

Power sector reality and a way to improve service quality with community involvement.

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Abstract. This paper looks into a brief view on Indian power sector including recent advancements and a study on its customer services in Kerala region. The customer service quality was measured from the customer perspective. Primary data were collected by questionnaire method from three main regions like Southern, Central and Northern areas of the state. A sample of 282 results was analyzed from different category of consumers across the state for this study. Moreover many numbers of consumers were interviewed from different parts of the state based on typical questions to assess their expectations and actual services obtained. The study found that the service quality does not match with the expectations of the consumers. Based on the study author underlines, considering the peculiarity of the state, the involvement of the community can improve employee outcome and the service expectations of consumers.

1. Introduction

1.1 Indian electricity scenario: In a view of providing reliable and affordable service to the people of the country, Indian power industry was operated under the ownership and control of the Government. The case was the same in other parts of the world. The quality of service was adversely affected by numerous problems in the power sector. The power sector under government control became financially unstable and unsustainable.

1.2 Power sector in India: At the time of independence the power generation was very less in India. As on 31st March 1951, the total installed power generation capacity was 1713 MW. After the successive five year plans, the installed power generation capacity rose to 94,300MW by 1995-1996. This was enhanced to 2, 72,687 MW as on March, 2015 and became 3,06,358MW as on 30/09/2016.



The split up details are as follows:

As on 30/09/2016

TYPE	INSTALLED CAPACITY MW
COAL	1,87,258.88
GAS	25,057.13
DIESEL	918.89
NUCLEAR	5774.00
HYDRO	43,112.43
RENEWABLE	44,236.92
TOTAL	3,06,358.25 MW

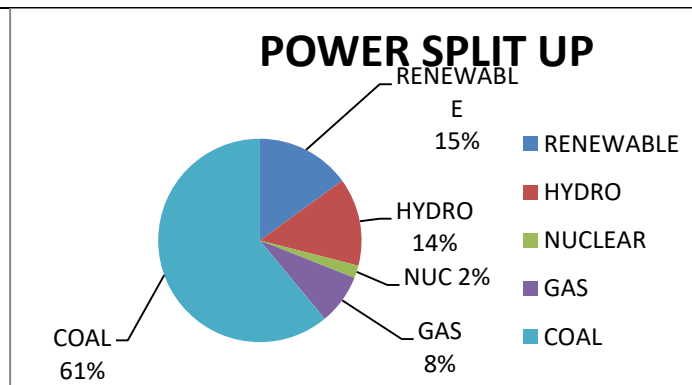


Figure 1. Power split up as on 30-09-2016

1.3 Power generation types and influences

The major portion of India's Power generation comes from thermal power stations, the fuel used is coal. CO₂ emission is calculated as 10% from the coal power stations. Huge amounts are required to be spent for limiting emission. More Hydro power stations are not coming up due to environmental concerns even though, country has a huge potential. Till nineties, Hydro Power had a considerable share in the power generation.

Renewable energy sources: Renewable energy resources are the power of the future, particularly from solar and wind. There are reports that scientists have cleared critical hurdles in manufacturing solar cells so that they can be printable as easy and inexpensive as printing a newspaper. Because of the advancements taking place in the manufacturing of renewable sources and their cost coming down, no new coal plants will be necessary after 2025 and by 2050, the power generation from coal plants may come to a halt –report says. This can reduce pollution and carbon dioxide emissions by about 10% after 2030, a big achievement. There are also reports that researches are taking place in mining Moon dust which is rich in Helium 3 is an abundant source of power that can meet the energy requirements of the whole world

1.4 Access to electricity and its performance in India

Due to different reasons like excessive political interferences, inefficient management and other operational problems, Utilities are still in poor performance. Consumer is suffered from unreliable and poor quality of service also with higher tariff. Hence this paper intends to have a study on service quality at Power Utility Services from consumer perspective focusing on the state of Kerala. Also considering the peculiarity of the state, study undertakes the community involvement can improve the service quality.

2. Service quality

Employee attitudes, Service behaviors affect service quality (Hartline and Farell 1996). Employees must be able to recognize customer needs or employees attempts to make this behavior suitable to customer needs; the service quality will be favorable from customer's perspective (Betner ET al.1990). The security feeling of the customer and the perception of employee integrity and competence in their mind can be improved if the employees behave in an assuring manner with the customers.(Johnston,1995).

When an employee underestimates the expectations of the consumer or fails to understand the expectations and needs of the consumers, there emerges a 'service gap'. If the quality of service extended to the customer is less than what is expected there will be customer dissatisfaction and a service quality gap exists (Parasuraman, Zeithamal &Berry 1990).

