SPSS - Correspondence analysis - output*

*It is important to note that the dimensions are empirically derived axes or eigen vectors and not simply the variables entered into the analysis. So, we could say that Platinum status passengers appear more to be in employed category whereas Gold status passengers appear to have occupied with Business.*

## ANNEXURE XI

## PUBLICATIONS ARISING FROM THE RESEARCH

❖ **Referenced Journal Articles**

- Joemon Pappachan and Moli P. Koshy (2014). Attribute-Level Performance Dimensions of Airline Service Quality: A Factor Analysis Approach. *Indian Journal of Marketing*, Vol. 44 (8) August, 7 - 20.

- Joemon Pappachan and Moli P. Koshy (2014). Factors impinge on choice decision of travelers: An empirical study on low cost airline passengers in Cochin. *Vaibhav - Mcmatian journal of management*, Vol. 2(1) February, 74 - 83.

## Programmes participated in support of the research

❖ **Workshops participated**

- Two day *National level workshop on research methods* organized by the department of Commerce, School of Management, Pondicherry University from 11th to 12th March 2011.
- Workshop on *Profiling Research Publications for Quality Research* organized by the University Library, Cochin University of Science and Technology, Kochi on 3rd January 2012.
- Workshop on *Research Reporting and Reference Management tools, organized by the University library, Cochin University of Science and Technology, Kochi on 19th March 2014.*

❖ **Training programme attended**

- Two day training programme titled "Structural Equation Modeling" organized by the Indian Institute of Management, Kozhikode during August 09-10, 2013.