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Attribute Level Performance Dimensions of Airline Frequent Flyer Program: A Factor Analysis Approach

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ABSTRACT

Airline Loyalty Program also known as Frequent Flyer Programs have become one of the most widely used marketing tools for retaining customers and motivating service usages. In order to maintain or improve market share and gain profit from operations it is very much essential for the airline operator to retain its loyal customers in the long run. One of the customer retention strategies followed by airlines is the Frequent Flyer Program. This paper aims to explore the underlying dimensions of Frequent Flyer Program based on its attribute level performances perceived by frequent passengers. The underlying dimensions of Frequent Flyer Program are explored through Factor Analysis using Principal Axis Factoring method with direct Oblimin rotation using SPSS. Two dimensions evolved from this study are Loyalty Program Structure (non travel) specific factors and Loyalty Program Service (travel) specific factors. There exists an overall statistical validity of the measurement model, established by conducting Confirmatory Factor Analysis using Structural Equation Modeling. Perceived differences in factor dimensions among passengers of different status levels are also compared and drawn implications for the airlines.

KEYWORDS: Frequent Flyer Program; Airline Loyalty; Attribute Level Performance; Factor Analysis; Airline frequent passengers; Structural Equation Modeling.

1. Introduction

Airline industry is under pressure to reduce the cost of operations on account of the incessant increase in fuel charges and other operational expenses like high labor cost despite heavy distress on security and safety issues. Expenses attributed from the above aspects cannot be compensated by charging high fares due to heavy competition in the Industry especially from the low cost carriers. 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).

A Frequent Flyer Program (FFP) can be referred as an intransience incentive program offered by an airline to reward its regular passengers and encourage repeat business. The reward is usually based on either travel volume amount or number of trips. Attributes are referred as those characteristics by which products are identified and differentiated. Loyalty program attributes usually comprises of features, functions, benefits, and uses.

FFP offer free travel and upgrades as incentives to fly with an airline and is considered as the most popular marketing strategy devised to build customer loyalty and sell the high priced seats (Chin, 2002). It is a fact that just three per cent of the US passengers are frequent flyers through which they fly more than 12 trips per annum, however, three per cent represents 27 per cent of total trips and an excess of 40 per cent of revenue (Toh and Hu, 1999).

1.1 *Advantages of FFP to airlines*

According to International Air Transporter 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, revealed the fact 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. "FFPs are a major direct cash generator 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).*

Sahoo and Vyas (2007) highlighted the advantages of FFP to airlines as this system is able to save

approximately 40 percent of an airline's acquisition cost per active member, generate incremental advertising revenue and in-flight merchandise sales. Martin *et al*. (2011) urged that FFP can act as an entry barrier, but limited attention has been paid to assess the impact of this strategy on passengers' perceptions of service. Klemperer (1995) emphasized the importance of FFP as a passenger retention strategy by showing the fact that passengers find it difficult and expensive while changing airlines away from one offering loyalty benefits.

In addition to or as part of their frequent flyer programs, most major airlines issue co-branded credit cards or are associated with Diners Club or American Express. Most airlines have idle capacity on a literally regular basis. In the US, it is estimated that, on an average, the paid per-flight load factor is about 70 per cent and those empty seats have a very short shelf life; once the aero plane takes off, the opportunity of any revenue from the empty seats is lost forever.

1.2 Influence of FFP in air carrier selection

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 indicated that any major change to well-established FFPs may have serious implications for the airlines' customer base. Proussaloglou and Koppelman (1999) also highlighted the loyalty-inducing effects of frequent-flyer programs as reflected in positive and significant coefficients for membership in a frequent-flyer program. They also indicated that FFPs are effective reward systems for repeated purchases that make demand less price elastic.

Gudmundsson *et al.* (2002) discussed how carrier loyalty effects brand loyalty and there should be limits to the kind of products airlines could include in their brand FFP as quoted as "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". Whitaker (1998) suggested that airlines competition will depend 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.

Proussaloglou and 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 program. Their finding reflected travelers' tradeoffs between the cost of travel and the benefits of different levels of frequent flyer membership.

Gudmundsson (2012) analyzed 30 years of frequent flyer programs, and found that FFPs can be treated as separate profit centers and can be isolated from the core airline service as a product with its own value.

