A STUDY ON CUSTOMER SATISFACTION ON THE SERVICES OF INDANE AND BARAT GAS COMPANIES

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ABSTRACT:

    The main aim of conducting this research study is to know about customer satisfaction on the services of Indane and Bharat Gas Companies in Kanyakumari district. To conduct this study and to achieve the objectives, the primary data has been collected by using structured questionnaires. For collecting the primary data judgmental sampling method is used. To undertake this study, the sample sizes of 384 respondents were taken. The result concluded that the customers of Indane Gas Company have more satisfaction than the customers of Bharat Gas Company in the service related to a gas new connection. There was no significant difference in customer satisfaction on
the service between Indane Gas Company and Bharat Gas Company in case of gas refill booking. The study suggested that the distributors or retailers of Bharat Gas Company should open a separate helping desk with equipped staff in the office for seekers of a new connection to complete the entire registration procedure online as well as the good old fashioned offline way.

KEYWORDS: *Customer Satisfaction, Indane Gas Company, Bharat Gas Company, Kanyakumari District.*

INTRODUCTION

Liquefied Petroleum Gas is used as fuel for thousands of applications. In developing countries, the main benefits of LPG are in helping people to switch from unsustainable biomass use to clean and safe cooking fuel. LPG domestic uses can never be ignored. It has played a revolutionary role when it comes to changing the face of domestic fuels used for heating and cooking (Vinayagamoorthy and Shankar, 2011). The main domestic uses of LPG are with respect of Lighting, Refrigeration, Cooking and most of all heating. It is as good for powering standalone stoves and huge cooking stoves. It is cost-effective and hence is used in large scale cooking also. The main reason behind this is easy accessibility, low cost per unit and the environment-friendly properties of LPG (Suchismita Satapathy, Susovan Mullick and Vikash Yadav, 2017).

LPG has a massive range of uses, mainly used for cylinder across many different markets as an efficient fuel container in the agriculture,recreation, hospitality, calefaction, construction, sailing, and fishing sectors. It can serve as fuel for cooking, central heating and to water heating and is a particularly cost-effective and efficient way to head off-grid homes. In the safety font, LPG cylinder must be updated to new standards in safety and user experience, giving a huge

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contribution for domestic usage (Pratibha Jain, 2016). There are four public sectors oil marketing company, they are Indian Oil Corporation Limited, Hindustan Petroleum Corporation Limited, Bharat Petroleum Corporation Limited, and IBP. They distribute the cylinders to the customers through several distributors in a different region.

STATEMENT OF THE PROBLEM

The success of a service provider depends on the high-quality relationship with customers, which determines customer satisfaction. Research has shown repeatedly that customer satisfaction influences the organizational outcome, such as performance superiority, increasing sales, profit, and market share, improving customer relations, enhance corporate image and promote customer loyalty (Ranjitkumar Siringi, 2013). Customer satisfaction is a must for success and survival in today competitive among gas companies. The Indian gas companies' reforms have deregulated the market to a great extent. It has become necessary to design and execute the best customer-oriented practices and to internalize them for providing enhanced satisfaction to the customer **through the services. Customers' service is not merely compliance with the government's policies or mechanical adherence to the time frame of services. It is a philosophy and an attitude of professional commitment, which beliefs in the ultimate satisfaction or each customer 'wants'.** The study intends to test customer satisfaction towards the services of Indane and Bharat gas companies such as gas new connection and gas refill booking.

OBJECTIVES OF THE STUDY

The following objectives **have been framed for the present study:**
1. To find out the degree of customer satisfaction on the service of gas new connection of Indane and Bharat gas companies
2. To find out the degree of customer satisfaction on the service of gas refill booking of Indane and Bharat gas companies
3. To compare the customer satisfaction between the services of Indane and Bharat gas companies

RESEARCH METHODOLOGY

The descriptive type of research was adopted in the present study. To achieve the purpose of the study, the total of 384 customers representing 6 Talukas of Kanyakumari district from each of 32 sample units for each Indane and Bharat Gas Companies were selected. The data were collected for the study by judgmental sampling method. In the light of the specific objective set, all information and data were collected from the sampled respondents through direct personal interviews employing structured interview schedule. The primary data were collected for six months from **January 2019 to June 2019**. K-means cluster analysis and paired-samples *t*-test were applied for analyzing the degree of customer satisfaction and compare the customer satisfaction on the services of Indane and Bharat Gas Companies respectively. The primary data collected were analyzed by using Statistical Package for Social Sciences (SPSS 21).

