CHAPTER 5

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5.1   SUMMARY OF FINDINGS

This study focuses on service quality of non-fuel offerings of National Oil Companies (NOC), an area on which not much work has been done in India.

Chapter two focuses on review of studies on the three important areas relevant to the present study. These included service quality, oil & gas sector in India and non-fuel offerings. The important observations in this chapter include:

1.   Services possess the characteristics of intangibility, perishability, heterogeneity and inseparability. Due to these characteristics it is more difficult to define service quality for services as compared to product quality. Service quality has been defined by different researchers differently. The most widely accepted and applied instrument for measuring service quality is SERVQUAL, which has been applied in the present study.

2.   For 2008, oil constituted 31% of the primary energy consumption in India, India was the 4th largest consumer of oil in world and there is demand-supply gap for oil & gas in India. The Indian oil and gas industry consists of upstream, downstream and other industry bodies.

The Indian upstream sector has not been completely explored as only 22% of the total area is moderately to well explored. Government of India (GOI) opened the sector to private and foreign companies. Eight

rounds of New Exploration Licensing Policy have been held so far. These rounds have been successful as 68 oil and gas discoveries have been made during the first seven rounds of NELP.

The downstream sector includes two major areas namely refining and petro retailing. The refining sector was de-licensed in 1998. India has surplus refining capacity, is a net exporter of petroleum products and is poised to become a refining hub.

Petro retailing in India was deregulated in 2002 and has witnessed entry of private companies. GOI subsidizes retail fuel prices of Motor Spirit / High Speed Diesel of NOC. Since the private oil companies cannot match the subsidized prices, the petro retail sector is dominated by NOC.

3.   Since the NOC have to bear the burden of the subsidies, they have incurred heavy losses. They have realized that their future survival and growth rests not only on fuel retailing but also on non-fuel offerings. Non-fuel offerings besides making the pump profitable also enables them to provide convenience to customers, drive positive rub-off on fuel sales, and create differentiation.

Chapter 3 presents the survey design, demographic profile of the respondents surveyed, vehicle ownership of respondents, non-fuel offerings of the petro retail outlets surveyed, tools & techniques employed, and analysis of empirical result. The following observations are worth mentioning.

1.   Analysis of the survey data revealed that Cronbach Alpha of all the statements is 0.731, which is considered to be acceptable for demonstrating internal consistency of the established scale. The value of Kaiser-Meyer-Olkin (KMO) is 0.943, which indicates that the examined data set is highly adequate for factor analysis. The Bartlett's test of Spherecity returned an approximate Chi Square of 9, 764.839

with 231 degrees of freedom with p=0.000 (highly significant). This indicates that the data set is acceptable for factor analysis.

2.   The SERVQUAL scale was factor-analyzed on the expectation scores. Three factors explained 61.019% of the total variance. The three factors were labeled as "Reliable & Appealing Facilities", "Human Aspect", and "Dependability". The first factor "Reliable & Appealing Facilities" captured the tangibility, reliability and assurance aspects of service quality. The second factor "Human Aspect" was composed of the responsiveness and empathy aspects of service quality. The third factor "Dependability" includes the dependable nature of the service quality.

Chapter 4 deals with development of the service quality model of non-fuel offerings for petro retail outlets, service quality model for non-fuel offerings for petro retail outlets on basis of attributes in factors, and comparison of service quality gaps of NOC. The following observations are of significance.

1.   For service quality model for non-fuel offerings for petro retail outlets, for each of the factors the major findings are that:

▪   Factor 1: "Reliable and Appealing Facilities"
        There is a high mean expectation score of 5.122 which can be explained by the fact that for non-fuel offerings are provided by facilities which include convenience stores, food outlets, ATM's, car washing, vehicle servicing and others. There is a high mean perception score of 4.8495 and gap -0.27271 which is statistically significant at 5% level of significance.

