<u>**RESEARCH PAPER**</u>

**RETURN ON MARKETING INVESTMENT:
A CASE STUDY OF DOMESTIC AIRLINE INDUSTRY IN INDIA**

BY

Dr. S C BANSAL

Associate Professor
Indian Institute of Management
Lucknow – 226 013 (India)
e-mail: bansal@iiml.ac.in
Ph. 0091 522 2736637

DR. MOHAMMED NAVED KHAN

Senior Lecturer
Department of Business Administration
Faculty of Management Studies & Research
Aligarh Muslim University
Aligarh-202002 (UP) INDIA
e-mail : mohdnavedkhan@rediffmail.com
Ph: 0091 571 2701184(R)
Mobile:9837042537

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VIPPAN RAJ DUTT*

Manager (System/Maintenance)
IT Department
Room No. 335, Computer Center
Indian Airlines Limited
I.G.I. Airport, Terminal 1 B
New Delhi – 110037 INDIA
e-mail : vrdutt@indianairlines.co.in
Ph. (O) 0091 11 25675203
0091 11 25674708
Fax (O) 0091 11 25675346

Corresponding author

ABSTRACT

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Post liberalization, the domestic airline industry in India has grown rapidly. The entry of low cost carriers has intensified competition leading to new marketing initiatives being undertaken. Wafer thin margins have necessitated a critical appraisal of marketing initiatives in terms of financial accountability, without which, it is impossible to trade off competing marketing initiatives and evaluate the success or failure of marketing programs.

The authors present a practical model that can be of help to airline managers to trade off competing marketing initiatives and make them accountable. The model enables airlines to calculate ROI for any prospective marketing investment and to evaluate the realized ROI. The framework is based on the effect of marketing initiatives on firm's customer equity, which is the sum of lifetime values of airline's current and future customers. Each customer's lifetime value results from the frequency of flying, average price of ticket, and brand switching pattern, combined with the firm's contribution margin.

The drivers of customer equity include value (quality, price, convenience), brand (brand image, brand awareness) and relationship (loyalty program, CRM, knowledge of passenger). Airlines may analyze drivers that have the greatest impact, compare performance on those drivers with that of competitors, and project ROI from improvements in those drivers. The framework enables "what-if" evaluation of marketing ROI, which can include such criteria as return on service quality, return on advertising, return on loyalty programs, and even return on corporate citizenship, given a particular shift in customer perceptions. This enables the firm to focus marketing efforts on strategic improvements generating the greatest return.

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INTRODUCTION

Airline Industry in India is presently witnessing the second phase of liberalisation, which started with the entry of low cost carriers. The bandwagon effect unleashed by liberalisation of the Indian economy in terms of rapid rise in per capita income accompanied by the induction of substantial additional capacity by the domestic private airlines has led to dramatic growth in domestic air market. While traditionally, the domestic market size hovered at 15/16 million, last year, it zoomed to 19 million, and this year is expected to grow to 24 million (Rao and Subramaniam, 2005).

Most of the excitement is due to the arrival of new players and the capacity expansion by the established airlines, which has resulted in more supply than keeping pace with the current spurt in demand. Go Airways and Paramount have recently entered the market and the industry is keenly watching IndiGo, Magic and East West's planned revival. Many feel that the Indian market could turn as dynamic as the US, where flights in several cases are cheaper than trains (Subramaniam, 2005).

In the next five years, the air travel pie is projected to morph into 50 million travellers and LCCs are tipped to corner a fourth or a fifth of this market (Girish, 2005). Budget carriers have already taken more than 15% market-share and are all set to increase their share to 20% within of the next few years. This has led to fall in market share of dominant players like Jet Airways, Indian Airlines and Air Sahara — all legacy carriers.

Of late, choice and in-flight quality of service, especially on trunk routes, has increased dramatically. Innovative airline operations models are being introduced. In the de-regulated environment, the customer has become a real king. This scenario is seen not only in Indian aviation industry, but it is a phenomenon observable worldwide. Airlines are feeling the heat of competition, as there is not much perceived difference in quality of service offered. The full service carriers are realizing the need to re-adjust and re-align their business models to stay competitive. High volume at low cost is the new business paradigm.

The entry of budget carriers has virtually spurred full service airlines to introduce matching fares, and schemes like apex fares, auction of seats, frequent flier programme, marketing initiatives, airport lounges, holiday packages and enhanced customer relationship management. From a full service airline point of view, the new competitive environment has forced it to streamline its traditional cost model. Lower fares are a function of an airline's lower operating costs, irrespective of whether its a budget carrier or a full service player (Girish, 2005). With discount air fares becoming the order of the day, domestic airlines are devising innovative strategies from placing ticket vending machines at popular city malls to offering valet services and access to personal lounges at airports to win customers (Byas, 2005). Airlines are using passenger demand forecasting system to estimate flow of customers and charge multiple fares on a single flight to maximise profits. Airlines hold as many seats as possible for last minute, full fare business travellers. However, if the demand is not properly projected, they end up with empty seats.

In the light of the above scenario, there is lot of pressure on marketing function to increase volume. In order to cope up with wafer thin margins, airlines are experimenting with unorthodox marketing strategies. To woo high-end rail passengers, airlines are increasingly resorting to lowering of fares and they are also not averse to adopting flexible fare schemes.