1.3 FFP attributes perceived by passengers

As pointed out by O'Malley (1998), changing the benefits of a frequent flyer program by increasing redemption requirements can impact frequent flyers' perception of value. This is supported by Kivetz and Simonson (2003) that FFP will give a kind of feeling among passengers that they are special to the airline they travel frequently.

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 program is customer service. The last element is the privileged program, catering to that essential customer segment of frequent high-yield travelers.

It is evident from the literature on airline loyalty program that no clear cut categorization or underlying factor dimensions of Frequent Flyer Programs is investigated so far. It was also found that the indicative factors items to measure the attribute level performance dimensions of Frequent Flyer Program as a construct variable are yet to be explored and validated (Pappachan and Koshy, 2015).

1.4 Objective of the study

This research paper seeks to accomplish the following objectives:

a) To obtain and validate the attribute level performance dimensions of Frequent Flyer Program as perceived by airline frequent passengers.
b) To compare the effectiveness of FFP performance dimensions based on the FFP status of passengers.

2. Methodology

Structured interview questionnaires were used to carry out survey among frequent flyer program members travelling through the International Airport. Respondents were selected using judgment sampling and ensured that all the respondents included in the study were members of at least one frequent flyer program. Respondents were located at the

Security Hold Area and also at the commercial business lounge of the departure terminal of the Airport.

One hundred and fifty loyalty program members were identified and data collected from them were used for conducting Exploratory Factor Analysis (EFA). As the passengers were approached individually by the researcher for survey, each respondent was explained well to understand all items very clearly and no items were left unanswered. 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 the study.

Another set of 250 responses were collected from a different set of frequent passengers by using the same questionnaire and confirmatory factor analysis (CFA) was carried out with the factors explored through EFA. Structural Equation Modeling technique was applied with AMOS software for CFA.

To arrive at the a range of FFP attribute level performance items, opinion from airline officials dealing with FFP were collected and 12 items were concurrently gathered 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 The ability of FFP to reduce the overall cost of air travel due to benefits and free trips
2 Performance of FFP system in updating /maintaining FFP status of passengers
3 FFP treats members better than other travelers who do not belong to the program
4 Priority in baggage or check-in due to FFP membership
5 Easy in obtaining preferred seat due to FFP membership
6 FFP program provides better facilities in lounges, and in flights
7 Increased baggage allowance due to FFP membership
8 FFP program helps in better airline connectivity / net work alliances
9 Easy and flexible to redeem benefits earned from frequent flyer Program
10 Being a member of frequent flyer program makes the passenger feel special
11 Sufficiency of duration / validity of the FFP
12 FFP provides occasional upgrades, including certificates/ coupons

2.1 *Descriptive statistics*

Out of the total 150 passengers interviewed, 62 of them (41%) reserve their ticket through their company assistants / firm channel. 72 passengers (48%) book ticket by themselves and 16 frequent flyers (11%) book ticket through travel agents. It was made clear that all interviewed respondents exercised their own freedom in choosing the airline for their travel irrespective of the mode of booking facility.

About 25 percent of the respondents were aged above 50 years, 32 percent with age between 40 and 50 years, another 32 percent with age between 30 and 40 years and only 11 percent of frequent flyers in the sample are below 30 years of age. Very young people are not travelling much by using frequent flyer programs which can be attributed to their nature of occupation as well as their income level which may not be lucrative enough to spend more for air travel.

As far as respondents' occupations are concerned, approximately 19 percent of the passengers were occupied in Business; 76 percent of the respondents were employed only 5 percent was occupied in other category such as students and retired persons.

Majority of the respondents (75%) have annual income above Rs One Million, 15 percent with annual income between a half million to one million and only 10 percent of the respondents have annual income less than a half million.

Majority of the respondents (52%) hold more than one FFP card, among these (34%) possess two loyalty program memberships and 18 percent using three or more FFP privilege cards of different airlines. About half (48%) of the respondents use only one FFP membership of their regular airline. These results are consistent with previous findings (Toh and Hu, 1990; Weber, 2005). FFP status occupied by 150 sample respondents scattered as 40 passengers carrying Blue/Blue Plus card, 52 of them in Silver category, 39 held with Gold status and 19 frequent passengers travelling with Platinum Cards.

2.2 *Test of sampling adequacy*

For conducting Exploratory Factor Analysis, 150 frequent flyers were interviewed. To check the adequacy of the sample size used for factor analysis, Kaiser- Meyer-Oklin (KMO) and Bartlett's Test is used, results of which indicate significant values. KMO value 0.880 (see Table 1) - higher than the threshold value of 0.6, and the correlation matrix diagonal values in Anti Image Matrices values of above 0.5 indicate good measure of sampling adequacy (MSA).

