

ROLE OF SERVICE QUALITY IN MEASURING CUSTOMER SATISFACTION IN POWER SECTOR: A CASE OF DHAKA ELECTRIC SUPPLY COMPANY (DESCO)

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Masters in Procurement and Supply Management

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BRAC University
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Dissertation submitted in partial fulfillment of the
requirements for the Degree of
Masters in Procurement and Supply Management

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BRAC Institute of Governance and Development,
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January, 2015

CERTIFICATE

This is to certify that Mr. Md. Wasim Jabber, a candidate for the degree of Master in Procurement and Supply Management registered with BRAC Institute of Governance and Development of BRAC University has successfully completed his thesis entitled "*Role of Service Quality in Measuring Customer Satisfaction in Power Sector: A Case of Dhaka Electric Supply Company (DESCO)*" under my supervision.

To the very best of my knowledge, the research study is an original piece of work by the candidate. This research work has never been submitted previously to any other University or Institution for the award of any degree or diploma.



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DECLARATION

I, the undersigned, hereby declare that the thoughts, investigation, findings, analyses, and implications presented in the thesis entitled “*Role of Service Quality in Measuring Customer Satisfaction in Power Sector: A Case of Dhaka Electric Supply Company (DESCO)*” are entirely my own endeavor, except where otherwise acknowledged.

I also affirm that this thesis is original and has never been submitted to any University or Institution other than BRAC University for the award of any degree or diploma.

Md. Wasim Jabber



Dedicated to

*my wife and best friend, Nasima Sultana , &
daughter Shahi Noor Saima my source of inspiration*

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ABSTRACT

The present study attempted to examine the role of service quality in measuring customer satisfaction in power sector of Bangladesh with reference to Dhaka Electric Supply Company (DESCO). Empirical in nature, the study focused on the distribution of electricity to the customers of DESCO. The survey took place in Dhaka since DESCO has its operation only in Dhaka division. Data were captured from 173 customers of DESCO under three zones (Mirpur, Gulshan, and Uttara) of Dhaka metropolitan city. Divided into three phases, the study first identified the customer expectation and perception of DESCO service quality and measured the gap between the two constructs. The second phase attempted to find out the level of customer satisfaction and investigated its relationship with DESCO's perceived service quality. Finally, the third phase made an effort to suggest some measures to the management of DESCO to help the organization improve its service quality and the resulting satisfaction. The format of SERVQUAL instrument was used by modifying it to a 31-item questionnaire for both expectation and perception sections to measure the gap in DESCO's service quality and a 1-item question was employed to measure the level of customer satisfaction with DESCO's service quality.

The study revealed that the overall mean perception of DESCO's service quality was 3.8137 and the overall mean expectation was 4.4337 on a scale of 5.00. The gap between perception and expectation was found to be -0.62. The data showed that, in general, the customers' perception did not match their expectation. The mean satisfaction ($M = 4.1214$) was found to be 'not highly satisfactory'. The result of multiple correlation exhibited a moderately positive correlation ($r = .613$) between the perceived service quality and satisfaction. The study concluded suggesting some marketing implications for the management of DESCO to help them raise the level of customer satisfaction by means of improving the service quality of DESCO.

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CHAPTER 1

INTRODUCTION

Chapter Objective: Chapter one covers the introductory issues of the study which are presented as follows:

- 1.0 Introduction
- 1.1 The Concept of Customer Satisfaction
 - 1.1.1 Defining Customer Satisfaction
 - 1.1.2 Customer Satisfaction Measurement Models
 - 1.1.3 Importance of Measuring Customer Satisfaction
- 1.2 The Concept of Service Quality
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- 1.9 Limitations of the Study
- 1.10 Contribution of the Study

INTRODUCTION

1.0 Introduction

In today's rapidly changing global economy, doing business has become more difficult than the past. Today's smart firms need to redesign and reshape their businesses and marketing strategies to withstand competition. Customers in almost every product category have plenty of choices; and due to such vast array of choices, customers will favor only those firms that best meet their expectations. As such, today's winning firms are those that succeed best in satisfying their target customers (Kotler, 1994, p. XXIV).