A SERVICE QUALITY MODEL IS SHOWN BELOW:

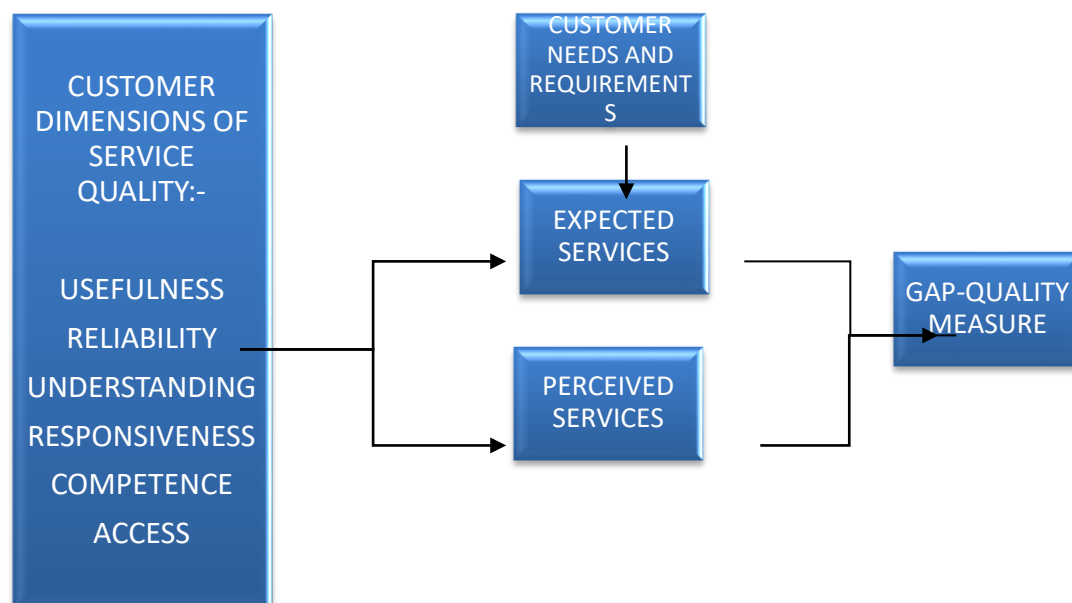


Figure 2 Service Quality Model

(ADAPTED FROM ZEITHAMAL, PARASURAMAN AND BERRY, 1990)

3. Objectives of the study: The major objective of the research is to measure the present level of service quality from consumer perspective and improvement in consumer satisfaction with the involvement of the community at power utility services.

4. Research methodology

4.1 Research design: The study is limited to the investigation of the power sector services in the state of Kerala alone. A detailed research was done to identify the different factors that influence the consumers mind in the power sector. Then a questionnaire was developed giving emphasis to various factors like human aspects of service delivery including Reliability, Responsiveness, Technical Capability of employees, Safety and Security aspects, interests of the employees to involve the community etc. Tangibles like cleanliness of the facility, neatness of the employee dress code etc., Social responsibility of the employees and also non- human aspects and advancements of easiness. Also how the service quality is reflected among various categories of consumers, their gender, different age groups and consumers at different income level. Primary data was collected from consumers of three different regions -Southern, Central and the Northern part of the state.

The sampling frame consisted of all categories of Electricity consumers in the Kerala region. Primary data were collected from 282 consumers from different parts of the state and utilized for the purpose of this study.

4.2. Data analysis tools

For the purpose of collecting primary data for this study, structured questionnaire on 5 point liker scale was designed and validated. The statistical technique like Pivot table was used for the analysis and interpretation of data.

4.3. Analysis of data

Data was loaded in Excel and Pivot table was developed for the study analysis. Questions H1 to H15 was loaded for the analysis of human aspects of Service delivery like Responsibility, Responsiveness, Technical Capability, Safety and Security aspects, employee interest to involve community etc. T1, T2, T3, T4 for the analysis of tangibles like cleanliness of the surroundings, Housekeeping, wearing uniforms and other safety measures, professional functioning etc. S1, S2 and S3 were loaded for the measurement of social responsibility. N1 and N2 for the non- human aspects and measures of advancement on easiness and simplicity. The row values were filtered with consumer type C1, C2, C3, and C4, different age groups Y1, Y2, and Y3, gender F and M and also with different income level to know their influence on service quality. The results are tabulated.