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.880
Bartlett's Test of Sphericity	Approx. Chi-Square	547.346
	Df	66
	Sig.	.000

3. Exploratory Factor Analysis

3.1 Purpose for Conducting Exploratory Factor Analysis (EFA)

EFA can be conducted for a variety of research purposes primarily for simple data reduction and understanding latent constructs. In such cases the use of EFA is more pragmatic than theoretical and the research goal is simply to take a fairly large set of variables and reduce them to a smaller, more manageable number while retaining as much of the original variance as possible.

3.1.1 Total Variance Explained and number of factors extracted

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 2 for details.

Table 2: Rotated Components with two Principal Factors

Pattern Matrix[a]	Factor	
	I	II
Priority in Check In and Baggage	**0.843**	-0.144
Easiness 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.

3.1.2 *Interpretation of factors extracted*

As it is evident from Table 2, two principal factor dimensions were extracted. It is very clear from the factor loadings that (see figures in table 2 ; factor loading above 0.5) passengers have made clear demarcation on attribute items and Factor I can be logically interpreted as those underlying attributes which explain the dimension that is closely related to within Loyalty Program service aspects during the course of travel or intent to travel. Whereas, Factor II represents those attributes which influence passengers specifically by the program features/ structure related aspects. Moreover the Factor II attributes are not instantaneously linked with the passengers while they are on travel.

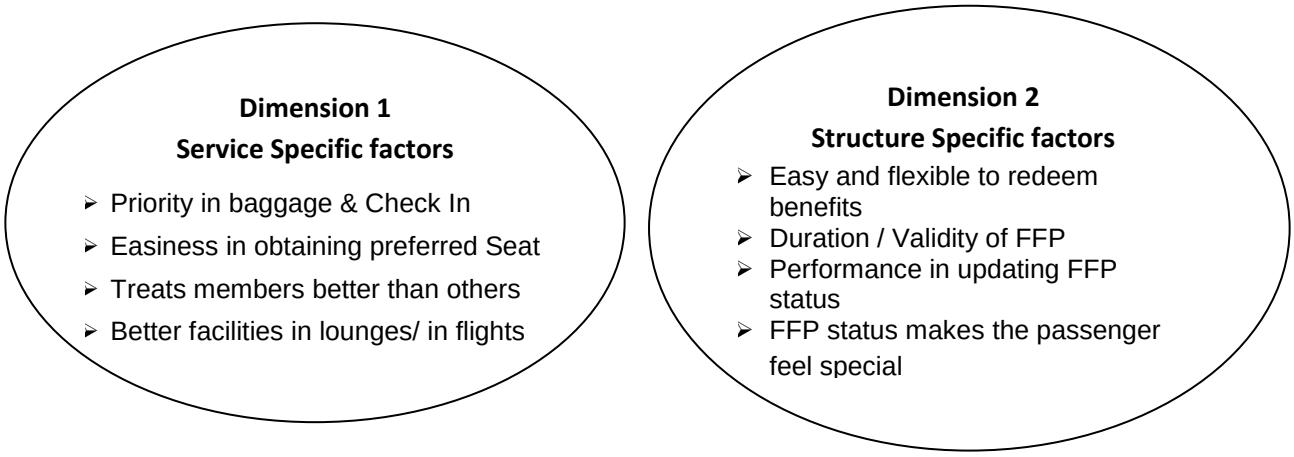
As noted in the output, the items having factor loading less than 0.50 should be eliminated (Hair *et al*, 1996). The factor loadings of items "Increased baggage allowance" and "better airline connectivity" have got low loadings (less than 0.5) may be attributed to the fact that majority of frequent passengers are not carrying heavy luggage as they travel for employment/official purpose, so increased baggage allowance attributed by FFP may not be significant to them. Similarly these categories of travelers are usually taking short haul trips and hence better connectivity may not be a significant FFP attribute. Karin Weber (2005) indicated similar type of results as the ability to earn frequent flyer points by the passengers and expanded route network were not rated high in that study.

As far as Factor II items are concerned, two items have got low loadings after rotation, this may be attributed to the reason that majority of the frequent flyers are having high income level and also not very much attracted by coupons and upgrades as many of them travel through better travel class.