Furthermore, in such turbulent times, the companies are under pressure to quantify their return on marketing investments. To truly measure marketing effectiveness, companies are embracing ROI marketing. It involves the use of new, sophisticated metrics and computer models to analyse and quantify marketing expenditure and return on investment. The companies need to align marketing and promotion processes around the idea of ROI marketing. ROI techniques can help in assessing the critical marketing metrics that capture customer perceptions and behaviours leading to a change in long-term customer value. By measuring marketing effectiveness through quantifiable, insightful and useful benchmarks, airlines will have the desired information to focus efforts and resources on building return-based business. It will also improve ROI, since airlines will be able to concentrate on those strategies and programs that bring in the highest return on investment.

Top managers are constantly faced with the problem of how to trade off competing strategic marketing initiatives. For example, should the firm increase advertising, invest in a loyalty program, improve service quality, or none of the above? Such high-level decisions are typically left to the judgment of the Chief Marketing Officer or the CEO, but these executives

frequently have little to fall back on except their own experience and intuition. A unified, data-driven approach for making broad, strategic marketing tradeoffs has not been available.

LITERATURE REVIEW

Rust *et al.* (2004) presented a unified strategic framework that permitted competing marketing strategy options to be traded off on the basis of projected financial returns, operationalised as the change in a firm's customer equity related to the incremental expenditure necessary to produce the change. The model enables organizations to calculate Return on Investment (ROI) for any prospective marketing investment and to evaluate the realised ROI afterward. The study illustrated a detailed application of the approach by using data from the airline industry of USA. Morris *et al.* (2001) had presented customer adoption process model for focusing marketing investment. They explained different stages that prospects go through on their way to become loyal customers. They suggested dialogue based marketing approach to improve marketing ROI in the new economy. Fluss (2003), in his study, identified speech recognition as the most compelling form of customer self-service. It offered one of the highest proven ROI in the contact center market place. He found that hard-dollar benefits coming from productivity enhancements, cost reduction, cost avoidance and revenue generation were quantifiable and easily benchmarked.

Companies should focus on customer equity rather than brand equity. Brands are only a means to an end, which is to create and cultivate profitable, long-term relationships with customers (Rust *et al.*, 2004). Blattberg and Deighton (1996) opined that optimal balance should be kept between acquisition and retention of customers, which is only possible when customer equity is at its maximum amount. Thomas (2001) presented a model to estimate customer's lifetime and adjust for the bias towards customer acquisition in customer management decisions. It showed the financial impact of not accounting for the effect of acquisition on customer retention.

Earlier, while discussing 'Return On Quality' approach, Rust *et al.* (1995) suggested a framework for making quality expenditures financially accountable. The approach enables managers to determine where to spend on service quality, how much to spend and the likely financial impact from service expenditures, in terms of revenues, profits, and return on investments in quality improvement. Parasuraman (2000) broadened the scope of marketing

to include delivery of customer service as an integral component. He demonstrated that a judicious blending of conventional marketing and superior customer service is the best recipe for sustained market success. Simester *et al.* (2000) undertook a quasi-experimental analysis to study the implementation issues of state-of-the-art quality improvement programs designed to enhance customer satisfaction in United States and Spain.

Almquist and Wyner (2001) used experimental design to let marketers define and control the stimuli and study its impact on customer response using logistic regression analysis. The technique is particularly useful for companies with large number of customers, that faces rapid and constant change in their markets and product offers. The design calls for substantive knowledge to frame the problem, careful application of theoretically sound methods and skilful interpretation of results in the appropriate context. While, Malthouse and Blattberg (2005) empirically demonstrated that it is difficult to accurately predict the future profitability of customers based on historical purchasing behaviour (CLV).

In his study, Fry *et al.* (2004) provided insight into the nature and prevalence of performance measurement, benchmarking activities and other performance management techniques by airlines. Gulati and Oldroyd (2005) studied Continental Airlines and Royal Bank of Canada. He identified four stages of customer focus – communal coordination, serial coordination, symbiotic coordination and integral coordination – to get close to its customer and improve profitability. Cerasani (2002) explored the market structure of the US airline industry and the barriers to entry that a new carrier should overcome to enter the industry. It also examined the possible entry strategies for these carriers with a specific emphasis on Southwest Airlines. Wirtz and Johnston (2004) explained how Singapore Airlines used 5 pillars – ingrained profit consciousness, strategic synergies, total innovation, rigorous service design and holistic staff development – to combine service excellence with cost effectiveness.

In relation to the Indian Airline Industry, NCAER Report (2000) highlighted the major issues, which needed to be addressed so that it could fully contribute to the growth and progress of the country. In the process, it sought to identify various policy, regulatory, and institutional means by which the aviation sectors' full potential could be realized. Baisya and Sarkar (2003), in an exploratory study, identified the key attributes that influenced customer choice in airline selection. They also presented a comparative analysis of the performance of domestic airlines on the various attributes. Sarkar and Baisya (2005) also examined the market dynamics of the domestic airline industry over last few years and the aspects of

customer satisfaction. In his observations he noted that there was significant linkage between customer satisfaction and future usage.

Review of literature, as a prelude to the present study highlighted that most of the extant studies on civil aviation were confined to either USA or UK. In the context of civil aviation in India, only a few empirical studies have been reported. Further, they do not explore the impact of liberalisation in domestic aviation sector comprehensively. Particularly, no study seems to have been made to measure return on marketing investment (ROI) in domestic civil aviation sector. The present study is a sincere attempt to bridge this gap.

