Consumer Perception and Satisfaction: A Case Study of Teok Electrical Division under Jorhat Electrical Circle of Assam

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Abstract

This paper is an attempt to investigate the influence of some selected factors affecting on consumer perception and to access the level of perception and satisfaction about the quality of services provided by the Teok Electrical Division of Jorhat Electrical Circle. The Teok Electrical Division is a sub-division of Jorhat Electrical Circle under the Upper Assam Zone of Assam Power Distribution Company Limited. The prime function of the company is to purchase the electrical energy from the various sources and to sell the same to the domestic, commercial, industrial, and general consumers. Thereby, the company aims to satisfy the consumers and achieve the socio economic development of the region. But, it has been realised that the quality of the services provided by the division is not up-to the mark as desired by the consumers.

This study has been carried out by adapting the five (5) quality dimensions developed and refined by Parasuraman and some other thinkers (1988, 1991 and 1994). These five quality dimensions are 'reliability, responsiveness, assurance, empathy, and tangibles'. The researcher has undertaken twenty (20) attributes under these five dimensions. Each of these dimensions consist of four (4) attributes to justify the level of perception of the consumers under study and to assess thereupon, the level of satisfaction about the quality of services of the division. The information/data about these twenty (20) attributes have been collected from 376 numbers of respondents by using a five point Likert scale. The collected data have been analysed by adapting the "Consumer Satisfaction Indices" derived by Paul M. K. and Barman, A. (March-2010) to assess the level of consumer satisfaction/dissatisfaction. The study has finally revealed that the overall consumer satisfaction level in the division is found as 2.526 indices. The most influencing dimension affecting consumer's satisfaction is found as "Service Assurance" which is 2.726 indices and the least one is found as "Service Tangibles" which is 2.404 indices. Therefore, it can be stated that the division is still required to improve its service delivery system to make the consumer delight.

Keywords: Quality Dimensions, Perception, Expectation, Satisfaction Indices.

Introduction

Perception is the process by which a person selects, organises and interprets sensory stimulation to form a meaningful picture of the world. It is the process by which a consumer makes sense of the information that he receives.[1] Satisfaction is the consumers' fulfilment response. It is a judgement that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfilment. In other sense, satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met the customers' needs and expectations. Failure to meet needs and expectations is assumed to result in dissatisfaction with the product or service.[2]

Customer expectations and perception of services lead towards level of satisfaction. Now a day, it has been realised by most of the organisation that the service minded people are needed to manage an organisation effectively and efficiently. Moreover, the growth and development of an organisation is depended upon the delightness of the consumers especially for the public utility service organisation. The customers are an input resource for the public utility service organisation for its operations and thus, we not only need to know how to manage customers but also we need to understand what they expect from the

service operation management. Most importantly, the service managers must ensure that there is a match between expectation and service delivery in order to satisfy the customers. In this context, this study has been undertaken to investigate the influence of some selected factors affecting on consumer perception first, and then; to assess about the level of satisfaction of the service users i.e. consumers in Teok Electrical Division of Jorhat electrical Circle in a form of Case Study Method.

About Teok Electrical Division

The Teok Electrical Division (TED) is a sub-division of Jorhat Electrical Circle under the Upper Assam Zone of Assam Power Distribution Company Limited engaged in utility services. The prime function of the company is to purchase the electrical energy from the Assam Power Generation Company Limited (APGCL) and the Assam State Electricity Grid Corporation Limited (ASEGCL) and to sell the electrical energy to domestic, commercial, industrial, and general consumers. The surpluses gained from these activities are utilised for the infrastructure development of the company so that the company can contribute towards socio economic development of the region. At present, there are five electrical circles under the Upper Assam Zone to provide the electricity distribution service to the entire region of the Upper Assam. The Jorhat Electrical Circle is one of those Circles which provide the required services to the consumers of the Jorhat district. The Teok Electrical Division is one of the division working under the direct supervision of the management of the Jorhat Electrical Circle. There are two electrical sub-divisions namely Teok Electrical Sub-Division and Kakojan Electrical Sub-Division under the Teok Electrical Division. The Teok Electrical Division is headed by an Assistant General Manager and the two sub-divisions are headed by the two separated Sub-Divisional Engineers for the operation and maintenance of the power distribution system.