▪   Factor 2: "Human Aspect"
        This factor incorporates negatively worded statements for the service quality attributes. The expected mean value is 2.9365 and perception mean score is 3.7353. So there is a positive gap + 0.7987. "Human Aspect" incorporates all negatively worded

statements for the expectations hence a low score (disagreement with statement) is on expected lines. Similar is the case for the perception score. Gap positive value of +0.7987 is actually a negative gap. This clearly demonstrates that customers expect higher service quality from employees, but they perceive the actual service quality to be lower. This gap is statistically significant at 5% level of significance.

▪ Factor 3: "Dependability"

The mean expectation score of Dependability is 3.7791 and the mean perception score is 4.2315, which shows that there is a positive gap of 0.45238 which is statistically significant at 5 % level of significance.

▪ Comparison among the three derived factors
For both Factor 1 "Reliable and Appealing Facilities" and Factor 2 "Human Aspect" the service quality is not as desired by the customers. This is especially more for Factor 2 "Human Aspect". This means that the management must identify the areas of improvement related to the prompt service, personal attention and willingness to help the customers. This emphasizes that retail outlet must focus on Customer Relationship Management practices to deliver high quality of Non-Fuel Offerings. Factor 3 "Dependability" is one of the factor which has a high perceived value than it's expected value, which shows that customers have more confidence on "Dependability" which we can generalize that non-fuel offerings is always dependable.

2.   Service quality model for non-fuel offerings for petro retail outlets on the basis of attributes in factors was developed. For each of the factors the major findings were that:

- Factor 1: "Reliable and Appealing Facilities"

    For this factor the customers have highest expectations for attributes related to reliability, followed by assurance and tangibility. The customers have the highest perceptions related to reliability, then tangibility and assurance. The largest gap is for the attribute "For Non-fuel offerings when these companies promise to do something by a certain time, they should do so."

- Factor 2: "Human Aspect"

    Customers have high level of expectations for attributes related to empathy followed by responsiveness. Customers have high level of perceptions for attributes related to responsiveness followed by attributes for empathy. The largest gap is for the attribute "For Non-fuel offerings they shouldn't be expected to have operating hours convenient to all their customers."

- Factor 3: " Dependability"

    The perception score is more than the expectation score. It means customers are delighted on this factor supplemented by non-fuel offerings in petro retail outlets.

3. Comparison of Service Quality of IOC, HPC & BPC was performed by comparison of the Service Quality Models of the three companies. The major findings on the three factors were as follows:

- Factor 1: "Reliable and Appealing Facilities"

    Expectations are highest for BPC (5.75352), HPC (5.0688) and IOC (4.8644) in this order. Perceptions are highest for HPC (5.0104), BPC (4.8539) and then IOC (4.7050). The service quality gap is largest for BPC (-0.8813), which is statistically significant at 5 % level of significance.

- Factor 2: "Human Aspect"

  Expectations are highest for HPC (2.6987), IOC (2.9853) and BPC (3.2616) in this order. Perceptions are highest for HPC (3.6916), IOC (3.7413) and BPC (3.8010). The service quality gap (0.99288) is largest for HPC, which is statistically significant at 5 % level of significance.

- Factor 3: "Dependability"

  Expectations are highest for HPC (3.8932), BPC (3.7658) and IOC (3.6845) in this order. Perceptions also follow the same pattern of HPC (4.5018), BPC (4.0886) and IOC (4.0631). The largest positive service quality gap is observed for HPC (+0.60854) which is statistically significant at 5% level of significance.

4. In chapter 4 hypotheses for the various service models were developed and also tested. A summary of this is given in Table 5.1.

