

Application of Cala Couta model in measuring satisfaction of airline passengers Islamic Republic of Iran Services and its influencing factors

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Abstract : This paper is a partial account of the results from a 2010 research focusing on the application of the Cala Couta lifecycle model in measuring the satisfaction of the passengers with services provided by Iran Air Services, its influencing factors, and a ranking of the said factors. The statistical population consisted of the passengers using domestic or international flights more than twice in two years. Of these, 385 persons were chosen, and the data were gathered by Cala Couta model survey using field methods based on the Likert range. The results indicate a satisfaction above average in the three stages of customer attraction, promotion, and retention. There was also an account of above-average satisfaction with sales, airport services, and flight services. The factors influencing the passengers' satisfaction were ranked according to their priority as follows: (1) company's name and reputation; (2) satisfaction with services offered to the frequent flier passengers; (3) satisfaction with the quality of the services; (4) satisfaction with prices (tickets, accompanied baggage, special services); (5) satisfaction with the services offered after a ticket is sold; (6) satisfaction with the flexibility demonstrated by the company; (7) satisfaction with the safety of flights.

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Introduction

Among the vital needs of air travel companies in the fluctuating highly-competitive market of today's world are the need for better understanding of customer behavior and focusing on customers who can be sources of long-term benefit for the organization. To have sufficient information about the customers' performance, behavior, and classifications, assessing the marketing status, offering proper services, customer's concept of the service quality and, generally, an insight into what customers choose and/or buy, and what services they use are defining items for air travel companies whether to stay competitive. Many of them have taken Customer Relation Management (CRM) as the effective tool to achieve their objectives and many have developed special skills in the art of CRM, which enables them to obtain more profit (through increasing sales rates and decreasing attraction costs) by establishing, enhancing, and retaining long term customer relations. Air travel businesses are highly dependent on customer relations due to the sensitive and significant nature of the services they offer. Thus, the present paper aims at measuring how satisfied the customers are with the services provided by Iran Air Services. It also assesses the factors affecting the level of satisfaction, and ranks those factors. There are a number of theories concerning

CRM, including the theory of Denton (1993), the theory of A Framework For Gaining Customer Satisfaction (Moreno Muffaho & Roberto Panizzolo, 1995), the theory of However Moonery (1995), the theory of Integration of Business Functions in the Marketing Strategy (Peppers & Rogers, 1998), the theory of Tactical Unity of CRM Processes (Swift, 2001), the theory of Te-King, Chien. Chin, Hosu. Chao, Tonsu (2002), the Process Theory of CRM From Tam's Viewpoint (Kayee Tam, 2002), Gartner's Framework Theory (Gartner, 2003), the theory of Customer Relations Management (Huze, 2009), and the Lifecycle Theory (Cala Couta, 1995). The application of the Cala Couta model here was due to its compatibility with the objectives pursued by the research.

Literature review

Cala Couta views CRM as consisting of three stages, namely, attraction, promotion, and retention (Beerli, 2004), all requiring recognizing and understanding the relation between the organization and the customers. The theory holds that each stage affects the customer relations in different ways, thus differentiating the strategies and the focus of the organization from one stage to another (Storm, 2002). This is shown in table 1.

As is shown in the table, in this stage of attraction, the organization takes an innovative

strategy and focuses on distinguishing. Turning to the stage of promotion, the strategy will be cutting down on the cost of customer services and the organization focuses mainly on classification of the customers. Finally, when it comes to the stage of retention, the organization takes the strategy of listening to customers and offering new products while focusing on for adaptation (Johnson, 2002).

Table 1: Stages of CRM, and that of the organization's focus in each

Stage	Organizational focus	Strategies
Attraction	Distinguishing	Innovation
Promotion	Classification	Cutting down on the cost of customer services
Retention	Adaptation	Listening to customers, offering new products