Review of Literature

1. J. D. Power and Associates had conducted a survey about the customer satisfaction with electricity and gas utility providers in the U.K. during the year 2010. Gordon Shields, Research Director at J. D. Power and Associates had reported that the increasing electricity monitor had yielded benefits for both suppliers and customers.[3]

2. The performance expectation which satisfy customer requirements have been studied by Florida Power and Light Company in the state of Florida and could find out certain specific factors like protect natural environment, concern for community, prevent pollution, price management, employee safety, public safety, continuity of electric power, understandable rates and bills, accurate bills, quality repair works, quickly restored power, keep rates down, minimize power fluctuations, flexible payment arrangement, outdoor light around home, involving in community activities etc. which can satisfy the customers.[4]

3. In order to access the level of consumer satisfaction with the service offered by the distribution companies viz. BSES Rajdhani Power

Ltd. (BRPL), BSES Yamuna Power Ltd. (BYPL) and North Delhi Power Ltd. (NDPL); DERC had carried out a consumer satisfaction survey among 10,391 domestic consumer across three categories having sanctioned load upto 2KW, between 2-10 KW and above 10 KW. The salient findings of the survey were shortfall in supply of electricity, system break down due to poor repair and maintenance of works, fast running electronic meters, complaint redressal mechanism, high tariff rate etc.[5]

4. Manifold, an information and advisory services company of Bhopal, Madhya Pradesh had conducted a study on "Consumer Satisfaction in upcoming power distribution franchisee areas of Madhya Pradesh". The study had reported that the factors affecting the consumer satisfaction are power quality and reliability, customer service, meter, billing and payment, communication, price and company image etc. Of course, there were mixed reactions among the consumers towards the privatisation of power distribution franchisee model in state.[6]

5. Service quality is a focused evaluation that reflects the customer's perception of reliability, assurance, responsiveness, empathy, and tangibles. Satisfaction is influenced by perception of service quality, product quality, price, situational factors and personal factors.[7]

6. Service quality as perceived by customers can be defined as "the extent of discrepancy between customers' expectations or desires and perciptions" (Zeithaml, Parasuraman and Berry, 1990). Quality is whatever customers say it is, and the quality of particular product or service is whatever the customer perceives it to be (Buzzel and Gale, 1987). Service quality is the delivery of excellent or superior service relative to customer expectations (Zeithaml and Bitner, 1996). Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs (ISO 8402, 1986). Quality of a service, as perceived by the customer is the result of a comparison between the expectation of the customer and his real life experiences (Gronrrons, 1982).[8]

Objectives of the Study

The objectives undertake to study are:

1. To investigate the influence of some selected factors affecting on consumer perception about the power supply services,

2. To find out the level of perception perceived by the consumers of the organisation, and finally;

3. To assess the overall satisfaction levels of the consumers about the quality of services provided by the Teok Electrical Division.

Methodology of the Study

The universe of the study includes all the categories of consumers i.e. Domestics, Commercials, Industrials, and General Purpose consumers receiving the electricity supply services from the Teok Electrical Division. The total number of all categories of consumers is 18657 in all the electrical sub-divisions of the Teok Electrical Division as on March-2011. As the universe is very large in size; the sample size is predetermined as 376 based

on the Ready Reconer Table of Robert V. K. of University of Minnesota, Duluth and Daryle W. M. of Texas A & M University (1970) considering the proposition that the 'accuracy of the result can be maintained or achieved without increasing the sample size if the population is homogenous as well as the basic characteristics of the population is almost alike (Thakur D,2000).[9] The data/information have been collected with an interview scheduled and questionnaire developed by the researchers based on five (5) points Likert's Scale and Florida Electrical Company Limited (Howard et al. 3rd Edition) to assess the satisfaction level of the consumers.