Customer satisfaction indicates an organization's past, present, and future performance; and as such, it has long been a critical focus among the marketing scholars as well as the practitioners (Oliver, 1999). Over the past two decades there have been more than 15000 academic and trade articles published on the topic of customer satisfaction due to its inevitable importance to business (Peterson and Wilson, 1992). Higher customer satisfaction results in higher than normal market share growth, improved customer loyalty, increased profitability, and reduced transaction costs (Buzzell and Gale, 1987; Fornell, 1992; Gale, 1992; Hallowell, 1996; Jacobson and Aaker, 1987). Anderson, Fornell, and Lehmann (1994) found relationship between customer satisfaction and profitability. Customer satisfaction was also found to be highly correlated with repurchase intention and willingness to recommend the company to others (Anderson and Sullivan, 1993; Cronin and Taylor, 1992; Parasuraman, Zeithaml, and Berry, 1988; Reichheld, 1996; Verhoef, Franses, and Hoekstra, 1999; Zeithaml, Berry, and Parasuraman, 1996).

1.1 The Concept of Customer Satisfaction

1.1.1 Defining Customer Satisfaction

Developing an understanding on customer satisfaction is crucial for marketers since it serves as one of the major drivers of repeat purchase behavior (Wells and Prenskey, 1996). The key concept of customer satisfaction is based on the 'Expectancy-Disconfirmation' theory proposed by Lewin (1938). This theory claims that customer satisfaction is the customer's comparison between his/ her expectation and perception of a product or service (Cardozo,

1965). In other words, satisfaction is the customer's overall judgment of the service provider (McDougall & Levesque, 2000). According to Oliver (1980), "Satisfaction can be defined as a judgment that a product, or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment, including levels under or over fulfillment". Oliver (1997) defined disconfirmation as the gap between the customer's expectations of a product/ service and the actual perceived performance of the product/ service. He posited that satisfaction is determined by disconfirmation. If the performance of a product/ service falls short of customer expectation, the quality of the product/ service in question is perceived to be low- which results in negative disconfirmation (dissatisfaction). Oppositely, if the performance fulfills or surpasses the customer's expectations quality is perceived to be high- which results in positive disconfirmation or satisfaction (Bitner, 1990; Kandampully, Mok, & Sparks, 2001). Satisfaction, according to Oliver (1989), involves an evaluative, affective, or emotional response to the performance of a product/ service. Crompton and MacKay (1989) also stated that satisfaction is a psychological outcome that generates from an experience. Bolton and Drew (1991) claimed that satisfaction can be best measured by perceived performance only. It means that customer satisfaction refers to the fact that the customers' needs are fulfilled, products/ services are capable of performing satisfactorily, and customers are positive toward the product or service experiences.

1.1.2 Customer Satisfaction Measurement Models

There have been a number of models developed so far for measuring customer satisfaction. The following table is an illustration of these models:

Table 1.1 Models used for measuring customer satisfaction

Measurement standards	Explanations
Expectancy disconfirmation (predictive expectation)	This is a pre-purchase cognition about how well the product or service performance will be.
Normative Expectations	This measurement posits that consumers have beliefs about what should happen in their next consumption experience.
Equitable or deserved performance	This standard is all about the performance of a product/ service the customer thinks s/he should get based on what was put into the exchange.

Measurement standards	Explanations
Value percept	This is regarding the judgment of the consumer about the performance of a product or service which will lead to higher-level values.
Ideal performance	This measurement standard is all about the performance of a product/ service that a customer can best imagine.
Minimum tolerable	It is the minimum performance a customer believes a product or service must provide.
Comparison standard	This is the customer judgment about the performance of a product or service based on how others have experienced the product/ service, and therefore the consumer believes s/he should receive the same.
Last received	This standard relates to the most recent experience the consumer encountered with the product or service category.
Typical performance	This is the performance the consumer believes the typical or average products/ services of this type provide.
Favorite brand	This standard is all about the performance someone gets from his/ her most preferred brand.

Source: Adapted from Ngobo, 1997

Among these measurement models, ‘expectancy-disconfirmation paradigm’ was considered the most dominant and received the widest acceptance in satisfaction studies (Pizam, Neumann, and Reichel, 1978). This model states that customers compare actual product/ service performance with their prior expectation of the same product/ service (Oliver, 1997).