3.1.3 ***Selection of attribute items as indicators of factor dimension***

As reflected in Table 2, the factors rotated with direct Oblimin method and factor loadings were obtained. Factor items with loadings above 0.5 were taken for further Confirmatory Factor Analysis (CFA) using SEM. So a total of eight attribute items selected comprise of four items from each factor dimensions. See Fig. 1.

Fig. 1: Loyalty Program Service Specific and Structure Specific Factor dimensions.

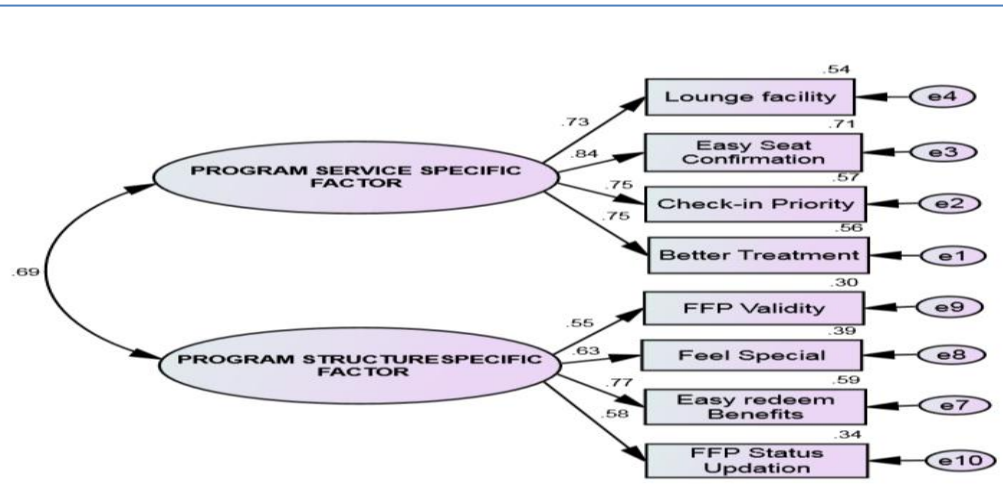


It is significant to note that another set of 250 samples were collected for doing confirmatory factor analysis of the explored factors. On the contrary, while running EFA again on these 250 samples, the results indicate that the same set of factor dimensions obtained which shows higher construct validity of the factor items (Pappachan and Koshy, 2015).

3.2. Confirmatory Factor Analysis

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). A separate 250 sample with same set of questions were used to collect data for doing Confirmatory Factor Analysis. CFA provide information on confirmation of the measurement model with two dimensions explored by EFA method. 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. Fig.2 explains the hypothesized model followed by summary of model fit indices. It is found that the two explored underlying dimensions of frequent flyer program performance attributes are statistically valid.

Fig. 2 Frequent Flyer performance attribute dimensions structure model



Model Fit Summary
CMIN

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

4. Results

Since the fit indices of the SEM model validates the factors explored previously from 150 samples of frequent flyers as shown in table 3, there is no statistical evidences to reject the model. The probability of rejecting the null hypothesis is not accepted since the 'P' value obtained is greater than .05 (Model Fit Summary – Fig.2). CMIN/DF is called as the minimum discrepancy which is obtained as 1.5. Wheaton et.al (1977) 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 Program attribute level performance dimensions.

Table 3: Model fit indices for structure specific and service specific factors

Table 3 (A) RMR, GFI

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

Table 3(B) Baseline Comparisons

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

Table 3 (C) Parsimony-Adjusted Measures

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

Table 3(D) RMSEA

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

With reference to studies conducted by Bentler and Bonett (1980) and Bentler (1980) it was suggested that if the Index value is greater than 0.9 and if RMSEA value is less than 0.05, it indicates model is fit and accepted.

Some of the important validity tests generally considered includes construct validity and Convergent validity

4.1 *Construct validity*

In the present study, 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, implies that there is a strong evidence of unidimensionality. CFI values for this construct are specified in Table 3. This indicates a strong evidence of unidimensionality for the scale items.

4.2 *Convergent validity*

Convergent validity is the degree to which multiple methods of measuring a variable provides the same results (Vokurka and Kelly, 1998). Convergent validity can 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 of model fit (Bentler,1980). The Bentler- Bonett Normed Fit Index (NFI) from CFA is 0.961(Table 3(B)) in this research which is valid.

