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.
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, Zaborik 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**

FPF 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

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

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

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

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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