1.1.3 Importance of Measuring Customer Satisfaction

The goals of measuring customer satisfaction are to understand the quality of the existing management practices and suggest directions for improvement. Moreover, managing satisfaction helps a firm obtain a higher customer-retention rate, improved market share, and above-average profits. Customer satisfaction also influences customer loyalty- which affects profitability (Anderson et al., 1994). Satisfied customers ensure a regular cash flow for the business in the future (Berne, Mugica, and Yague, 1996). Researchers and practitioners are highly interested in understanding customer satisfaction and its drives- simply because satisfaction is an antecedent of increased market share, profitability, positive word of mouth, and customer retention (Anderson et al., 1994).

1.2 The Concept of Service Quality

1.2.1 Defining Service Quality

There prevails strong controversy in defining service quality and as such there are a number of definitions of service quality in literature. However, the most common one defines service quality as the extent to which a service meets customers' needs or expectations (Asubonteng, McCleary, and Swan, 1996). In simple words, service quality is the difference between a customer's expectations of a service and his/ her perception of the same service. Parasuraman, Zeithaml, and Berry (1985, 1988) defined service quality as the gap between customers' expectations of the service performance and their evaluation of the service they experienced. If expectations are greater than performance, then perceived quality is less than satisfactory which results in customer dissatisfaction (Parasuraman et al., 1985). Perceived service quality is seen as a form of overall evaluation, a global judgment, or an attitude toward purchasing products or services (Olshavsky, 1985). Seen from a customer's point of view, perceived service quality is a highly subjective and relativistic phenomenon that varies from person to person (Holbrook and Corfman, 1985).

1.2.2 Models Measuring Service Quality

There are a number of models to measure service quality. Lehtinen and Lehtinen (1982) proposed three guidelines for measuring service quality; such as physical quality, corporate quality, and interactive quality. LeBlanc (1992) suggested six factors to measure service quality, which in order of importance are- corporate image, competitiveness, courtesy, responsiveness, accessibility, and competence. Gronroos (1984, 1988) came up with six criteria of perceived service quality including professionalism & skills, attitudes & behavior, accessibility & flexibility, reliability & trustworthiness, service recovery, and reputation & credibility. Later, Gronroos (2000) added one more criterion- which is atmosphere (physical surroundings & environment) to measure perceived service quality.

Among all the existing models, the best known model is SERVQUAL – which was developed by Parasuraman, Zeithaml, and Berry (1985, 1988). Primarily, ten dimensions were proposed in the model, such as (1) reliability, (2) responsiveness, (3) competence, (4) access, (5) courtesy, (6) communication, (7) credibility, (8) security, (9) understanding, and (10) tangibles. Subsequently, the model was refined embodying only five dimensions; such as

tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1991, 1993, 1994). According to them, with no or little modification, SERVQUAL can be used to any service field to measure service quality.

As a measurement technique, SERVQUAL is not free from criticism. Cronin and Taylor (1992) claimed that SERVPERF instrument can better measure service quality than the SERVQUAL model by measuring the perceived service performance only. SERVQUAL was also criticized on both theoretical and operational grounds (Asubonteng et al., 1996; Carman, 1990; Williams, 1998). Yet, Asubonteng et al. (1996) concluded that "Until a better but equally simple model emerges, SERVQUAL will predominate as a service quality measure." Despite criticisms, it has been proved that SERVQUAL is the most tried and tested instrument that can be used for benchmarking purposes (Bryceland and Curry, 2001). Moreover, this model has received the widest acceptance among the researchers and it has also been applied in most of the service research studies to measure service quality and customer satisfaction (Chang, 2009).

1.2.3 Importance of Measuring Service Quality

As a universally applicable instrument, SERVQUAL can be used for comparative benchmarking purposes on a repeated basis. This instrument is committed to identifying where and to what extent the gaps in service exist. To gain the maximum benefits of SERVQUAL, studies should be conducted on a routine basis for the following reasons:

- to understand customer expectations of the dimensions of company service quality
- to understand customer perceptions of the service performance of the company
- to identify the gap in customer expectation and perception of service quality, and as such prioritizing the areas for service improvement,
- to determine if service improvement results in better perception of service, and
- to allow yearly comparison of service quality.