CONCEPTUAL FRAMEWORK

Measurement is a key management activity. Measuring provides information necessary for effective decision-making, for monitoring performance and for effectively allocating resources. To promote continuous improvement, measuring service quality must be a continuous activity.

Figure 1 shows a broad overview of the conceptual model suggested by Rust *et al.*, 2004 that we have used to evaluate return on marketing. According to this model, marketing is viewed as an investment that produces an improvement in one of the drivers of customer equity. This leads to improved customer perceptions, which result in increased customer attraction and retention. Better attraction and retention lead to increased customer lifetime value (CLV) (Berger and Nasr, 1998; Mulhern 1999; Reinartz and Kumar, 2000; Rust *et al.* 2004) and customer equity (Blattberg and Deighton 1996; Blattberg, Getz and Thomas 2001; Rust, Zeithaml, and Lemon 2000; Rust *et al.*, 2004). The increase in customer equity, when considered in relation to the cost of marketing investment, results in a return on marketing investment. Central to this model is a new CLV model that incorporates brand switching (Rust *et al.*, 2004).

Customer equity provides a theoretical framework for making the firm truly customer-centered, and is applicable to a wide variety of market contexts and industries. It provides a means of making strategic marketing decisions inherently information-driven, which is consistent with the long-term trends of decreasing costs for information gathering and information processing. The results provide insight into competitive strengths and weaknesses and an understanding of what is important to the customer. By contrasting the

firm's customer equity, customer equity share, and driver performance with those of its competitors, the firm can quickly see where it is gaining or losing competitive ground with respect to the value of its customer base. In addition, the model results include the distribution of CLV across the firm's customers, the distribution of CLV share (discounted share of wallet) across the firm's customers, and the percentage of the firm's customer equity provided by the firm's top x% customers. Collectively, this information gives useful information about how to segment the firm's customers based on importance.