ANALYSIS AND RESEARCH FINDINGS

An attempt was made to know the degree of customer satisfaction on the services of Indane and Bharat gas companies regarding gas new connection and gas refill booking in the study area. Further, the study attempts in the section to analyze the difference in customer satisfaction between the services of Indane and Bharat gas companies regarding gas new connection and gas refill booking. To investigate the degree of customer satisfaction in the services of Indane and Bharat gas companies, K-means cluster analysis was performed. In K-Means clustering the researcher designates the number of clusters desired. K is the number of clusters researchers indicate they want. Here, the researcher desired to designate three clusters and named for the first cluster as Highly Satisfied, for the second cluster as Moderately Satisfied and the third cluster as Least Satisfied. Further, paired-samples *t*-test was performed to analyze the difference in customer satisfaction between the services of Indane and Bharat

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gas companies. The following null hypothesis (H_0) was framed to test the differences in customer satisfaction between the services of Indane and Bharat gas companies.

H_0 :   There is no significant difference in customer satisfaction on the services between Indane Gas Company and Bharat Gas Companies regarding gas new connection and gas refill booking.

Following this, an attempt was made to analyze the degree of customer satisfaction on the service dimension of gas new connection of Indane and Bharat gas companies and its difference between the gas companies. The results of cluster analysis and paired-samples t-test on the service of Indane and Bharat gas companies regarding gas new connection are explained in table 1.

Table 1
Customer Satisfaction on Gas New Connection Service

The dimension of Customer Service	LPG Companies	N	Cluster Analysis			Paired Samples t-Test			
			1	2	3			t value	p-Values
			Highly Satisfied	Moderately Satisfied	Least Satisfied	Mean	SD		
Gas new Connection	Indane	192	69 (35.9%)	70 (36.5%)	53 (27.6%)	3.40	.59	4.96	.000**
	Bharat	192	58 (30.2%)	43 (22.4%)	91 (47.4%)	3.12	.54		

** Significant at 0.05 level

Table 1 describes the degree of customer satisfaction on the service of gas new connection of Indane and Bharat gas companies. As regards of gas new connection, in Indane gas company, it is found that the first cluster consists of 69 (35.9%) respondents who are highly satisfied customers, second cluster consists of 70 (36.5%) respondents who are moderately satisfied customers and third cluster consists of 53 (27.6%) respondents who are least satisfied customers.

As regards of gas new connection, in Bharat gas company, it is found that the first cluster consists of 58 (30.2%) respondents who are highly satisfied customers, second cluster consists of 43 (22.4%) respondents who are moderately satisfied customers and third cluster consists of 91 (47.4%) respondents who are least satisfied customers.

Table 1 reveals that the observed t value for customer satisfaction on the service of the gas new connection is 4.96, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is tiny a risky (far below the standard of 5 percent risk), so the study is unable to reject the null hypothesis (H_0) in a case of gas new connection service. The study, therefore, concludes that there was a statistically significant difference in customer satisfaction between Indane and Bharat gas companies in case of gas new connection service, $F(191) = 4.96$, $p < .05$. The mean of customer satisfaction on the service of a gas new connection for Indane gas company (3.40 ±.59) is higher than the mean of customer satisfaction on the service of a gas new connection for Bharat gas company (3.12 ±.54).

From a theoretical point of view, the result regarding the degree of customer satisfaction on the service related to gas new connection shows that the customers who have highly satisfied and moderately satisfied are more in Indane Gas Company than Bharat Gas Company. But, Bharat Gas Company has more customers who have least satisfied than Indane Gas Company. Further, it indicates that there was a significant difference in customer satisfaction on the service between Indane Gas Company and Bharat Gas Company in case of the gas new connection. The study confirms that the customers of Indane Gas Company have more satisfaction than the customers of Bharat Gas Company in the service related to gas new connection through online and offline, documents assessing the process for gas new connection and time taken for providing new connection.