1.3 Relationship between Customer Satisfaction and Service Quality

Although service quality and customer satisfaction look similar indicators of performance, many researchers have questioned if they are identical (Dabholkar, 1993; Iacobucci, Grayson, and Ostrom, 1994). Studies show that the two constructs are conceptually distinct (Bitner, Booms, and Tetreault, 1990; Boulding, Kalra, Staelin, & Zeithaml, 1993). The differences between service quality and customer satisfaction can be summarized as follows: (1) a customer has to buy to determine satisfaction, though buying is not necessary to judge quality (Oliver, 1997); (2) satisfaction depends on price, which is generally not true of service quality (Anderson et al., 1994); (3) service quality judgments are more specific with focus on key attributes, whereas customer satisfaction judgments are more holistic (Oliver, 1997); (4) service quality is related to cognitive judgment (rational) and customer satisfaction is to affective (emotional) judgment (Iacobucci et al., 1994); and (5), expectation is the base in defining service quality and the predictor in defining satisfaction (Parasuraman et al., 1988).

Both service quality and customer satisfaction are highly linked. Both have positive influence on repurchase intention and positive word-of-mouth (Beeho and Prentice, 1997). Satisfaction positively influences post-purchase behavior (Oliver, 1980); and service quality directly and indirectly influences repurchase intention through satisfaction (Boulding et al., 1993; Keaveney, 1995). High service quality results in customer satisfaction and repeat purchase intention, in which perceived service quality functions as an antecedent to satisfaction and the resulting satisfaction leads to repurchase and loyalty over time (Bojanic, 1996).

1.4 Power Sector

1.4.1 Understanding Power Industry

The relationship between government and citizens is crucial. Ultimately, government is accountable to citizens for decisions taken. Many countries need to improve the substantive elements of democracy and its checks and balances to ensure that public goods are delivered according to citizens' expectations.

Power generation is a complex process, and delivering electricity to a household or a business firm is dependent on sophisticated distribution systems. Electricity can be produced at a nuclear, or fossil-fueled, or a hydroelectric generation station. From the generating stations,

large amounts of electricity are transported on high-voltage transmission lines to local substations. Afterwards, substations convert the transmission line voltage to lower levels that are appropriate for use in local communities. Substations also control the flow of electricity and protect the lines and equipment from damage. Distribution power lines, which can be installed above ground or underground, carry between 4,000 and 25,000 volts of electricity. A transformer converts the distribution level voltage to the levels that can be used inside one's home or business (120 to 480 volts). Voltage is carefully measured to meet the customer's needs. Transformers can be mounted on poles or placed on the ground. This voltage is carried from the transformer through an underground or overhead power line— also referred to as a service drop to individual meters (http://en.wikipedia.org/wiki/service_delivery_framework).

Quality in the electricity distribution and retail sectors spans a large number of technical and non-technical aspects. Commercial quality covers the quality of a number of services, such as the provision of a new connection (before the supply contract comes into force), as well as meter reading, billing, handling of customer requests and complaints (during the validity of the contract). A distinction between services provided by the distributor (network operator) and those provided by the retailer becomes strictly necessary as a country moves forward to full retail competition. For each of those services a quality dimension is identified (normally one per service): for instance, the timing of the new connection, or the accuracy in meter reading and billing.

1.4.2 Brief Scenario of Power Industry in Bangladesh

Since independence in 1971, there has been only one player, known as Bangladesh Power Development Board, in the electricity sector of Bangladesh. Reforms in the power sector started with the creation of the Rural Electrification Board in 1977. However, intensive reforms took place in this sector by creating public limited companies in 1996 and onwards. In this process, a number of companies have been currently operating in the country at three different stages/ levels of power supply including power generation, power transmission, and power distribution. Within the area of power generation, the companies in operation are Ashuganj Power Generation Company Ltd. (APGCL), Energy Generation Company of Bangladesh (EGCB), and North West Power Generation Company (NWPGC). The only company engaged in power transmission is Power Grid Company of Bangladesh (PGCB).

And for power distribution, Dhaka Electric Supply Company Ltd. (DESCO), Dhaka Power Distribution Company Ltd. (DPDC), and West Zone Power Distribution Company Ltd. (WZPDC) have been in operation.