A research conducted by Bashiri (Bashiri, 2009) concerning the satisfaction level of the loss suffering insurers in the area of car insurance from the compensation offices of four insurance companies Bimeh Iran, Bimeh Asia, Bimeh Alborz, and Bimeh Dana, indicates that the factors influencing the loss suffering insurers can be ranked this way: proper treatment, effective relations, the quality of the services offered, the compensation, and the amount of premium. Also, another research conducted by Jamali (Jamali, 2008) using 6-sigma method aimed at measuring the satisfaction of the costumers of Saipa Plasococar ranks the factors influencing the satisfaction of the customers as follows: (1) organization's name and reputation, (2) services and the quality thereof, (3) prices, (4) after-sales services, (5) timely delivery of services, (6) flexibility. Amir Afshari (Afshari, 2000) conducted a research on the ranking of the factors affecting the satisfaction of Mellat Bank's customers with a customer relations management approach, and listed them, in the order of importance, as (1) responsibility, (2) ability to build confidence, (3) professional competence, (4) appearance, and (5) empathy. Kouhestani (Kouhestani, 2006) in his study titled Change Management & CRM states a significant role for training in the successful implementation of CRM. Feinberg (Feinberg, 2003) in his study of Service Quality in Online Purchasing in Iran, conducted in Sweden, views mutual trust and retention of the two-way relation as the most important quality factors in online sales base on customer relations management.

Karlstads University, Sweden, in his Master's thesis titled The Effect of Packaging on Customer Satisfaction, states that the method used in packaging creates opportunities to gain competitive advantage. He also believes that packages influence the purchase and affect the perspective of the services. He concludes the vitality of expanding the knowledge of packaging and the knowledge of customer experience of the services. Jens Berfenfeldt (Berfenfeldt, 2010) of Lulea University of Techniligy, Sweden, in his Master's Thesis titled Customer Relationship Management, attempts to gain insights into the application of CRM in B2B¹ companies. He infers that, in B2B settings, CRM is concentrated in the organizational dimensions, and is a powerful objective that fuels the business. Andrey Mikhailov and Kungaba Cedric Pefok (Mikhailov & Pefok, 2010) of Karlstads University, in their Master's thesis titled The Effect of Technology in Customer Satisfaction, have measured the citizens' satisfaction with the services of the public transportation, and have concluded that utilizing the required technologies to evaluate the service quality is absolutely necessary to gain a minimum customer satisfaction. Ijaz Dar and Hu (Ijaz Dar & Hu, 2005) studied the processes, technologies, organizational structure, and the concept of CRM in three banks of SEB, Noreda, and Handel, drawing the conclusion that each bank had its own definition of CRM, yet with a same objective: *to obtain long-term customer relations*. Also, each bank held a personal perspective of its customers, with no classifications governing the relations. However, the study indicates that the above-mentioned banks held a good understanding of technological tools and solutions. They used various channels to establish customer relations. Each, having well-trained personnel in accomplishing the organizational plans for customer relations, had utilized appropriate procedures to establish connections with customers. Kim, Su, and Huang (2003) used BSC² to evaluate the effectiveness of CRM plans, and state that understanding the customer needs and customer classification, interaction with customers, management of service directions, operational superiority, and a high quality of services are all items that influence CRM.

As no research has yet been conducted on Iran Air Services regarding CRM, this paper attempts to measure the passengers' satisfaction of the services offered by the afore-mentioned company. It also aims at assessing the factors influencing the customer satisfaction and ranking them. To fulfill such an objective, we have these hypotheses in mind:

¹ Business-to-Business

² Balanced Score Cards

H1: Based on the Lifecycle model, the passengers' satisfaction of the services provided by Iran Air Services is above average.

H2: There is a significant relation between services offered by the ticket sales personnel, the airport services personnel, and the in flight personnel (cabin crew) and the level of the passengers' satisfaction (based on Lifecycle model).

H3: Items such as prices (ticket, accompanied baggage, and special services), safety, service quality, flexibility, providing services for frequent fliers, after-sales services for tickets, and the companies name and reputation; influence the satisfaction of the customers.

Methodology

The method used here is applied (in terms of objective) and descriptive-correlative (in terms of data collection method). The statistical population consists of the passengers who used domestic and/or international flights of Iran Air at least twice in the last two years, numbering to 107970 in the year 2009. The cluster sampling method was applied, the sample size being 385 persons, using Kerjcie and Morgan's table. Of the sample, 200 persons were the customers using international flights, and 185 were the passengers of the domestic ones. Data were collected through a survey based on Cala Couta Lifecycle model, with 65 questions organized based on Likert's spectrum spanning from "I totally agree" to "I totally disagree". The responses to each question range from 1 to 5, with 3 being the average. The validity of the survey was determined in terms of content validity according to the feedback from 10 professors of the College of Management. To determine the reliability, the survey was randomly distributed to 30 passengers. This produced a coefficient of 0.974 using Cronbach's alpha. The data were collected using field method: first, in a month's period, the flights were identified and divided into domestic and international. Then, among the international flights, London and Sweden, and among the domestics Mashhad and Shiraz were drawn. Now, the survey was distributed to all the customers who had flown to the said destinations with at least twice in the last two years.