Key Variables

The researchers have identified twenty (20) variables sub-divided into five (5) groups defined as viz. Group A= Reliability; Group B= Responsiveness; Group C= Assurance; Group D= Empathy; and Group E= Tangibles to evaluate and report on consumer satisfaction/ dissatisfaction. The list of selected attributes with their assigned codes is shown in the **Annexure**

Technique of Analysis

To study the selected variables and for the purpose of meaningful representation, consumer satisfaction indices have been adopted derived by Paul, M. K. and Barman, A (March- 2010).[10] These indices are:

1. Consumer satisfaction index for i[th] consumer (CSI_{ci})
   CSI_{ci} is the weighted arithmetic mean of the satisfaction expressed by i[th] consumer for different attributes with the number of attributes under different scales taken as weight.

2. Consumer satisfaction index for the jth attribute (CSI_{aj})
   It is the weighted average of the levels of satisfaction as expressed by all the consumers for j[th] attribute, with number of consumers under different scales of satisfaction is taken as weights.

3. Overall satisfaction index for TED as a whole (CSI_{TED})

To derive overall level of satisfaction of the consumers for the services of TED as a whole, the overall satisfaction index for TED as a whole has been set as follows:

$CSI_{TED} = (K_{ij})/(Nm)$

Where, K_{ij}= the satisfaction level expressed by i[th] consumer for j[th] attribute,
m= Number of attributes,
N= Total number of consumers

Limitations of the Study

The present study has some unavoidable limitations considering the objectives of the study. These are:

1. As the study is restricted to only twenty (20) attributes, its findings may not be the end result of consumers' satisfaction/dissatisfaction.

2. As the study is restricted to only one division only, its findings may not be generalized for other divisions of Jorhat Electrical Circle of Jorhat and other districts of the state.

3. The study has not included the demographic profile and the income level of the consumers.

4. The study has been carried out based on the working hypotheses leaving aside the statistical hypotheses.

5. The study has not been carried out on service expectation for finding out the service gap which is also felt as essential to determine the level of satisfaction.

Analysis and Interpretation

The collected data/information have been analyzed first attribute- wise and then dimension wise to arrive at the results about the stated objectives of the study in the following subsequent paragraphs.

Attribute-Wise Assessment of Satisfaction Level of Consumers

The assessment of satisfaction level of the consumers has been made based on the perception about the service quality of the division with regard to the twenty (20) attributes. The responses according to their individual perception about the service quality of the division are shown in the table-1.

Table-1
Attribute-Wise Responses of Consumers (N=376)

Codes of Attributes	Scale of Satisfaction (K)						CSI_{Aj}
	NS(1)	SS(2)	S(3)	VS(4)	ES(5)	Grant Total	
1	2	3	4	5	6	7	8
A_1	90[23.94]	164[43.62]	100[26.60]	17[04.52]	05[01.33]	376[100]	2.157
A_2	47[12.50]	148[39.36]	144[38.30]	05[01.33]	32[08.51]	376[100]	2.540
A_3	52[13.83]	216[57.45]	68[18.09]	20[05.32]	20[05.32]	376[100]	2.309
A_4	92[24.47]	62[16.49]	70[18.62]	116[30.85]	36[09.57]	376[100]	2.846
A_5	122[32.45]	122[32.45]	56[14.89]	28[07.45]	48[12.77]	376[100]	2.356
A_6	60[15.96]	100[26.60]	164[43.62]	20[05.32]	32[08.51]	376[100]	2.638
A_7	58[15.43]	86[22.87]	120[31.91]	96[25.53]	16[04.26]	376[100]	2.803
A_8	51[13.56]	92[24.47]	164[43.62]	64[17.02]	05[01.33]	376[100]	2.681
A_9	84[22.34]	140[37.23]	56[14.89]	32[08.51]	64[17.02]	376[100]	2.606
A_{10}	56[14.89]	104[27.66]	60[15.96]	116[30.85]	40[10.64]	376[100]	2.947
A_{11}	47[12.50]	156[41.49]	72[19.15]	96[25.53]	05[01.33]	376[100]	2.617
A_{12}	56[14.89]	100[26.60]	124[32.98]	80[21.28]	16[04.26]	376[100]	2.734
A_{13}	56[14.89]	220[58.51]	68[18.09]	16[04.26]	16[04.26]	376[100]	2.245