1.4.3 Background of DESCO

Dhaka Electric Supply Company Ltd. (DESCO) was created in November 1996 under the Companies' Act- 1994 as a public limited company with an authorized capital of Tk. 5 billion. However, the operational activities of DESCO commenced on 24 September 1998 with a take-over of the electricity distribution system of Mirpur zone from DESA. At that moment, the customer base was 71161 with a load demand of 90 MW (Mega Watt). In subsequent years, DESCO expanded its operation at Gulshan and Tongi with an increased load demand of 640 MW to serve a customer base of 573356 as on 30 June 2013. DESCO is mainly engaged in power distribution headed by a Managing Director who reports to the Board of Directors (BoD). With an overall overhead of 987 (167 officers and 820 staff), DESCO renders its services through three zones namely Mirpur Zone, Gulshan Zone, and Uttara Zone. Each zone is comprised of Sales & Distribution (S&D) Divisions. At present, there are 16 S&Ds to ensure effective control & supervision of the field operations and service delivery to the customers. To ensure customer satisfaction and better service delivery, DESCO established "One Point Service Center" in each of the S&Ds. Customers physically can lodge complaints to the S&Ds and receive the desired service solutions from the staff of the "One Point Service Center".

DESCO purchases electricity from Bangladesh Power Development Board (BPDB) at the rate set by Bangladesh Energy Regulatory Commission (BERC). The purchased electricity is transmitted to DESCO by the Power Grid Company of Bangladesh (PGCB). DESCO distributes its electricity in the areas as follows: (i) from Balu River to Purbachal New Town in the East, (ii) from Turag and Balu River to Tongi Pouroshava in the North, (iii) Turag River in the West, (iv) from Amin Bazar Bridge to Mirpur Road, Agargaon Road, Agargaon-Old Airport Road, New Airport Road, Mymensingh Road, Tongi Diversion Road, Mohakhali Jheel, and Rampura Jheel connected with Balu River in the South.

Being the first public limited company in the energy sector, DESCO is now considered a profitable company which is managed efficiently and economically with optimum cost and manpower. DESCO employees, under its regular payroll, generally carry out the desk jobs and supervisory activities; while the field/operational activities have been outsourced. DESCO operates with the help of its three divisions including the Technical Division, Commercial Support Division, and Logistic Support Division. The technical activities of the organization include maintenance of sub-stations and switching stations, trouble shooting and breakdown maintenance, overhead line maintenance, and line and equipment maintenance. The commercial support activities of DESCO include meter reading, installation of new meters, changing damaged/ unserviceable meters, distribution of monthly bill, service disconnection and reconnection of default customers, and house-wiring inspection. The logistic support activities of DESCO include security service, cleaning service, and transport service. In all the areas of operation, DESCO follows the principle of outsourcing.

DESCO has developed a Citizen Charter to make sure that the services provided by the firm are the rights to its customers, not a favor to them. DESCO is the first public sector utility company that has launched the online bill payment system under the NEXUS gateway of Dutch-Bangla Bank Ltd. which allows its customers to pay their bills using the internet at anytime and from any location of the world. The company has also launched the facility of bill payment through mobile phones at specified retail outlets of mobile phone operators in Dhaka and also all over the country. At present, the arrangement is supported by GrameenPhone, Banglalink, and Citycell.

1.5 Rationale of the Study

This is evident that satisfaction measurement is the central concept in understanding buyer behavior (Ross & Iso-Ahola, 1991) and this understanding is very important for service providers (Crompton, 1979; Schneider and Sonmez, 1999). Unfortunately, such in-depth study in the power sector of Bangladesh has never been conducted so far. Neither did any study attempt to measure service delivery quality of power sector and its resulting satisfaction through inferential analysis. Thus, the proposed study has been planned to evaluate customer satisfaction through service quality in the power sector of Bangladesh. A research like this is essential to assess and improve service delivery and design of DESCO because it will provide

management with data that they can use in making inferences about the customers to improve their satisfaction level.

Moreover, the present study has attempted to evaluate customer satisfaction of DESCO through service quality simply because perceived service quality is an antecedent to satisfaction (Churchill and Supernant, 1982) and high quality of service results in customer satisfaction (Bojanic, 1996; Hoffman and Bateson, 1997).

1.6 Scope of the Study

The activities in the power sector are executed broadly through three chronological stages including power generation, power transmission, and power delivery. The proposed study will focus only on the distribution of electricity to customers. Moreover, geographically the scope of the present study will be limited to only Dhaka division to capture the customers' perception of electricity supply of DESCO and its resulting satisfaction.