Table 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. Estimates of Regression Weights: (Default model)

Indicator Items (attributes)	**Factor Dimensions**	**Estimate**	**S.E.**	**C.R.**	**P**
Better treatment	***FFP 1 (Service Specific)***	0.857	0.07	12.255	***
Check in priority		1			
Easy confirmation		0.86	0.068	12.639	***
Lounge Facility		0.874	0.07	12.565	***

Easy to Redeem benefits	**FFP 2 (Structure Specific)**	1.031	0.144	7.171	***
FFP makes feel special		1.402	0.178	7.882	***
FFP Validity		1			
FFP status updating		0.915	0.139	6.574	***

4.3 ***Test result 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 that there is no multi co linearity of factor items. Kutner *et.al.* (2004) also pointed out that there is no multi co linearity of factor items if the VIF values are below 5.00). See Table 5(A) and 5(B) for details.

Table 5 (A). Factor I with all items in factor 2 – 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 5 (B) Factor II with all items in factor 1 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)

4.4 ***Internal consistency of the items extracted***

Internal consistency of each factor item was checked using SPSS tool - 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 found to be valid. Moreover, the square correlation values are also shown significant in the SEM model which indicates scale item consistency.

4.5 ***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 (Nunnally,1978).

4.6 ***Comparison of FFP Performance dimensions based on the FFP Status of Passengers***

There were four different types of passengers in this study with respect to their FFP Status ranging from 'Blue' to 'Platinum'. Mean values are computed for variables under Dimension I and Dimension II. Mean values are compared among various FFP Status groups using One Way ANOVA. Results indicate that there exist significant differences among different status groups. Variations in attribute level performance dimensions with respect to FFP statuses are drawn for significant implications for the Airlines. Post Hoc test results provided that variations in performances are perceived significantly different by that of Low vs. High FFP status[1] (Blue, Silver category vs. Gold, Platinum category) passengers. Table 6 (a) and (b) provide the details.

[1] *Four different FFP categories are included in the following order of its status based on the frequency of travel and the distance covered by the passenger; Blue - Silver- Gold – Platinum in which 'Platinum' category receives maximum FFP benefits compared to others in the series.*

Table 6(a) ANOVA - Attribute Level Performances felt by different FFP Status groups

		Sum of Squares	Df	Mean Square	F	Sig.
MEAN_FFP_ SERVICE	Between Groups	28.294	3	9.431	11.899	0.000
	Within Groups	115.716	146	0.793		
	Total	144.01	149			
MEAN_FFP_ STRUCTURE	Between Groups	15.654	3	5.218	9.524	0.000
	Within Groups	79.989	146	0.548		
	Total	95.643	149			

Since the variations are found to be significant, Post Hoc test using Tukey with five percentage level of significance were conducted to find out the group(s) that cause(s) variation.

Table 6(b) Post Hoc Test – Multiple Comparisons of FFP Status Groups

Dependent Variable	(I) Status label	(J) Status label	Mean Difference (I-J)	Std. Error	Sig.
MEAN_FFP_ SERVICE ATTRIBUTE LEVEL PERFORMANCE	BLUE	SILVER	-0.35337	0.18723	**0.238**
		GOLD	-.84696*	0.20034	0.000
		PLATINUM	-1.31086*	0.24805	0.000
	SILVER	BLUE	0.35337	0.18723	**0.238**
		GOLD	-.49359*	0.18859	0.048
		PLATINUM	-.95749*	0.23866	0.001
	GOLD	BLUE	.84696*	0.20034	0.000
		SILVER	.49359*	0.18859	0.048
		PLATINUM	-0.4639	0.24907	**0.249**
	PLATINUM	BLUE	1.31086*	0.24805	0.000
		SILVER	.95749*	0.23866	0.001
		GOLD	0.4639	0.24907	**0.249**
MEAN_FFP_STRUCTURE ATTRIBUTE LEVEL PERFORMANCE	BLUE	SILVER	-.54904*	0.15567	0.003
		GOLD	-.73654*	0.16657	0.000
		PLATINUM	-.91974*	0.20623	0.000
	SILVER	BLUE	.54904*	0.15567	0.003
		GOLD	-0.1875	0.15679	**0.630**
		PLATINUM	-0.3707	0.19842	**0.246**
	GOLD	BLUE	.73654*	0.16657	0.000
		SILVER	0.1875	0.15679	**0.630**
		PLATINUM	-0.1832	0.20708	**0.813**
	PLATINUM	BLUE	.91974*	0.20623	0.000
		SILVER	0.3707	0.19842	**0.246**
		GOLD	0.1832	0.20708	**0.813**

