Study the Effects of Customer Service and Product Quality on Customer Satisfaction and Loyalty

Asghar Afshar Jahanshahi (Corresponding Author)
PhD Scholar in Business Administration
Department of Commerce & Research Center
University of Pune, India
E-mail: Afsharasghar@yahoo.com, Phone: 00919890581970

Mohammad Ali Hajizadeh Gashti
Department of Management, Faculty of Management and Human Resource Development
Universiti Teknologi Malaysia, Malaysia,
E-mail: ahgmohammad2@live.utm.my

Seyed Abbas Mirdamadi
PhD Scholar in Banking and Finance
Department of Commerce & Research Center, University of Pune, India
E-mail: mirdamadiabbas@yahoo.com

Khaled Nawaser
MBA - Marketing Management, University of Pune, India
E-mail: khaled1356@yahoo.com

Seyed Mohammad Sadeq Khaksar
Master of Information Technology Management, University of Sistan & Bluchestan, Iran
E-mail: sms_khaksar@yahoo.com

Abstract

In this research, we address the following questions that are becoming increasingly important to managers in automotive industries: is there a relationship between customer service and product quality with customer satisfaction and loyalty in the context of the Indian automotive industry? If yes, how is the relationship between these four variables? The automotive industry in India is one of the largest in the world and one of the fast growing globally. Customer satisfaction and loyalty are the most important factors that affect the automotive industry. On the other hand, Customer service can be considered as an innate element of industrial products. Customer service quality, product quality, customer satisfaction and loyalty can be measured at different stages, for example, at the beginning of the purchase, and one or two years after purchase. The population of the study is all of the Tata Indica car owners in Pune. Hypotheses of the study will be analyzed using regression and ANOVA. Results of the study show that there are high positive correlation between the constructs of costumer service and product quality with costumer satisfaction and loyalty.

Key Words: Product Quality, Customer Service Quality, Customer Satisfaction, Loyalty, Tata Indica.

1. Introduction

What is the relation between four concepts of product and service quality, customer satisfaction and loyalty in Indian automotive industry? The literature of this study can be divided into two main categories:

1) The effect of customer service quality and product quality on customer satisfaction

Proponents of this theory include researchers such as Yi, (1990); Bloemer, et al (1998); Bastos and Gallego (2008); Chai et al, (2009). Thus far, the few studies discuss about the effect of customer service and product qualities on customer satisfaction have been on car owners. Using the critical incident technique, Archer and Wesolowsky (1996) look at how satisfaction with product and service quality simultaneously affects the intention of owners in automobile industry (Chai et al, 2009). In this regard, Bastos and Gallego (2008) provide evidence that customer service quality directly affects satisfaction and satisfaction directly affects the positive behavioral intentions.

2) Relationship between customer satisfaction and customer loyalty

The relationship between satisfaction and loyalty has been observed in several studies such as Coyne (1989); Oliva et al., (1992); Fornell (1992); Guiltinan, et al. (1997); Sivadas and Baker-Prewitt (2000); Bowen, and Chen (2001); Bansal and Gupta (2001); Silvestro, and Low (2006).

Satisfaction and loyalty are not surrogates for each other (Shankar ad Amy, 2002; Bloemer and Kasper 1995; Oliver 1999). It is possible for a customer to be loyal without being highly satisfied (e.g., when there are few other choices) and to be highly satisfied and yet not be loyal (e.g., when many alternatives are available). (Shankar ad Amy, 2002) The results of Bowen, and Chen (2001) study verified the nonlinear and asymmetric relationship between customer satisfaction and customer loyalty. When satisfaction increased above a threshold, purchase loyalty went up rapidly and when satisfaction dropped below a threshold level, purchase loyalty decreased equally rapidly. Guiltinan, et al. (1997) believed that satisfied customers are more likely to be repeat (and even become loyal) customers. Fornell (1992) have found strong correlations between satisfaction and loyalty. According to Mittal et al. (1999) the relationship between satisfaction and loyalty changes over time. However, the relationship between satisfaction and loyalty is expected to be dependent on the quality of the product and services. This study also is aimed at assessing the relationship between customer service and product quality with customer satisfaction and loyalty in the context of the Indian automotive industry. This made the researcher to provide answers to the research question, to be able to achieve the objective of the study and to test the research hypotheses.