Figure 1: Return on Marketing

```
                    ┌──────────────────────┐
                    │ Marketing Investment │
                    └──────────────────────┘
                       │                │
                       ▼                │
            ┌────────────────────┐      │
            │ Driver Improvement(s) │   │
            └────────────────────┘      │
                       │                │
                       ▼                │
        ┌────────────────────────────┐ │
        │ Improved Customer Perceptions │
        └────────────────────────────┘ │
             │              │           │
             ▼              ▼           │
      ┌──────────┐   ┌──────────┐       │
      │ Increased │   │ Increased │      │
      │ Customer  │   │ Customer  │      ▼
      │ Attraction│   │ Retention │  ┌───────────┐
      └──────────┘   └──────────┘   │ Cost of   │
             │              │        │ Marketing │
             ▼              ▼        │ Investment│
        ┌──────────────────────┐    └───────────┘
        │   Increased CLV      │         │
        └──────────────────────┘         │
                   │                     │
                   ▼                     │
        ┌──────────────────────────┐    │
        │ Increased Customer Equity │    │
        └──────────────────────────┘    │
                   │                     │
                   ▼                     ▼
        ┌──────────────────────────────────┐
        │ Return on Marketing Investment   │
        └──────────────────────────────────┘
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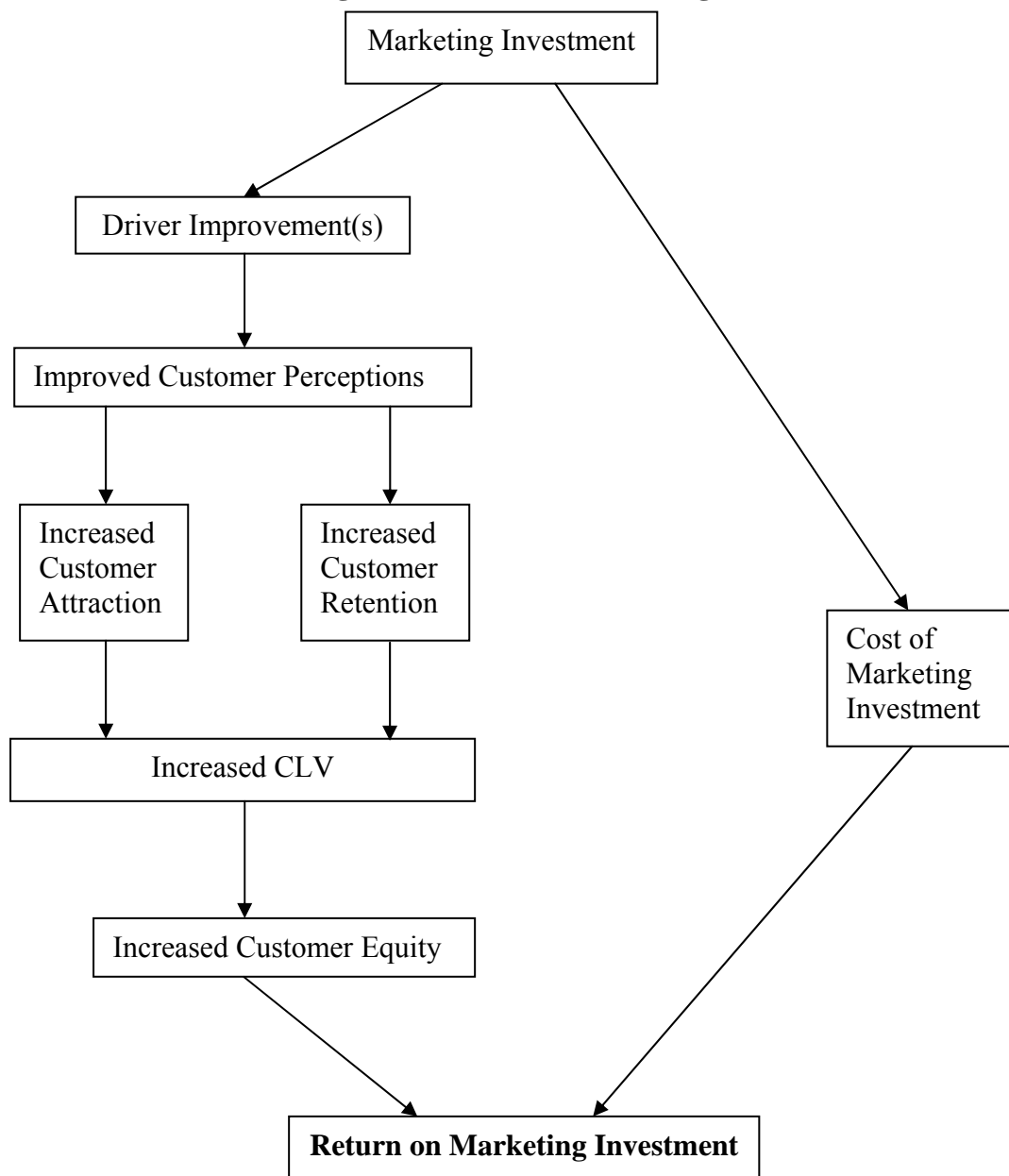
Customer Equity

Although the marketing concept has reflected a customer-centered viewpoint since the 1960s (e.g. Kotler, 1967), marketing theory and practice have become increasingly customer-centered over the last 40 years (Vavra 1997; Rust *et al.* 2004). This customer-centered viewpoint is reflected in the concepts and metrics that drive marketing management, including such metrics as customer satisfaction, market orientation and customer value. In recent years, increasing attention has been given to CLV and its implications.

Customer equity can be defined as the total of the discounted lifetime values summed over all of the firm's current and potential customers. This can be estimated from a representative sample of the customers in the market (Rust *et al.* 2004).

$$CE_j = mean_i\,(CLV_{ij})\ x\ POP$$

Where $mean_i\,(CLV_{ij})$ is the average lifetime value for firm j's customer i across the sample and POP is the total number of customers in the market across all brands.

This suggests that customers and customer equity may be more central to many firms than brands and brand equity, although current management practices and metrics do not yet fully reflect this shift. The shift from product-centered thinking to customer-centered thinking implies the need for an accompanying shift from product-based strategy to customer-based strategy. In other words, a firm's strategic opportunities might best be viewed in terms of the firm's opportunity to improve the drivers of its customer equity.

Drivers of Customer Equity

To model the brand-switching matrix at the individual customer level, we need to understand what drives customer switching and customer retention. All marketing expenditures or drivers of customer equity can be grouped into three main categories— value equity, brand equity, and relationship equity.

Value equity includes drivers involving quality, price, convenience, and other objective perceptions of the offering. **Brand equity**, on the other hand, focuses on subjective perceptions such as brand image, brand awareness, and brand ethics. **Relationship equity** involves factors that increase switching costs that are not subsumed by value equity and

brand equity, such as frequent buyer programs and ongoing relationship maintenance activities.

The Chain of Effects

The heart of the brand switching-based approach to customer equity is a chain of effects model that creates a statistical link from changes in perceptions of the drivers to change in customer equity. The chain is seen at the individual level as:

Driver perceptions => Switching matrix => Customer Lifetime Value

Once this chain is modeled statistically, if the firm can estimate how much it can change the driver perceptions, it can also estimate the impact on customer lifetime value.

The Switching Matrix

The utility of each brand conditional on the previous brand chosen may be obtained according to the equation:

Utility = Inertia + Utility from drivers + Random error

The inertia term enters the equation only for the choice alternative that was selected most recently. This reproduces the pattern that we see in actual brand choice—that a "stickiness" to the choice of brand exists. Based on the utilities, the probabilities of choice may be obtained using a logit formulation. Again, it is important to emphasize that these probabilities are conditional on previous choice, and are different for every customer in the sample.

Knowing the probabilities of purchase is not enough to figure out customer lifetime value. One must also factor in the average purchase rate per unit time, the average purchase volume per purchase, and the expected contribution margin per purchase. We also need to know the company's investment horizon and its discount rate.

Customer Lifetime Value