A_{14}	124[32.98]	95[25.27]	53[14.10]	72[19.15]	32[08.51]	376[100]	2.449
A_{15}	52[13.83]	148[39.36]	136[36.17]	24[06.38]	16[04.26]	376[100]	2.479
A_{16}	66[17.55]	152[40.43]	86[22.87]	48[12.77]	24[06.38]	376[100]	2.500
A_{17}	80[21.28]	152[40.43]	92[24.47]	36[09.57]	16[04.26]	376[100]	2.351
A_{18}	47[12.50]	140[37.23]	160[42.55]	24[06.38]	05[01.33]	376[100]	2.468
A_{19}	88[23.40]	76[20.21]	100[26.60]	72[19.15]	40[10.64]	376[100]	2.734
A_{20}	141[37.50]	122[32.45]	77[20.48]	20[05.32]	16[04.26]	376[100]	2.064

$\Sigma CSI_{Aj} = 50.524$

$$CSI_{TED} = \Sigma = \Sigma \frac{K_{ij}}{mn} = \frac{50.524}{20} = 2.526$$

N.S. = Not satisfied,
S.S. = Slightly satisfied,
S   = Satisfied,
V.S. = Very satisfied
E.S. = Extremely satisfied.

The figures within parentheses indicate the percentages of Grand Total.
Source: Compiled from Questionnaire and Interview Schedule.

From the table-1, it is observed that the attribute A_{13} with regards to fair treatment to all consumers equally constitutes the highest number of slightly satisfied consumers i.e. 58.51percent followed by the attribute A_3 relating to the performance of the division which is 57.45percent; A_{20} with regard to feeling about promotional tools like poster, pamphlets, statements constitutes the highest number of unsatisfied consumers i.e. 37.50 percent; A_1 representing promises of the division which is 43.62percent. On the other hand, it is observed that the highest number of very satisfied and extremely satisfied consumers are 30.85percent and 12.77percent respectively with regards to A_4 and A_5 representing recording and distribution of accurate electricity bills and information about the services to be met.

Dimension-Wise Assessment of Satisfaction Level of Consumers

The assessment of satisfaction level of the consumers has been carried out on the five given dimensions to arrive at the satisfaction level about the quality of services of the division. The selected dimensions of quality services are Reliability, Responsiveness, Assurance, Empathy, and Tangibles. Reliability means the ability to perform the promised service dependably and accurately. Responsiveness is the willingness to help customers and to provide prompt service. This dimension emphasises attentiveness and promptness in dealing with customer request, questions, complaints and problems. Assurance means the employees knowledge and courtesy of the division and its employees to inspire trust and confidence. Empathy means the individualized attention that the farm provides to its customers. Tangible indicates the appearance of physical facilities, equipment, personnel, and communication materials. Tangibles provide physical representations or images of the service that customers will use to evaluate the quality of services. The responses received from the respondents have been shown in the table-2.

Table-2
Dimension-Wise Level of Satisfaction of Consumers

Sl. No.	Dimension (Factors of Satisfaction)	No. of Attributes	ΣCSI_{Aj}	CSI_{TED} (Level of Satisfaction)
1	2	3	4	5
1	Reliability	4	09.852	2.463
2	Responsiveness	4	10.478	2.620
3	Assurance	4	10.904	2.726
4	Empathy	4	09.673	2.418
5	Tangibles	4	09.617	2.404

Source: Transferred from Table-1

The table-2 indicates that the satisfaction level of the consumers against the dimensions- Reliability, Responsiveness, Assurance, Empathy, and Tangibles are 2.463, 2.620, 2.726, 2.418, and 2.404 indices respectively. Among these, the highest satisfaction level is found as 2.726 in case of the dimension- Assurance and the lowest satisfaction level is found as 2.404 in case of the dimension- Tangibles.

Results/Findings

1. The value of overall satisfaction indices for the division (CSI_{TED}) in respect to all consumers is 2.526.This value imply that on an average, the perception of the consumers about the services of Teok Electrical Division is not satisfactory.
2. The satisfaction indices are ranges from 2.064 to 2.947 associated with the consumers satisfaction index $4>CSI>3$. It indicates that the level of satisfaction in all the selected attributes is unsatisfactory.
3. About 17.02 percent of consumers are found to be extremely satisfied in respect to attribute A_9 i.e. on growing confidence of the consumer on employees of Teok Electrical Division.
4. About 37.50 percent of consumers are found to be not satisfied in respect to attribute A_{20} i.e. on trend of use of promotional tools for the awareness of consumers.