2. Theoretical Framework of the Study
2-1 Customer Service Quality

Quality has been defined as fitness for use, or the extent to which a product successfully serves the purposes of consumers (Beverly et al., 2002). Customer service is one of the organizational processes which companies perform considering the growing competition and for attracting entrepreneurial opportunities for increasing profitability and better access to the market and increasing the customer satisfaction and loyalty level (Calif, 1987). According to Goofin and Price (1996) customer service has importance because it ends in increasing product quality, gaining competitive advantage, gaining profitable opportunities, and as a result increasing sales and income. As we can observe from following figure, According to Newby & McManus (2000) excellent quality of customer services is based upon not just the knowledge and skills of the individual but also upon the way that the organization as a whole, from top management downwards, pulls in the same direction and presents a clear, positive message to customers.

Figure 1 shows the key features of excellent customer service (Newby & McManus 2000)

The domain of the activities related to customer service is vast. Tour and Kumar (2003) have mentioned duties and functions of this section in the form of installation and startup services, training, maintain and repair, documentation, providing logistic and spare parts, improving products, software services, warranty and call center service. Recognition of profitable opportunities is considered in order to present electronic customer service in this industry with developing communicational infrastructure and development of utilization of technology in car manufacturing companies. Services which are presented by car manufacturing industry today are informational, training, communicational, leasing, repairing and maintenance services, and also innovational services (considering data mining functions) (Khaksar et al. 2010). Presenting informational services is in the line of informing customers about new products, information regarding service centers and also car news. Today, large car manufacturers present their informational services utilizing email, Short Message Service, and websites (Wilson et al, 1999). Presenting suitable training services create possibility for increasing the level of customer service and hence the customer satisfaction. Using trained staffs also, increases the accountability of the company (Nilda et al, 2009). The objective of customer training and informing in Tata Motors Company is to familiarize a customer with his / her vehicle.

- Maintenance schedule explained.
- Salient features of the vehicle are explained.
- Tips for safe driving & handling of vehicle are given.
- Tips given for achieving better fuel economy.
- Tips are given for fault diagnosis & troubleshooting - in order that customer develops necessary confidence to take care of minor troubles which may immobilize the car viz. fuse blowing, air lock in fuel system, etc.

Table 1 shows the different kinds of Customer Services in automotive industry (Khaksar et al. 2010)

Customer Services in Automotive Industry	Objectives
Discovery services	Discovering new needs of customers and creating new entrepreneurial opportunities.
Repair and maintenance services	Changing, cleaning, installing, and restarting up the parts.
Leasing services	Customer can afford and change cars every 3 years without hassles or trading in.
Communicational services	After sold, establish a long term relationship with customers for any request.
Informational services	Informing customers about new products, car news and service centers.
Training services	Explain maintenance schedule and salient features of the vehicle. Tips for fault diagnosis & troubleshooting and safe driving & handling of vehicle.

Presenting communicational services is directly related to customer satisfaction. Customers after purchasing products may have doubts in their decision making; the only way to manage this uncertainty is to establish a long term relationship with customers (Flynn et al, 2002). One of the strategies of presenting better customer services in car manufacturing industry is to provide proper trainings to personnel and customers (Khaksar et al, 2010). Leasing contracts usually concluded and enforced in the framework of lease condition acquisition. Leasing services in car manufacturing industry increase the purchase power of people and lead to increase the sales of the company. Car leasing is one option for acquiring a new vehicle. Instead of buying a new car with a bank loan, customer rent or lease the car for 3 or more years then give it back to the leasing company at the end, with a residual value of about 50% of when the car was new. Providing repair and maintenance is the inseparable part of customer service in car manufacturing industry. Maintenance means changing, cleaning, installing, and restarting up the parts which has problems (Calif, 1987). Discovery services refer to the services that company do for detecting defects in the product and rectifying them without causing any loss for the customers. Discovery services have also used for discovering new needs and creating new entrepreneurial opportunities. (Kruse et al, 2010). For implementing this type of services, company tests its products in some markets and with utilizing benchmarking mechanisms satisfaction of the product will be analyzed.