To analyze the data, one-sample t test, independent two-sample t test, analysis of variance analysis (ANOVA), and Pearson and Spearman Correlation were used. To measure the normality, the KS test of Kolmogorov-Smirnov was applied. The results indicated a normality of 0.032 for the data distribution. Data analysis was performed with software spss ver. 19.

Analysis and Results

Of the sample population used here, 43% were women, and 57% were men. 57.8% had university education. Businessmen, doctors, university professors, and office workers constituted more than 44% of the studied sample. The age averaged to 43, ranging from 18 to 76. All had flown 2 to 200 times in the course of the last two years, which produces an average of 11 flights in two years.

Table 2 describes the central indicators, the dispersion for the three stages of the Lifecycle method (attraction, promotion, retention), and other factors.

Table 2 shows that among the three stages of the Lifecycle model (attraction, promotion, retention), the highest average belongs to attraction, and among the other factors influencing the satisfaction of Iran Air passengers, The company's reputation and name takes the highest average, 3.77, and Satisfaction with the safety of flights takes the lowest, 3.02. Hypothesis 1: Based on the Lifecycle model, the passengers' satisfaction of the services provided by Iran Air Services is above average.

To test this hypothesis, we used a one-sample t test, and took the medium level of the average to be 3, regarding the 5-option Likert spectrum. The results are summarized in table 3.

Table 3 shows that in all of the different stages of Lifecycle, the significance level is below 0.01 ($P_VALUE < 0.01$), which approves of hypothesis 1. So, it can be said that the customer satisfaction with the services offered by the Iran Air Services, according to the Lifecycle model, is above the average in the three stages (attraction, promotion, retention).

Hypothesis 2: There is a significant relation between services offered by the ticket sales personnel, the airport services personnel, and the flight services personnel and the level of the passengers' satisfaction (based on Lifecycle model).

To test the second hypothesis, Pearson's correlation coefficient was used. The results are shown in table 4. The results shown in table 4 indicate a correlation between passenger satisfaction and the three services smaller than 0.01 ($P_VALUE < 0.01$), which supports our second hypothesis (i.e. there is a significant relation between passenger satisfaction and the three services provided by Iran Air Services).

Hypothesis 3: Items such as prices (ticket, accompanied baggage, and special services), safety, service quality, flexibility, providing services for frequent fliers, after-sales services for tickets, and the companies name and reputation influence the satisfaction of the customers.

Table 2: The central indicators, the dispersion, and other factors for the Lifecycle method

Stage / Factors	mean	Median	Standard Deviation	Variance
Attraction	3.82	3.58	0.63	0.40
Promotion	3.59	3.66	0.77	0.59
Retention	3.28	3.33	0.70	0.50
Performance of the ticket sales staff	3.52	3.56	0.72	0.53
Performance of the airport services staff	3.35	3.30	0.76	0.58
Performance of the cabin crew	3.65	3.87	0.72	0.53
Prices (ticket, accompanied baggage, special services)	3.35	3.50	0.81	0.67
Flight safety	3.02	3.00	1.26	1.58
Service quality	3.41	3.40	0.74	0.54
Company's flexibility	3.06	3.00	0.81	0.66
After-sales services	3.12	3.00	0.71	0.51
The level of company's reputation and name	3.77	4.00	0.88	0.78
Services provided for the frequent fliers	3.58	3.60	0.75	0.56

Table 3: Testing the first hypothesis

The stage in Lifecycle	N	M	Mean Difference	SD	t	df	sig
Attraction	376	3.82	0.82	0.63	25.14	375	0.0005
Promotion	382	3.59	0.59	0.77	15.06	381	0.0005
Retention	373	3.28	0.28	0.70	7.85	372	0.0005

Table 4: Testing the second hypothesis

Correlation between		N	r	sig	Result
Services by ticket sales staff	Passenger satisfaction	370	0.566	0.0005	Hypothesis approved
Services by cabin crew	Passenger satisfaction	367	0.750	0.0005	Hypothesis approved
Services by airport staff	Passenger satisfaction	376	0.517	0.0005	Hypothesis approved

For testing our third hypothesis, we used one-sample t test, producing the results presented in table 5.