5. The maximum number of consumers those who have been slightly satisfied is 57.45 percent of total consumers under study in respect to A_3 i.e. on overall performance of the division. The minimum number of consumers those who have been slightly satisfied is 16.49 percent of total consumers under study in respect to A_4 i.e. on recording and distribution of electricity bills to consumers.

6. The highest number of satisfied consumers is 43.62 percent of total consumers under study towards the attributes A_6 and A_8 in respect to trend of providing prompt services and employees concern about consumers respectively. The lowest number of satisfied consumers is 14.10 percent in respect to A_{14} i.e. on personal attention towards consumers complains.

7. The maximum number of very satisfied consumers is 30.85 percent of the total consumers under study in respect to attribute A_4 about the recording and distribution of electricity bills to consumers. It is observed that the minimum number of very satisfied consumers is 01.33 percent of the total consumers under study in respect to attribute A_2 about interest of the division to solve the problems.

8. The maximum number of consumers those who have extremely satisfied is about 17.02 percent of total consumers under study in respect to attribute A9 i.e. on growing confidence on employees.

9. The overall conclusion can be drawn that the level of consumers satisfaction of most of the consumers is far below the average value of 3 according to the 5 points Likert Scale.

Policy Implication

Keeping in view the long term interest of electricity distribution utility services, it would seem necessary that the following steps are urgently required to implement by the concern authority:

1. The first and foremost step that has to be addressed towards the Consumers Awareness Programme. The consumers awareness programmes is to be organised by the division at the village level to make the consumer aware about the electricity distribution system.

2. The training programme about the Customer Relationship Management may be organised for the staff specially engaged in providing services to the consumers so that both the service provider and service users are benefited.

3. The physical infrastructure of the division are urgently required to improved with modern looking equipment for better service to the consumers as well as comfortable working environment in the organisation.

4. The required number of man power is very essential for providing the standard services to the stakeholders. As the study could revealed that the division is running with shortage of man power, the organisation must try to recruit the employees to serve the consumers satisfactorily.

5. The area wise Village Level Committees may be formed to observe the installed plant and equipments for avoiding transmission and commercial losses as a precautionary measure.

Conclusion

The study has revealed that the quality of the services provided by the division is not upto the mark as desired by the consumers. The main factors causing dissatisfaction to the consumers are availability of modern servicing equipments, existing infrastructure to minimize the power fluctuation, billing and payment arrangement, and adaptation of promotional tools to educate consumers. However, the service assurance dimension is found somewhat better to enhance the consumers' satisfaction with their limited resources. Finally, it can be suggested that the division should be provided with optimum infrastructure with adequate manpower to provide desirable services to the consumers.

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Annexure: List of Selected Attributes with their Assigned Code: Dimension-Wise

Sl. No.	Quality Dimensions	Codes of Attributes	Attributes
1	2	3	4
1	Reliability	A_1	Promises of the Division
		A_2	Interest of the Division to solve the problem
		A_3	Performance of the Division
		A_4	Recording and distribution of accurate electricity bills
2	Responsiveness	A_5	Information of the services to be met
		A_6	Trend of providing prompt services to the consumers
		A_7	Willingness to help consumers
		A_8	Concern about consumer problems beside their own business
3	Assurance	A_9	Growing confidence of the consumer on employees
		A_{10}	Safety in transaction with the division
		A_{11}	Trend of courteous nature of the employees
		A_{12}	Right knowledge of the employees to answer the right question of the consumers
4	Empathy	A_{13}	Fair treatment to all consumers equally
		A_{14}	Personal attention towards consumer complaints
		A_{15}	Honest trustworthy management with the division
		A_{16}	Feeling about convenient working hours
5	Tangibles	A_{17}	Feeling about modern looking equipment for quality repair work
		A_{18}	Feeling about minimizing power fluctuations and surges
		A_{19}	Feeling about flexible billing arrangement
		A_{20}	Trends of adapting promotional tools for consumer awareness