Based on the switching matrix, the probabilities of brand choice for all future purchases by each customer may be projected. This, in turn, may be converted to customer lifetime value, assessed using variables such as the average inter-purchase time, average quantity per purchase, and the firm's discount rate and time horizon. The firm may then calculate its customer equity by taking the average customer lifetime value from the sample and multiplying it by the number of customers in the market.

The lifetime value CLV_{ij}, of customer I to brand j is

$$CLV_{ij} = \sum_{t=0}^{T_{ij}} (1 + d_j)^{-t/f_i} V_{ijt} \pi_{ijt} B_{ijt}$$

where T_{ij} is the number of time passenger flies, d_j represents firm j's discount rate, f_i is the passenger's average purchase rate of passenger, v_{ijt} is customer's expected purchase volume in a purchase of brand j in purchase t. π_{ijt} is the expected contribution margin per unit of firm j from customer i in purchase t, and B_{it} is the 1 x J row vector with elements B_{ijt} as the probability that customer i buys brand j in purchase t.

Calculating Marketing ROI

Every marketing expenditure should be targeted to improve at least one customer equity driver. The level of improvement expected can be established based on managerial judgment, experience, simulated test markets, or full test markets. Given the targeted amount of improvement, the impact on CLV and customer equity can then be projected. Given the cost of the marketing expenditure (the discounted net present value of any cost stream), it is then possible to project the return on investment that will result from the expenditure according to the simple formula:

ROI = (change in customer equity – marketing expenditure)/(marketing expenditure)

This formula enables competing marketing expenditures to be evaluated on the same basis and also allows marketing expenditures to be compared to other corporate investments. This

ability to evaluate, compare, and justify marketing expenditures strengthens marketing's position in the boardroom.

ISSUES IN IMPLEMENTATION

Decision Support Systems

The statistical nature of the model enables the construction of "what-if" simulators using both spreadsheet models, and dedicated software packages, that can be used to explore the ROI of marketing expenditures, either before the fact or after the fact. A well-designed customer equity decision support system also provides strategic guidance with respect to the firm's competitive position on each of the customer equity drivers.

Tracking Customer Equity

Markets are dynamic and the competitive environment changes regularly, implying that the competitive situation may change over time. For this reason, customer equity and its drivers need to be tracked over time. We recommend that an airline update its analysis at least twice per year to monitor competitive trends, identify emerging threats and opportunities, and gauge the progress of marketing initiatives.

RESEARCH OBJECTIVES

The primary objective of the study is to examine the effect of marketing initiatives by the domestic airlines on their customer equity. Specifically, the study aims at the following :

- identify the customer equity drivers that have the greatest impact,
- compare performances of airlines on them, and
- attempt to project ROI from improvements in those drivers.

RESERCH METHODOLOGY

Data has been collected with the help of a pre-structured questionnaire from the passengers of airlines to ascertain performance of an organization on the drivers and project ROI from improvements in them. Secondary information has been obtained from annual financial

statements of airlines; reports of Securities and Exchange Board of India (SEBI) and Reserve Bank of India; web-sites of the Ministry of Civil Aviation, Directorate General of Civil Aviation, Airport Authority of India and airlines; observations of various committees, and other published as well as unpublished work of various professional bodies (such as Centre for Monitoring Indian Economy, National Council of Applied Economic Research and Indian Council for Research on International Economic Relations), airlines, newspapers and magazines.

Data and Sampling

As suggested by Rust *et al.* (2004), we assumed three strategic investment categories:

1. Perceived value
2. Brand equity and
3. Relationship management.

The survey instrument used in the study contained questions pertaining to shopping behaviour and customer rating for each driver. In addition, demographics questions too were asked at the end of the survey.

Illustrative data was obtained from respondents at domestic terminal of Indira Gandhi International Airport, Delhi (IGIA). It being one of the busiest airports in the country provided appropriate platform for an unbiased representative sample. Respondents were real airline passengers who had purchased air tickets and flown on domestic sector.

The potential respondents were contacted by employing the intercept technique while they were waiting to board their flights at the domestic departure terminal areas of IGIA.

Data was collected during the month of October 2005. In all, 218 passengers were approached. Of these, 157 agreed to participate in the study. While editing operations were being carried out on the questionnaires, it was observed that 9 responses were incomplete and had to be discarded. This resulted in a total of 148 responses, which were analysed using SPSS statistical package and MS-Excel spreadsheet program.

There were 28 responses for Indian Airlines (IA), 60 for Jet Airways (Jet), 20 for Sahara Airlines (Sahara) and 45 for Low Cost Carriers (LCC). Of these 116 respondents were male and 32 females. . Detailed demographic profile of the respondents is given in Table 1.