The table shows a significance level below 0.01 for the ten factors said to be influencing the satisfaction level of Iran Air passengers ($P_VALUE < 0.01$). This supports our third hypothesis. So, it can be said that the ten factors stated above affect the passengers flying with Iran Air Services. The name and reputation of the company is considered as the most influential factor with an average of 3.77, and flight safety turns out to be the least influential, with an average of 3.02.

Discussion and Conclusion

Considering that there are no previous studies on CRM implementation at Iran Air Services, the present study aimed at measuring the passenger satisfaction with the air services (based on Cala Couta model) and ranking the factors influencing it. The results show that, based on the Lifecycle model, the passengers' satisfaction with the services provided by Iran Air Services is above average. Separating the stages, it can be said that there was more satisfaction with the services provided by the cabin crew than the services provided by the sales staff, and there was more satisfaction with the

Table 5: Testing the third hypothesis

Factors influencing passenger satisfaction	mean	t	df	sig	Result
Sales staff performance	3.52	15.23	378	0.005	approved
Airport staff performance	3.35	8.98	375	0.040	Approved
Cabin crew performance	3.65	20.91	384	0.035	Approved
Prices (ticket, accompanied baggage and special services)	3.35	15.23	378	0.005	Approved
Flight safety	3.02	8.98	375	0.05	Approved
Service quality	3.41	20.91	384	0.025	Approved
Flexibility	3.06	15.23	378	0.022	Approved
After-sales services	3.12	8.98	375	0.039	Approved
Name and reputation	3.77	20.91	384	0.041	Approved
Services for the frequent fliers	3.58	15.41	363	0.05	Approved

services provided by the sales staff than with the services provided by airport services staff.

Also, there was a significant relationship between the services offered by the ticket sales staff, airport services and cabin crew and the passenger satisfaction in different stages of Lifecycle. Ranking the results of customer satisfaction with Iran Air, we get the following:

- The highest level of satisfaction belongs to the cabin crew (Iran Air's flight attendants);
- Iran Air's sales staff rank second in gaining customer satisfaction; and
- The third level of customer satisfaction belongs to the staff of Iran Air's airport services.

Furthermore, rating the factors influencing customer satisfaction which was done using Freedman test, producing a significance level of 0.034, we get the following:

- 1) Company's name and reputation
- 2) Services offered to the frequent flier passengers
- 3) Quality of services
- 4) Prices (ticket, accompanied baggage and special services)
- 5) Services provided after tickets are sold
- 6) The company's flexibility
- 7) Flight safety

Peripherals of the research indicate that gender, age and education level of the passengers affect their satisfaction, with men being more satisfied than women, and that the older the passenger the more the satisfaction. Also, there is the effect of the passengers' education levels, with the higher-educated passengers (Bachelor and Master) being less satisfied. Moreover, the relation between the number of air travels and the satisfaction level turns

out to be inversed and significant (i.e. the bigger number of times a passenger flies the less satisfaction he/she feels). There wasn't any significant difference between the satisfaction level of domestic flights passengers and that of international flights passengers. So, the kind of flights had no effect on the customer satisfaction.

One of most noteworthy findings of the study was the negative effect of the number of flights on the customer satisfaction. The relation is seen in all stages of the Lifecycle (attraction, promotion and retention), either directly or indirectly. In other words, with an increase in the number of times one flies with Iran Air, a decrease is seen in his/her satisfaction. With that said, Iran Air seems to have performed successfully in the stage of attraction, but has been to some extent unsuccessful in promotion, as approximately 86% of the surveyed customers had flown with Iran Air less than ten times. According to the results of this study, it seems that planning to improve the services and to diversifying them to match the tastes of women, the youth and the frequent flier passengers and, especially, the higher-educated passengers can effectively raise the level of customer satisfaction.

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