2-2 Product Quality

Tata Motors is committed to attain leadership through business excellence in the car sector while upholding values and integrity to improve the quality of life of the communities Tata Motors serves (Hanno, Christian, 2009). Meeting the highest quality standards and customers' needs in India, Tata Motors Company offers high quality automobiles. Their aim in developing their products is to be Indian leaders in value and satisfaction. Quality has been an elusive concept in automotive industry. It is the totality of features and characteristics of a product or service that bears on its ability to satisfy given needs (Winder, 1996 and Chavan, 2003). If a product fulfils the customer's expectations, the customer will be pleased and consider that the product is of acceptable or even high quality. While studies on the way in which quality affects customer satisfaction have been going for more than two decades, most of the research on how quality affect satisfaction and loyalty in the past has focused largely in pure product (e.g. Garvin 1988, Gronroos 1983, Steenkamp 1990) or pure service settings (e.g. Brady and Cronin 2001, Oliver 1997, Parasuraman et al. 1985). Some of Product quality Criteria in automotive industry includes:

- Safety , Comfortable and air pollution
- Ergonomics Requirements (Working distance, Clearance ,Weight)
- Product design
- Functional qualities, such as output or kilometer per liter (VVC, 2007; UNIDO, 2006; Wilhelm, 1993 and Falck et al, 2010)

Tata Motors Limited is India's largest automobile company, with consolidated revenues of USD 20 billion in 2009-10. It is the leader in commercial vehicles in each segment, and among the top three in passenger vehicles with winning products in the compact, midsize car and utility vehicle segments. The company's manufacturing base in India is spread across Jamshedpur, Pune, Lucknow, Pantnagar and Dharwad.

2-3 Customer Satisfaction

Customer satisfaction has been defined in various ways, but the conceptualization, which appears to have achieved the widest acceptance, is that satisfaction is a post-choice evaluative judgment of a specific transaction (Bastos and Gallego, 2008). Customer satisfaction is the result of a customer's perception of the value received in a transaction or relationship – where value equals perceived service quality relative to price and customer acquisition costs (Hallowell, 1996; Heskett et al., 1990; Blanchard and Galloway, 1994).
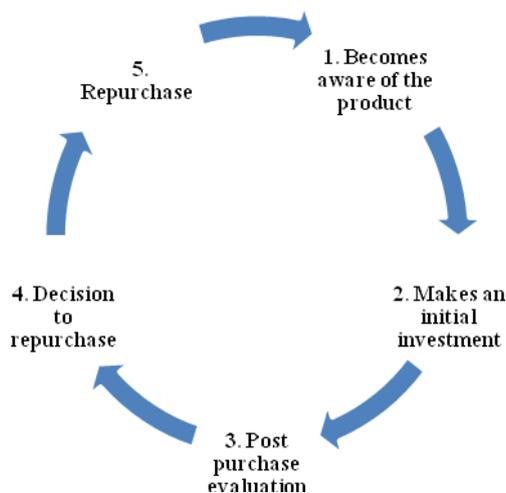
While the literature contains significant differences in the definition of satisfaction, all the definitions share some common elements (Giese and Cote, 2002). When examined as a whole, three general components can be identified:

1. Consumer satisfaction is a response (emotional or cognitive);
2. The response pertains to a particular focus (expectations, product, consumption experience, etc.);
3. The response occurs at a particular time (after consumption, after choice, based on accumulated experience, etc).
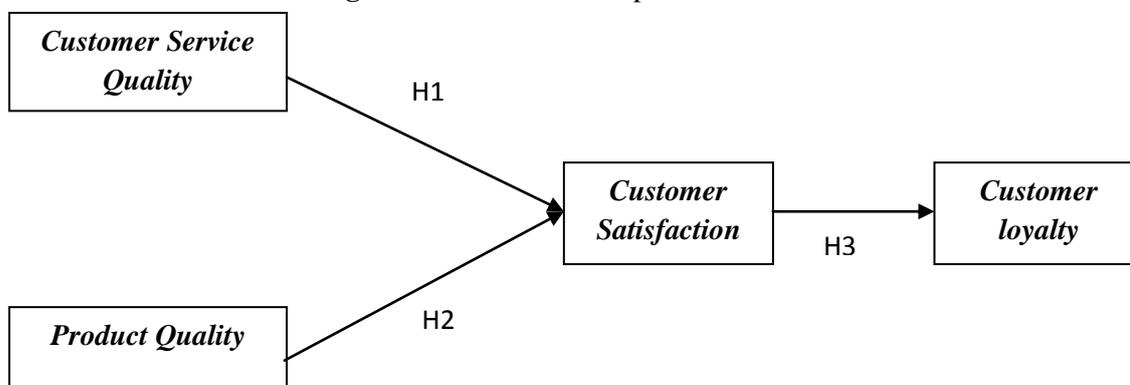
2-4 Customer Loyalty

As suggested by several researchers (Kumar and Shah, 2004; Blak and Parks, 2003; Bell et al, 2005 and Dean, 2007) there are two types of loyalty; behavioral and attitudinal loyalty. The behavioral aspects of the customer loyalty were characterized in terms of repurchase intentions, word-of-mouth communication, and recommendations of the organization (Nadiri, et al. 2008; Karatepe and Ekiz, 2004; Yi, 1990; Zeithaml et al., 1996). Liu-Thompkins, et al (2010) defined attitudinal loyalty as a favorable evaluation that is held with sufficient strength and stability to promote a repeatedly favorable response towards a product/brand or a store. According to Kumar and Shah (2004) Consumer loyalty seems to be based on a collection of factors. The first is trust. Consumers must trust the vendor or product they encounter. Second, the transaction or relationship must have a positive perceived value greater than that supplied by competitors. Third, if marketers build on the first two factors, they may be able to create a level of positive customer emotional attachment. That emotional response may be commitment to their brands that is resistant to change (Pitta, et al, 2006). Today, every industry offers a variety of loyalty schemes aiming at differentiating one competitor from another (Butscher, 1999). Each time a customer buys, he progresses through a buying cycle (Griffin, 2002). A first time buyer goes through five steps:

Figure 2: Loyalty and Purchase Cycle

3- Hypotheses of the study is based on research conceptual model

Figure 3: Research Conceptual Model

From the above mentioned model the following hypotheses are developed:

H1: Customer service quality influences customer satisfaction in the automotive industry.

H2: Product quality influences customer satisfaction in the automotive industry.

H3: Customer satisfaction influences customer loyalty in the automotive industry.

4- *Methodology of the Study*
4-1) Research Methodology

The objective of the current study is to clarify the relationship between four variables of customer service quality, product quality, customer satisfaction, and customer loyalty. This research can be categorized as descriptive research based on the method of obtaining the considered data and is of correlative type (Harandi et al, 2008). Since these data are made for studying the distribution of statistical population characteristics through sampling of population, this research is a survey done on the basis of cross sectional method.

5- *Data Collection & Analysis Tools*

In this research, the design of the questionnaire with 53 questions was primarily based on multiple-item measurement scales taken from previous researches. 24 questions are designed to evaluate customer service quality and product quality; 13 questions are designed to evaluate customer loyalty and 11 questions are designed to evaluate customer satisfaction. Satisfaction was measured by a seven-point Likert scale, Extremely, Very, Fairly satisfied, neither satisfied nor dissatisfied, Fairly, Very and extremely dissatisfied. 5 questions are related to personal information of the respondents. For analyzing data derived from questionnaire regression and ANOVA test has been used and the software which have been used for analyzing the data is SPSS 16.