Table 1. Analysis of Human Aspects with different factors

	FACTORS	OVERALL RATING	CONSUMER TYPES				GENDER		INCOME GROUPS					AGE GROUP		
			C1	C2	C3	C4	M	F	<2.5L	2.5-5L	5-10L	10-15L	>15L	Y1	Y2	Y3
1	HUMAN ASPECT OF SERVICE DELIVERY	2.93	3.39	2.74	3.13	2.46	3.27	3.49	3.04	3.38	3.43	3.05	3.05	3.3	3.49	3.40
	A RELIABILITY	3.40					3.30	3.55	3.05	3.34	3.52	2.95	3	3.3	3.52	3.53
	B TECHNICAL CAPABILITY	3.52					3.46	3.60	3.08	3.57	3.60	3.24	3.39	3.46	3.68	3.52
	C SAFETY - SECURITY	3.185					3.11	3.29	3.02	3.17	3.22	2.70	2.72	3.17	3.31	3.12
	D COMMUNITY INVOLVEMENT	3.14					3.05	3.26	3.03	3.10	3.03	2.70	2.67	3.14	3.23	3.06

4.4. Data analysis and discussion

Data furnished in the Pivot table generally shows that the service quality from consumer perspective in the region of Kerala is just below or just above the average (3) in the liker scale. It is not good and not poor, but in between. Let us have a look at different categories of factors. In the Human aspects of service delivery, the overall value rating is 2.93 means just below average. There is a reliability factor of 3.40 means between average and good. Technical Capability of employees, 3.52 is also above average and near to good. Safety and Security aspects 3.185 mean just above average. Employee interest to involve the community for better performance was found as 3.14 i.e., just above average. Now if we look at these aspects to different category of consumers like Domestic, Commercial, Agricultural and Industrial consumers, the value rating has no much change i.e. just below and just above the average. That means, whatever be the type of consumers the human aspects don't change much. Similarly the gender aspect, the consumers at different income groups, consumers

in different age groups etc. has no much influence on the Human aspects of service quality i.e. around three i.e. Just below or just above 3 which is the average. The service quality on tangibles like Cleanliness, employee professionalism, working in uniform etc., again shows just above and just below average. Again if we look at the influence of category of consumers, age groups, gender and different income levels, there is not much change in the value rating i.e. just below or just above the average.

Social responsibility of the employees was also seen as a rating of in and around three i.e. average. The type of consumers, age group, gender and income level do not find much difference on the social responsibility of the employees i.e. around means average.

Service quality regards to office advancements and simplification of the procedures, the value rating is just below and just above three i.e. Average. If we look at across consumer types, age group, gender and income level, there is not much influence, value being in and around 3 i.e. average.

5. Community involvement

From the Analysis we could see that the consumer satisfaction level is only average across various types of consumers. This can very well be improved with the involvement of the community with the organization. When we consider with power sector activities, whether it is new additions or maintaining and up keeping the existing system, all are directly linked with the community. It is possible that the responsibility can be shared within groups and everyone can be involved for contributing their strength to the organization. The problems and disputes that arise out can also be subjected for discussion and awareness and can be settled for common benefits within the permissible organizational regulations. Taking that the leaders in the community are open minded with their ideas and hence implemented with positive involvement.

How the community involvement become beneficial. Let us consider one example.

Suppose the organization gives an electric connection to a new consumer in a locality. The probable issues can be , in marking the location of electric poles through roads or private properties and drawing lines, in providing stays or supports, cutting and removing tree branches and over hangings- in all such cases the community support and leadership can solve the work execution smooth and delays can be avoided keeping harmony among people.

6. Community Involvement Ideas for Business Organizations

When the organizational employees have good relations with the community and showing interest in involving community for various activities, people will often show loyalty to the organization. The ideas like *formation of an Energy Conservation Cell, Forming Environment protection Cells, Sponsor a Sports Team, Support a local charity, Host Community Meetings, Create a Scholarship, Become A Local Expert* for supporting community members when they need assistance etc. are some of the ideas for community involvement in business organizations. Long lasting community involvement programs will definitely improve the service quality of the employees, values in the society and satisfaction to consumers. Various activities demonstrating commitment to the community improve the perceptions of all stakeholders of the organization including its employees. This is necessary for the long term success of the Firm.

7. Conclusion

Power sector plays a vital role in the development of the nation and the standard of living of the people. Service quality of power utilities has a direct impact on the day to day life of the consumers. The study shows the service quality is at the average level at all areas of function including safety and security matters. Also it was seen that factors like age group, gender, income level and consumer types have no much influence on service quality. Community involvement with the organizational activities will definitely improve the service quality and the level of consumer satisfaction.

8. Implications

This study is significant for policy makers and the management for designing, training and developing plans and adapting measures to improve service quality to a higher level.

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