Table 1: Airline Wise Demographic Profile

Demographic Options		Airline				Total
		Indian Airlines & Alliance Air	Jet Airways	Sahara Airlines	Low Cost Carriers	
Gender	Male	21	48	12	35	**116**
	Female	2	12	8	10	**32**
Highest Qualification	Matriculation or Below	1	1	1	2	**5**
	Graduation	5	9	8	11	**33**
	Post Graduation	4	19	5	12	**40**
	Professional	13	31	6	20	**70**
Age Group	Less than 21	1	3	3	0	**7**
	21 to 40	12	40	10	32	**94**
	41 to 60	10	13	6	10	**39**
	Above 60	0	4	1	3	**8**
Annual Income	Less than 5 Lakhs	13	22	9	14	**58**
Bracket	5 to 10 Lakhs	7	21	3	16	**47**
	10 to 20 Lakhs	2	11	2	7	**22**
	20 to 50 Lakhs	1	4	3	7	**15**
	Above 50 Lakhs	0	2	3	1	**6**
Nationality	Indian	23	57	16	38	**134**
	Rest of World	0	3	4	7	**14**
Domestic	1 – 5	11	33	16	30	**90**
Flights in last	6 – 10	6	14	1	8	**29**
1 Year	10 – 20	3	9	3	4	**19**
	Above 20	3	4	0	3	**10**
Total		**23**	**60**	**20**	**45**	**148**

ANALYSIS AND PRESENTATION OF FINDINGS

Choice Model Results

We reduced the dimensionality of the predictor variables by conducting a principal component analysis with an eigenvalue cutoff of 0.5 (Rust *et al.*, 2004). The analysis began with 17 independent variables and we retained 12 orthogonal factors. 'Information about me', 'My recognition as special', 'Sense of community' and 'High level of trust' loads on Factor 1. 'Airline media advertisement' and 'Information sent to me' loads on Factor 2. 'High ethical standards' and 'Image fits my personality' loads on Factor 6. Rest of the drivers load on their own factors. Table 2 shows the loading on the rotated factors.

TABLE 2: Factor Loadings

Drivers	Factors											
	1	2	3	4	5	6	7	8	9	10	11	12
Inertia	.060	-.004	-.048	.082	-.022	.012	.057	.009	.049	.046	.029	**.986**
Quality of Airline	-.044	.131	-.005	.092	.112	.150	**.895**	.177	.110	.045	.047	.067
Price Competitive	-.012	.051	.018	.059	-.038	-.018	.029	.009	.033	-.003	**.992**	.029
Airline Destination and Schedule	.038	.139	.051	**.934**	-.013	.050	.122	-.047	.034	.075	.062	.087
Airline Media Advertising	.213	**.724**	.373	.256	-.072	-.182	.137	.214	.101	-.117	-.017	-.059
Information sent by Airline	.179	**.876**	-.112	.036	.205	.129	.056	.020	-.006	.207	.081	.028
Good Corporate Citizen	.043	.026	**.893**	.045	.118	.217	.018	.178	.013	.075	.030	-.064
Active Sponsor of Community Events	.145	.127	.182	-.031	.200	.091	.184	**.860**	-.009	.110	.009	.011
High Ethical Standards	.270	.003	.009	.456	.355	**.544**	-.100	.318	.216	-.073	.052	.029
Image fits Personality	.152	.022	.271	.025	.101	**.851**	.244	.032	.114	.039	-.039	.009
Frequent Flyer Programme	.256	.118	.062	.068	.080	.012	.034	.105	.208	**.896**	-.005	.056
Preferential Treatment	.172	.043	.016	.059	.107	.142	.107	.001	**.926**	.198	.039	.056
Airline Procedures	.074	.150	.130	-.011	**.864**	.132	.154	.214	.116	.104	-.045	-.035
Information about me	**.757**	.288	-.140	-.041	.010	-.025	.081	.296	.189	.209	.004	.055
My Recognition as Special	**.850**	.111	.048	.078	-.015	.170	-.085	.117	.117	.224	.013	.011
Sense of Community	**.640**	.126	.430	.048	.319	.149	-.005	-.233	-.020	-.075	-.041	.089
High Level of Trust	**.513**	-.072	.273	.303	.394	.163	.460	-.065	-.031	-.085	-.083	.000

Extraction Method : Principal Component Analysis.
12 components extracted.
Loadings greater than 0.5 are shown in bold

Using the resulting factors as independent variables, we conducted multinomial logit analysis. Table 3 shows the coefficients that arise from the multinomial logit regression analysis, highlighting the significant factors.

Table 3: Logit Regression Results

	Independent Variable	Indian Airlines & Alliance				Jet Airways			
		b	s. e.	(b/se)²	Sig.	b	s. e.	(b/se)²	Sig.
F1	Passenger Relationship with Airline	-0.23	0.38	0.35	0.55	0.51	0.39	1.71	0.19
F2	Information Provided to Customer	0.21	0.30	0.46	0.50	-0.30	0.29	1.11	0.29
F3	Good Corporate Citizen	-0.49	0.30	2.69	0.10	0.12	0.28	0.20	0.66
F4	Airline Destination and Schedule	-0.60	0.29	4.17*	0.04	-0.71	0.30	5.59*	0.02
F5	Knowledge about Airline Procedures	-0.83	0.32	6.65**	0.01	0.35	0.27	1.69	0.19
F6	High Ethical Standards Image that fits Passenger Personality	1.10	0.44	6.39**	0.01	0.56	0.38	2.13	0.14
F7	Quality of Airline	0.87	0.35	6.07**	0.01	1.57	0.38	16.85**	0.00
F8	Active Sponsor of Community Events	-0.31	0.25	1.53	0.22	-0.26	0.30	0.76	0.38
F9	Preferential Treatment	0.40	0.25	2.67	0.10	-0.39	0.24	2.77	0.10
F10	Frequent Flyer Programme	-0.20	0.26	0.57	0.45	0.49	0.27	3.20	0.07
F11	Price Competitive	0.04	0.25	0.03	0.86	-1.93	0.40	23.59**	0.00
F12	Inertia	0.00	0.64	0.00	1.00	0.35	0.63	0.31	0.58

	Independent Variable	Sahara Airlines				Low Cost Carriers			
		b	s. e.	(b/se)²	Sig.	b	s. e.	(b/se)²	Sig.
F1	Passenger Relationship with Airline	0.28	0.45	0.39	0.53	-0.73	0.47	2.44	0.12
F2	Information Provided to Customer	0.19	0.35	0.30	0.58	0.51	0.35	2.08	0.15
F3	Good Corporate Citizen	-0.23	0.33	0.50	0.48	-0.61	0.34	3.24	0.07
F4	Airline Destination and Schedule	-0.17	0.33	0.26	0.61	0.11	0.36	0.10	0.75
F5	Knowledge about Airline Procedures	-0.48	0.36	1.78	0.18	-1.19	0.38	9.52**	0.00
F6	High Ethical Standards Image that fits Passenger Personality	0.27	0.48	0.33	0.57	0.55	0.49	1.24	0.26
F7	Quality of Airline	-0.17	0.39	0.19	0.66	-0.70	0.42	2.73	0.10
F8	Active Sponsor of Community Events	-0.19	0.29	0.44	0.51	-0.05	0.34	0.02	0.89
F9	Preferential Treatment	0.42	0.29	2.19	0.14	0.80	0.30	6.98**	0.01
F10	Frequent Flyer Programme	-0.28	0.29	0.94	0.33	-0.69	0.32	4.53*	0.03