6- *Reliability and Validity of the Study*

Reliability is the consistency of measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. For determining **reliability** of the study Cronbach's Alpha method was used. Followings have been resulted from this analysis:
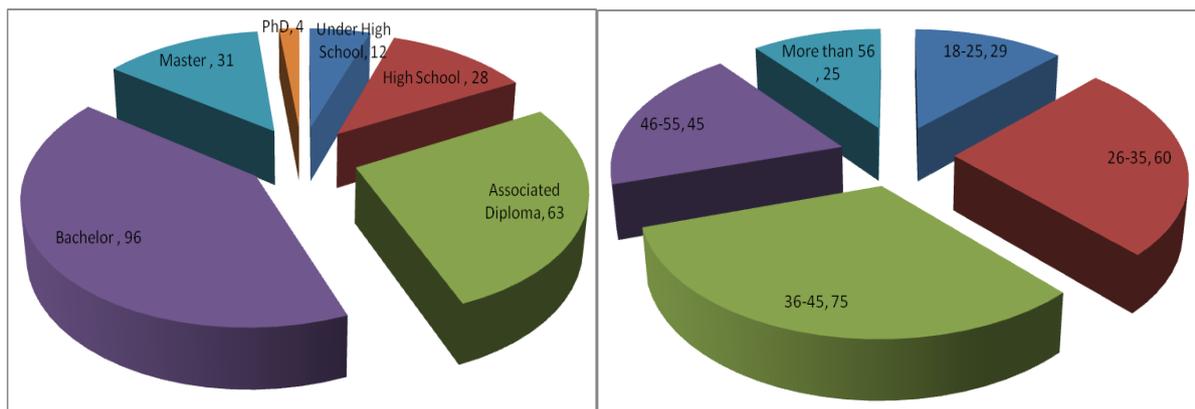
- For questions related to customer service quality and product quality the Cronbach's Alpha coefficient of 0.841 was calculated.
- For question related to customer satisfaction Cronbach's Alpha coefficient of 0.881 was calculated.
- For question related to customer loyalty Cronbach's Alpha coefficient of 0.874 was calculated.
- For all questions Cronbach's Alpha coefficient of 0.910 was calculated.

Validity refers to whether a study measures or examines what it claims to measure or examine. For determining validity of the questionnaire content credit was used (Harandi et al, 2008). Content credit of this questionnaire has been justified by guide professors and also initial distribution of questionnaire among number of experts, scholars and considering their corrective comments, it has the necessary credibility.

7- *Statistical Population and Statistical Samples*

Statistical population of the study consists of "all Tata Indica Car owners, product of Tata Motors" which has bought their cars in 2008-2010 (Apr '08-Jan '10) in Pune. Total number of them according to Tata sales department and Ministry of Commerce and Industry is about 586 people. To raise the accuracy and correctness of the analyses population samples has been estimated 234 people based on Morgan's table. Therefore, 260 questionnaires were distributed in 3 months period between population samples randomly. Afterwards, 344 questionnaires were collected and 234 of them were used. As we can observe from following figures, from 234 respondents, 12 people under high school graduation, 28 people high school graduates, 63 people had associated diploma, 96 with bachelor degree, 31 people with master degree, and finally 4 people hold a PhD degree. And this is while the age of 29 of these people were 18-25, 60 people between –26-35, 75 between 36-45, 45 people between 46-55 and 25 people were more than 56 years old. Also, among the respondents, 76 percent were male and 24 percent were female.

Figure 4-5: Statistical Description of Population

8- Testing Hypotheses of the Study using Regression Analysis and ANOVA

For all the hypotheses of the study below hypothesis test was used at 95% confidence interval.

$H_{o}: \beta_i = o$ *Null hypothesis: Regression is not significant*

$H_{1}: \beta_i \neq o$ *Alternative hypothesis: Regression is significant*

Table 2 shows the results of hypotheses of the study based on Regression Analysis.

Hypothesis	R	R Squared	Adjusted R Squared	Std. of the Estimate	Change R Change	F	Sig. Change
First	0.862	0.744	0.740	4.590	0.744	226.18	0.000
Second	0.882	0.772	4.305	0.034	11.67	1	0.001
Third	0.890	0.792	0.783	4.091	0.14	5.177	0.026

The above table shows Regression analysis for hypotheses of the study. As seen R and R squared values of all hypotheses are high. Therefore, we can assume a high correlation for variables of these hypotheses. It should be noted that R-squared values range from 0 to 1. The R squared values for these hypotheses are 0.744, 0.772 and 0.792, respectively.