5. Discussion

Two dimensions of FFP were obtained and validated. Among these two dimensions, the service specific factor dimension explained more variations compared to the structure specific factor dimension, since the Eigen value of service specific attribute items show high values (4.653) compared to structure specific values (1.278) in explaining the FFP attribute level performance dimensions. This could

be ascribed to the fact that service specific aspects may be a consequent of the attribute level performance of structure specific components. Another aspect contributing to the strength of service specific factor is the status level of passengers that may influence the level of flexibility or validity and other benefits of the loyalty program. If a frequent flyer occupies Gold or Platinum Card, then the passenger could be in a better position to avail more service specific facilities offered by airlines as part of its loyalty program. This disparity is clearly visible and perceived differently by Premium tier FFP status passengers when compared with lower tier FFP status.

It is evident that the variations are significant with respect to extreme end FFP statuses like Blue (entry level class) and Platinum (higher level). Moreover the variations in attribute-level performance perceived by FFP status categories in 'Service- specific' dimensions are on the higher side when compared with 'Structure- specific' dimensions. For example as far as 'Structure- specific' attribute-level performance among various FFP statuses are concerned, "Silver" category differs only with "Blue" status, where as in the case of 'Service- specific' attribute- level performance, significant variations are observed among "Silver", "Gold" and "Platinum" statuses. This finding draws significant implications for the airlines for a rethink to improve the service specific dimensions of FFP to all categories of passengers.

As found in the airline literature a significantly huge portion of the benefits from FFP is not redeemed by the passengers due to its validity limitation. So it is worth to investigate frequent flyer's specific needs in terms of underlying dimensions. The results of this study hold good for emerging markets also and support the findings quoted by Gudmundsson *et.al.* (2002) in their study that FFP features and service related aspects are perceived differently by passengers. Efforts in promoting and attracting regular passengers through an FFP may sometimes go in vain if the major performance attributes perceived by passengers are not properly addressed by airlines while competing with other airlines, especially with low cost carriers as pointed out by Dolnicar *et.al*.(2011).

5.1 *Managerial implications*

This research finding can facilitate the understanding of passenger's preferences towards FFP attributes based on its performance perception. It is a known fact that most frequent flyers are enrolled in multiple programs (Uncles *et.al*, 2003) and not difficult for customers to switch airlines when one airline changes the rules and benefits of its frequent flyer program. Therefore, the decision making process for a passenger in choosing an airline can be based on many choices such as competency of the Frequent Flyer Program focusing on its performance in service specific factors including priority in check-in and baggage handling, ease in obtaining seat confirmation while booking, better treatment of FFP members at all levels of services and provide better services in lounges and in flights.

Airlines should also look into the pre / post service attributes of the FFP which include 'ease in redeeming benefits and also flexible enough in updating FFP status' of important passengers. Lederman (2007) indicated similar findings as airlines can effectively manage FFP for facilitating frequent flyers since the use of 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 feel special when airlines provide some minimum assured benefits in each tier / status level of the Frequent Flyer Program.

5.2 Conclusion

Frequent Flyer Program can serve as an effective tool for promotion and better retention of loyal members if airlines give sufficient attention on its service performance and structure specific attributes explored in this study. The most important attributes in service specific factors are priority in check-in and baggage and ease in obtaining preferred seat. Whereas Easy and flexible to redeem benefits of the program and FFP duration and validity issues are the major structure specific factors considered crucial for the passengers. In all, the FFP passengers wished to be 'feel very special', which can be effected through improving service specific dimensions of Frequent Flyer Program.

Acknowledgements

1. Prof (Dr) Moli P. Koshy, Former Director, School of Management Studies, Cochin University of Science & Technology, Cochin, India
2. Cochin University of Science and Technology, CUSAT, Cochin, Kerala, India

References

1. Chin, A.T.H. (2002). Impact of frequent flyer programs on the demand for air travel. *Journal of Air Transportation*, 7(2), 53-86.
2. Bentler, P. M. (1980). Multivariate analysis with latent variables: Causal modeling, *Annual Review of Psychology*, 31: 419–456
3. Bentler, P. M., and D. G. Bonett. (1980). *Significance tests and goodness of fit in the analysis of Covariance structures*, Psychological Bulletin, 88: 588–606.
4. Bhagwanani, R. (2012). Cited in IATA report, Airlines International (August 2012). Special Report on Frequent Flyer Program; titled The Price of Loyalty. Retrieved from http://www.iata.org on November 8th, 2013.
5. Dolnicar, S., Grabler, K., Grun, B. and Kulnig, A. (2011). Key drivers of airline loyalty, *Tourism Management*, 32 (5), 1020-1026.