F11	Price Competitive	0.25	0.30	0.70	0.40	1.98	0.43	21.24**	0.00
F12	Inertia	0.00	0.73	0.00	1.00	-0.35	0.75	0.22	0.64

$* = p < 0.05$; $** = p \leq 0.01$; b = Coefficient, s.e. = Standard Error, (b/se)² = Wald Statistics, Sig = Significance

CLV

CLV was calculated for IA, Jet Sahara and LCC's for each respondent in our airline sample. To operationalise the equation, we assumed a time horizon of three years, and a discount rate of 10%. Airlines follow dynamic pricing concept where price of a ticket depends on various factors like sector traveled, travel time of year, seat availability and market scenario. The study has taken a uniform contribution margin of 15%. As suggested by (Rust *et al.* 2004) to extend the CLV figures to the customer equity, domestic passenger load for each airline was multiplied by average CLV across the respondents. Even though we used average CLV to project customer equity, we also calculated CLV at the individual level for each customer in the sample.

Switching matrix for different airlines is given in Figure 2.

Figure 2: Switching Matrix

		From:			
		IA	**Jet**	**Sahara**	**LCC**
To:	**IA**	46%	11%	19%	18%
	Jet	25%	66%	31%	20%
	Sahara	9%	12%	31%	13%
	LCC	20%	11%	19%	49%
	Sums	**100%**	**100%**	**100%**	**100%**

Jet has the highest CLV, whereas Sahara has the lowest. Customer equity can also be used as an indirect pointer to the financial performance of the airline (Year 2003-04). Average CLV and Customer Equity for different airlines are given in Table 4.

Table 4: Airlines Customer Equity

Airline	Average CLV (in INR)	Annual Passengers (in Millions) #	Customer Equity (in Crores of INR)	Ticketing, Sales and Promotion Expenditure (in Crores of INR) #
IA	14,378	5.8	8,339.24	695.2
Jet	14,420	6.9	9,949.80	433.9
Sahara	6,095	1.9	1,158.05	201.7
LCC	6,538	0.15	98.07	1.5

Air Transport Statistics for the year 2003-2004; *source*: www.dgca.nic.in

Airline's Performance on Value Equity Drivers

Airlines generally rate high on value equity drivers. LCC rate high on price competitiveness, whereas Jet rates high on quality. Despite small fleet size and resource constraints, LCC were on top with respect to airline destination and schedule. Overall LCC topped value equity drivers. Table 5 compares airlines performance on value equity drivers.

Table 5: Airline's Performance on Value Equity Drivers

Airline	Quality of Airline	Price Competitive	Airline Destination and Schedule	Value Equity
IA	3.48	3.34	3.52	**3.45**
Jet	4.07	3.29	3.49	**3.61**
Sahara	3.50	3.50	3.37	**3.46**
LCC	3.36	3.95	3.89	**3.73**
Total	**3.63**	**3.54**	**3.59**	**3.59**

Airline's Performance on Brand Equity Drivers

The general performance of all the airlines is average on brand equity drivers. Jet's media advertising is visible to the target audience, whereas IA leads in information sent to the passenger. IA has the highest rating as good corporate citizen, is considered to be active sponsor of community events and was perceived to be following the highest ethical standards. It also leads the pack in overall brand equity rating. Jet passenger feels that its image fits their personality. Table 6 presents airlines performance on different brand equity drivers.

Table 6: Airline's Performance on Brand Equity Drivers

Airline	AMA	ISA	GCC	ASCE	HES	IFP	Brand Equity
IA	2.79	2.93	3.55	2.93	3.17	3.31	**3.11**
Jet	2.87	2.58	3.13	2.38	3.16	3.71	**2.97**
Sahara	2.67	2.83	3.07	2.33	3.00	2.97	**2.81**
LCC	2.80	2.34	2.89	2.16	3.11	3.02	**2.72**
Total	**2.79**	**2.63**	**3.13**	**2.41**	**3.11**	**3.28**	**2.89**

AMA: Airline Media Advertising; ISA: Information Sent by Airline; GCC: Good Corporate Citizen; ASCE: Active Sponsor of Community Events; HES: High Ethical Standards; IFP: Image Fits Personality

Performance on Relationship Equity Drivers

All the domestic airlines rate low on relationship equity drivers. Jet gives maximum preferential treatment to its passenger and has the highest frequent flyer investment. LCC and Sahara rates low on frequent flyer programme investment.

Passengers were generally knowledgeable about full service carrier's procedures, but were not aware of LCC procedures. Airlines know very little about passengers or care to recognize them as special. They have frequent flyer database, but it is not used to build a personal relation with the passengers. IA passengers were found to be having highest sense of community. Passengers were found to be having a high level of trust in IA and Jet, but not Sahara and LCC. Jet leads the pack in overall relationship equity drivers. Table 7 compares airlines performance on relationship equity drivers.

Table 7: Airline's Performance on Relationship Equity Drivers

Airline	FFP	PF	AP	IAM	MRS	SC	HLT	RE
IA	2.21	2.62	3.38	1.97	2.14	2.69	3.41	**2.63**
Jet	2.31	3.11	3.18	2.13	2.16	2.56	3.58	**2.72**
Sahara	1.97	2.77	3.50	1.90	2.17	2.50	3.20	**2.57**
LCC	1.68	2.75	2.41	1.91	2.05	2.20	2.98	**2.28**
Total	**2.03**	**2.84**	**3.05**	**1.99**	**2.12**	**2.47**	**3.29**	**2.54**

FFP: Frequent Flyer Programme; PF: Preferential Treatment; AP: Airline Procedures; IAM: Information About Me; MRS: My Recognition as Special; SC: Sense of Community; HLT: High Level of Trust; RE: Relationship Equity

SUMMARY, LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Summary