H1: *Customer service quality influences customer satisfaction in the automotive industry.*

As significance (sig.) in, first hypothesis is less than 0.05 therefore, this hypothesis is approved.

H2: *Product quality influences customer satisfaction in the automotive industry.*

As significance (sig.) in, second hypothesis is less than 0.05 therefore, this hypothesis is approved.

H3: *Customer satisfaction influences customer loyalty in the automotive industry.*

As significance (sig.) in, third hypothesis is less than 0.05 therefore, this hypothesis is approved. The following table shows result of the analysis of variance (ANOVA) for hypotheses of study. ANOVA provides a statistical test of whether or not the means of several groups are all equal, and therefore generalizes t-test to more than two groups. ANOVAs are helpful because they possess an advantage over a two-sample t-test. Doing multiple two-sample t-tests would result in an increased chance of committing a type I error. For this reason, ANOVAs are useful in comparing two, three or more means.

Table 3: ANOVA Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4766.277	1	4766.277	226.182	.000
	Residual	1643.673	51	21.073		
	Total	6409.950	52			
2	Regression	4982.735	1	2491.367	134.412	.000
	Residual	1427.215	50	18.535		
	Total	6409.950	52			
3	Regression	5073.774	1	1691.249	96.194	.000
	Residual	1336.733	49	17.582		
	Total	6409.950	52			

Table 4: Coefficients

Model		Standardized Coefficients Beta	T Value	Sig.
1	(Constant)		-5.166	.000
	Customer service quality and Customer Satisfaction	0.862	15.038	.000
2	(Constant)		-6.361	.000
	Product quality and Customer Satisfaction	0.882	14.542	.000
3	(Constant)		-5.912	.000
	Customer Satisfaction and Customer Loyalty	0.890	15.667	.000

According to statistical analysis in this section the results indicates that customer service and product quality has been influential on customer satisfaction and also there is a positive relationship between customer service and product quality with customer satisfaction and loyalty in the context of the Indian automotive industry.

9- Conclusion

The links between quality, customer satisfaction and loyalty are one of the most popular research topics among service researchers (Chai, Ding, and Xing, 2009; Pilkington and Chai 2008). Pilkington and Chai (2008) studied the importance of quality of products and services on customer satisfaction and found out that loyal customers mostly lie in category of customers who have used higher quality products. This implies that better quality of products tends to increase customers' loyalty. Researches by Chai and colleagues (2009) show that quality of services to a customer is one of the most important factors in identifying new customer needs and as we all know, the key to customer satisfaction and loyalty is providing the customers with their undiscovered needs. Other studies done by Bastos and Gallego (2008); Yi, (1990); Chai et al, (2009); Bloemer, et al (1995) also show the importance of products and services quality in enhancing customer satisfaction and loyalty. One may pursue the common point of these studies in undiscovered customer needs.

In a setting where companies do not depend on others to serve customers, the customer is aware to whom his/her perception is dedicated, and the direct link between perceived quality, customer satisfaction and loyalty is naturally expected.

This has been proven by many researchers in both pure product (e.g. Zeithaml 1988, Cronin et al. 2000, Brady and Cronin 2001) and pure service settings (e.g. Parasuraman et al. 2005, Wofinbarger and Gilly 2003). It may be easy to point out that customer satisfaction increases their loyalty, but there are also many satisfied customers who are not loyal to that particular brand. Thus, paying attention to satisfaction and loyalty at the same time is to be a critical and also a challenging task for a company. Studies undertaken by Coyne (1989); Oliva et al., (1992); Fornell (1992); Guiltinan, et al. (1997); Sivadas and Baker-Prewitt (2000); Bowen, and Chen (2001); Bansal and Gupta (2001); Silvestro, and Low (2006), show that there is a positive and meaningful relationship between customer satisfaction and increase in the customers' loyalty. Findings of this research show that the quality of customer service and the quality of products in Tata Motor's Company promotes customer satisfaction, and also there is a positive relationship between customer satisfaction and customer loyalty in the context of the Indian automotive industry.

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