6. Gudmundsson, S.V., de Boer, E.R., & Lechner, C. (2002). Integrating frequent flyer programs in multilateral airline alliances. *Journal of Air Transport Management*, 8, 409-417. https://doi.org/10.1016/S0969-6997(02)00043-1
7. Gudmundsson, S.V., Evert R., de Boer, E.R. (2012). 30 years of frequent flyer programs. *Journal of Air Transport Management*, 24, 18-24.
8. Hair, J. F. Jr.; Anderson, R. E.; Tatham, R. L. and Black, W. C. (1996). *Multivariate Data Analysis*, 4th ed., Engelwood Cliffs, NJ: Prentice-Hall.
9. Kivetz, R. and Simonson, I. (2002). Earning the right to indulge: Effort as a determinant of customer preference, *Journal of Marketing Research*, *39*(2), 155-170.
10. Klemperer, P. (1995). Competition when consumers have switching costs, *Review of Economic Studies* 62, pp. 515-539.
11. Kutner, Nachtsheim and Neter, J. (2004), *Applied Linear Regression Models*, 4th edition, McGraw-Hill Irwin.
12. Lederman, M., 2007, Do enhancements to loyalty programs affect demand? The impact of international frequent flyer partnerships on domestic airline demand, *RAND Journal of Economics* 38, 1134 -1158.
13. Uncles, M.D., Dowling, G.R., & Hammond, K. (2003). Customer loyalty and customer loyalty programs. *Journal of Consumer Marketing*, 20(4), 294 – 316. https://doi.org/10.1108/07363760310483676
14. Martín, J.C., Román,C.,& Espino, R. (2011). Evaluating frequent flyer programs from the air passengers' perspective. *Journal of Air Transport Management*,17,364. https://doi.org/10.1016/j.jairtraman.2011.02.008
15. Nunnally, J. C., (1978). *Psychometric Theory*, New York : McGraw- Hill.
16. O'Malley, L. (1998). Can loyalty schemes really build loyalty?, *Marketing Intelligence and Planning*, *16*(1), 47-55.
17. Pappachan, J. and Koshy. M.P. (2015). Influence of Frequent Flyer Programme and Airline Service Quality on Re-buy intentions of Airline Frequent Passengers (PhD Thesis, Cochin University of Science and Technology, Cochin, India).
18. Proussaloglou, K.E., and Koppelman, F.S. (1995). Air carrier demand: an analysis of market share determinants, *Transportation* 22, pp. 371–388.
19. Proussaloglou, K.E., and Koppelman, F.S. (1999). The choice of carrier, flight and fare class, *Journal of Air Transport Management* 5, pp. 193-201.
20. Sahoo, D. and Vyas, P. H. (2007). Loyalty Programme Applications in Indian Service Industry, IIM (A), - W.P. No.2007-07-11 July 2007 DOI: 10.1177/0047287504272029 *Journal of Travel Research* 2005 43: 257
21. Toh, R.S., Hu, M.Y., & Browne, W.G. (1999). Identifying Characteristics of Airline Frequent-Fliers in Australia: Implications for Market Segmentation, Target Marketing and Product Differentiation. *Journal of Air Transportation*, 3(2), 17-29.
22. Venkatraman, N. (1989). Strategic orientation of business enterprises: the construct, dimensionality and measurement, *Management Science* 35(8): 942- 62.
23. Vokurka,R.J. and Kelly,O.L. (1998). The Empirical Assessment of Construct Validity, *Journal of Operations Management*, 16(4), 387-405.
24. Weber, K. (2005). Travelers' Perceptions of Airline Alliance Benefits and Performance. *Journal of Travel Research*, 43, 257. https://doi.org/10.1177/0047287504272029
25. Wheaton, B. (1977). Assessment of fit in over identified models with latent variables. *Sociological Methods and Research*, 16: 118–154.
26. Whitaker, R. (1998). Who's ready for a cosy threesome? What are the implications of three alliance groups dominating the airline industry? Airline Business, 7.