We have applied customer equity framework for evaluating the return on marketing for airline industry in India. This can enable us to make marketing financially accountable, and to trade off competing strategic marketing investments on the basis of financial returns. We build our customer equity projections from the model of CLV that permits the modeling of competitive effects and brand switching patterns. Customer equity model provides an information-based, customer-driven, competitor-cognizant, and financially accountable strategic approach to maximizing the airline's long-term profitability.

The model provides a method for estimating the effects of individual customer equity drivers, testing their statistical significance, and projecting the ROI that will occur from expenditures

on those drivers. By identification and measurement of key drivers companies can answer questions of the type, "Should we spend more on advertising, or should we improve service quality? Which will have a bigger effect?"

The model of customer lifetime value incorporates the impact of competitors' offerings and brand switching. In our model, we discount according to purchase rather than according to time period. By discounting according to purchase, at the individual level, our model is more comprehensive. The approach set out above considers customer equity for the entire relevant competitive set. This has two advantages over existing approaches. *First*, this approach considers the expected lifetime value of both existing customers and prospective customers, thereby incorporating acquisition and retention (for the focal firm and competitors) in the same model. *Secondly*, by explicitly considering competitive effects in the choice decision, it is possible to use the model to consider the impact of competitive responses on the firm's customer equity.

Limitations of the Study

The major limitations of this study are as follows:

1. The study was conducted on a limited number of domestic flights.
2. The study represents feedback of passengers departing from Indira Gandhi International Airport only.
3. Information regarding domestic airlines marketing expenditure on any exercise to improve customer equity drivers was not available in public domain, nor was it provided on request.

Directions for Future Research

In this paper, we have developed and illustrated a practical framework for basing marketing strategy on CLV and customer equity for domestic airlines of India. As with any research endeavour, much work remains to be done. As also suggested by (Rust *et al.* 2004), future researchers need to examine the effects of market dynamics on customer equity. As airline industry is very dynamic and new civil aviation directives are being announced regularly; new players are entering the arena, it needs to be investigated as to whether it is necessary to model the changing size of the market, and relate that to customer equity. The relationship

between marketing efforts that stimulate forward buying (e.g. short-term price discounts) and long-term effect on customer equity needs to be explored.

As also suggested by (Rust *et al.* 2004), there is a need to develop dynamic models of CLV and customer equity. Traditional models of CLV have been adopted from the net present value approach in the finance literature. Understanding how the value of the firm's customers (and overall customer equity) is changing over time will enable managers to make even better marketing investments. There is also an opportunity to develop richer models of CLV that incorporate a deeper understanding of consumer behavior. Finally, although the model incorporates competition, it makes no provision for competitive reactions. An extension of this work might involve a game theoretic competitive structure to understand the effects of potential competitive reactions to the firm's intended improvements in key drivers of customer equity.

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Authors' Profile

Dr S C Bansal, earned his Ph D in Finance at the Department of Commerce, Delhi School of Economics, University of Delhi, Delhi in 1987. Currently, he is Associate Professor of Finance and Accounting at the Indian Institute of Management, Lucknow. He has held senior positions at the Institute of Company Secretaries of India, National Institute of Financial Management, and University of Delhi. He has teaching experience of about three decades. Dr Bansal's teaching interests include corporate finance, management accounting and corporate restructuring.

Dr. Mohammed Naved Khan, B. Sc. Engineering (Electrical), MBA, PhD, is at present working as Senior Lecturer, Department of Business Administration, Faculty of Management Studies & Research, Aligarh Muslim University, Aligarh. His areas of interest include Consumer Behaviour & Marketing Research. He is the recipient of "PD Agarwal-TCI Award for Doctoral Research in Management" for the year 1997. Several of his research papers have been published in leading national and international publications. He has to his credit a book titled "Facets of Indian Advertising and Consumer Behaviour: An Empirical Approach" Kanishka Publishers, New Delhi (2002) and his other work titled "Encyclopedic Dictionary of Marketing" has been accepted for publication by Response Books (Sage Publications), New Delhi.

Vippan Raj Dutt, B Tech. (Electronics and Telecommunication), MBA (Marketing), is Manager, (System/Maintenance) in the IT Department at Indian Airlines. He has previously worked with Engineers India Ltd. and Siemens India Ltd. At present, he is also pursuing his research on 'Dimensions of Customer Service Quality' at the Faculty of Management Studies and Research, Aligarh Muslim University. His areas of interest include Information Technology and Customer Service in Service Sector.