Table 5.1: Summary of Hypotheses Developed & Tested

		Hypothesis	Statistic Value	Results	Table
Hypothesis	1:	The dimensions reflecting service quality of non-fuel offerings in petro retail outlets is significantly related to each other.	-	Supported	Table 3.12
Hypothesis	2:	There is significant difference in service quality of "Reliable & Appealing Facilities" in non-fuel offerings in petro retail outlets.	t = 5.303*	Supported	Table 4.2
Hypothesis	3:	There is significant difference in service quality of "Human Aspect" for non-fuel offerings in petro retail outlets.	t = 18.779*	Supported	Table 4.2

Hypothesis	4:	There is significant difference in service quality of "Dependability" for non-fuel offerings in petro retail outlets.	t = -6.393*	Supported	Table 4.2
Hypothesis	5:	There is significant difference in service quality of "Reliable and Appealing Facilities" for IOC for non-fuel offerings in petro retail outlets.	t = 2.085**	Supported	Table 4.4
Hypothesis	6:	There is significant difference in service quality of "Reliable and Appealing Facilities" for HPC for non-fuel offerings in petro retail outlets.	t = 0.061	Not Supported	Table 4.4
Hypothesis	7:	There is significant difference in service quality of "Reliable and Appealing Facilities" for BPC for non-fuel offerings in petro retail outlets.	t = 13.494*	Supported	Table 4.4
Hypothesis	8:	There is significant difference in service quality of "Human Aspect" for IOC for non-fuel offerings in petro retail outlets.	t = -11.352*	Supported	Table 4.4
Hypothesis	9:	There is significant difference in service quality of "Human Aspect" for HPC for non-fuel offerings in petro retail outlets.	t = -13.965*	Supported	Table 4.4
Hypothesis	10:	There is significant difference in service quality of "Human Aspect" for BPC for non-fuel offerings in petro retail outlets.	t = -6.538*	Supported	Table 4.4
Hypothesis	11:	There is significant difference in service quality of "Dependability" for IOC for non-fuel offerings in petro retail outlets.	t = -3.285**	Supported	Table 4.4

Hypothesis	12:	There is significant difference in service quality of "Dependability" for HPC for non-fuel offerings in petro retail outlets.	$t = -5.395*$	Supported	Table 4.4
Hypothesis	13:	There is significant difference in service quality of "Dependability" for BPC for non-fuel offerings in petro retail outlets.	$t = -2.241**$	Supported	Table 4.4

* Significant at 5% ** Significant at 1%

All the Hypotheses excepting Hypothesis 6 are supported.

5.2   CONTRIBUTIONS OF THE STUDY

The major contributions of this study are summarized as follows:

1.   A definition of non-fuel offerings has been proposed, which was lacking in published literature on the subject.

2.   A systematic and detailed presentation of concepts related to non-fuel offerings relevant to Indian context has been incorporated in the study. These concepts would be of immense value to academicians and practicing managers.

3.   To the best of the researcher's knowledge, SERVQUAL instrument was utilized for the first time to measure service quality of non-fuel offerings at petro retail outlets in India.

4.   Empirical data analysis by relevant statistical tools, was carried out to develop service quality models relevant to non-fuel offerings at petro retail outlets. These models clearly identify the dimensions of service quality, service quality gaps, specific attributes where performance needs to be improved, and strategies to be developed.

5.   The detailed knowledge on service quality derived from the study can be utilized by the NOC or other petro retailing companies with a conceptual and operational framework to measure and manage service quality.

5.3   SCOPE FOR FURTHER RESEARCH

1.   For future studies, it is proposed that more number of states should be covered to get a broader understanding of service quality of non-fuel offerings at petro retail outlets.

2.   As in the present study, the data was collected from cities only, it is proposed that in future data from rural areas should also be collected and analyzed.

3.   Further, qualitative research like focus group techniques / in-depth interviews may be combined along with quantitative research in future studies. This will result in a better understanding of service quality of non-fuel offerings at petro retail outlets.

4.   Depending on the future market environment of petro retailing, service quality measurement utilizing methodologies developed in this study can be extended to private petro retailing companies also.

5.   Studies requiring measurement of service quality in other petro-retailing areas / service sectors can utilize the methodologies developed in this study.