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In continuance, an attempt was made to analyze the degree of customer satisfaction on the service dimension of gas refill booking in Indane and Bharat gas companies and its difference between the gas companies. The results of cluster analysis and paired-samples t-test on the service of Indane and Bharat gas companies regarding gas refill booking are explained in table 2.

Table 2
Customer Satisfaction on Gas Refill Booking Service

The dimension of Customer Service	LPG Companies	N	Cluster Analysis			Paired Samples t-Test			
			1	2	3	Mean	SD	t value	p-Values
			Highly Satisfied	Moderately Satisfied	Least Satisfied				
Gas Refill Booking	Indane	192	57 (29.7%)	80 (41.7%)	55 (28.6%)	3.32	.63	1.98	.059
	Bharat	192	42 (21.9%)	12 (6.3%)	138 (71.8%)	3.21	.46		

** Significant at 0.05 level

Table 2 explains the degree of customer satisfaction on the service of gas refill booking of Indane and Bharat gas companies. Regarding the service of gas refill booking, in Indane Gas Company, it is found that the first cluster consists of 57 (29.7%) respondents who are highly satisfied customers, second cluster consists of 80 (41.7%) respondents who are moderately satisfied customers and third cluster consists of 55 (28.6%) respondents who are least satisfied customers.

Regarding the service of gas refill booking, in Bharat Gas Company, it is found that the first cluster consists of 42 (21.9%) respondents who are highly satisfied customers, second cluster consists of 12 (6.3%) respondents who are moderately satisfied customers and third cluster consists of 138 (71.8%) respondents who are least satisfied customers.

Table 2 reveals that the observed t value for customer satisfaction on the service of gas refill booking is 1.98, which is associated with a 5.9 percent risk of being wrong in rejecting the null hypothesis. This is enormous a risky (above the standard of 5 percent risk), so the study is unable to accept the null hypothesis (H_0) in a case of gas refill booking service. The study, therefore, concludes that there was no statistically significant difference in customer satisfaction between Indane and Bharat gas companies in case of gas refill booking service, $F(191) = 1.98$, $p = .059 > .05$.

From a theoretical point of view, the result regarding the degree of customer satisfaction on the service related to gas refill booking shows that the customers who have moderately satisfied and highly satisfied are more in Indane Gas Company than Bharat Gas Company. But, Bharat Gas Company has more customers who have least satisfied than Indane Gas Company. Further, it indicates that there was no significant difference in customer satisfaction between Indane Gas Company and Bharat Gas Company on the service of gas refill booking through Interactive Voice Response System (IVRS), SMS, mobile Application, distributor and an online portal.

The proposed null hypothesis (H_0) was tested by paired-sample t-test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to decide whether to reject or retain the proposed null hypothesis. The decision made, based on this p-value, is presented in table 3.
Table 3

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Null Hypothesis (H$_0$) Test Summary

Null Hypothesis	Test	Factors	p-value	Decision
There is no significant difference in customer satisfaction on the services between Indane Gas Company and Bharat Gas Companies regarding gas new connection and gas refill booking.	Paired-Sample t-test	Gas New Connection	.000**	Rejected
		Gas Refill Booking	.059	Accepted

**Significant at 0.05 level

Table 3 reveals that the null hypothesis (H$_0$) is rejected at the 5 percent level of significance about the services in the dimensions of gas new connection due to the p-value is less than 0.05 except the service of gas refill booking.

CONCLUSION

The result regarding the degree of customer satisfaction on the service related to gas new connection showed that the customers who have highly satisfied and moderately satisfied are more in Indane Gas Company than Bharat Gas Company. But, Bharat Gas Company has more customers who have least satisfied than Indane Gas Company. The result concluded that the customers of Indane Gas Company have more satisfaction than the customers of Bharat Gas Company in the service related to a gas new connection. The result regarding the degree of customer satisfaction on the service related to gas refill booking revealed that the customers who have moderately satisfied and highly satisfied are more in Indane Gas Company than Bharat Gas Company. But, Bharat Gas Company has more customers who have least satisfied than Indane Gas Company. Further, it indicated that there was no significant difference in customer satisfaction on the service between Indane Gas Company and Bharat Gas Company in case of gas refill booking. The study suggested that the distributors or retailers of Bharat Gas Company should open a separate helping desk with equipped staff in the office for seekers of a new connection to complete the entire registration procedure online as well as the good old fashioned offline way.

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