1.7 Objectives of the Study

Following objectives have been determined to be achieved from the study:

1. To uncover the gap in DESCO service quality with reference to customer expectation and customer perception.
2. To identify the level of customer satisfaction regarding DESCO service quality.
3. To examine the relationship between DESCO service quality and customer satisfaction.
4. To suggest some measures to improve customer satisfaction of DESCO with reference to the company's distribution service quality.

1.8 Hypotheses of the Study

The following hypotheses have been developed for the purpose of testing to attain the above-mentioned objectives of the study:

1. There is no difference between the expectation and perception of customers regarding DESCO's service quality.
2. The overall satisfaction of DESCO customers with its service quality is not high.
3. There is relationship between the perceived service quality of DESCO and the level of customer satisfaction.

1.9 Limitations of the Study

The present study suffers from a number of problems with respect to the measurement techniques being used. The limitations of the study are pin-pointed as follows:

1. The present study has attempted to evaluate customer satisfaction on the basis of Oliver's (1980) expectancy-disconfirmation theory. Though Oliver's (1980) theory has received the widest acceptance in the literature of services marketing, there are still nine more theories (Ngobo, 1997) - which are not covered in the present study.
2. The present study has employed the SERVQUAL instrument (Parasuraman, Zeithaml, and Berry, 1985, 1988, 1991, 1994) to measure service quality gaps for DESCO. But there are a number of criticisms of this instrument (Cronin and Taylor, 1992). As long as this instrument suffers from criticisms, the current study will also suffer from similar criticisms.
3. The present study has examined customer satisfaction only through service quality. However, satisfaction also depends on a number of factors including price, trust, and loyalty.

1.10 Contributions of the Study

The contribution of the study may be summarized under the following categories:

- 1.10.1 Methodological contribution: The study is conducted on the basis of a model named SERVQUAL, which was developed by Parasuraman, Zeithaml, and Berry (1988). The model was developed to measure the customer perception and expectation of service quality. Thus, in the process of the study the SERVQUAL model has been made operational- which can be considered as a methodological contribution of the study.
- 1.10.2 Contextual contribution: The context of the study is power sector of Bangladesh with focus on DESCO. The various aspects of this industry, such as – knowledge on power industry, summary of power sector in Bangladesh, and the background information on DESCO- have been discussed in the study- which could be considered to be the contextual contribution of the study.
- 1.10.3 Diagnostic contribution: Unclipping the probable causes attributive to the results of the present study might be considered as the diagnostic contribution.
- 1.10.4 Suggestive contribution: The study has suggested some measures for DESCO to improve the marketing efficiency of the organization- which may be considered to be the suggestive contribution of the study.

CHAPTER 2

LITERATURE REVIEW

Chapter Objective: This chapter focuses on the conceptual aspects related to customer satisfaction and service quality and takes a look at different empirical studies conducted so far on customer satisfaction and service quality in various service settings including the power sector.

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- 2.0 Introduction
 - 2.1 Customer Satisfaction
 - 2.2 Service Quality
 - 2.3 Customer Satisfaction and Service Quality
 - 2.4 Empirical Studies on Satisfaction & Service Quality in Different Service Settings
 - 2.5 Empirical Studies on Customer Satisfaction & Service Quality in Power Sector

LITERATURE REVIEW

2.0 Introduction

The following discussion accentuates on the conceptual aspects of customer satisfaction and service quality in general; and takes a look at different empirical studies in the area of customer satisfaction and service quality in different service settings including power sector.

2.1 Customer Satisfaction

A customer is a person who provides payment in exchange for the offer provided to him/ her by an organization to fulfill a need and maximize satisfaction. The terms 'customer' and 'consumer' need clarification to dispel confusion. A customer can be a consumer, but a consumer may be or may not be a customer. According to Solomon (2004, p. 34), a customer is the person who does the buying of the products and the consumer is the person who ultimately consumes the product. Though there are conceptual differences between a customer and a consumer, the present study has considered the term 'customer' for ease of discussion.

Satisfaction can be a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance with expectation (Kotler and Keller, 2009, p. 789). Satisfaction could be the pleasure derived from the consumption of goods/ services offered by another person or group of people; or it could be the state of being happy with a situation. Satisfaction is defined as "the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service" (Tse & Wilton, 1988). Hence, satisfaction is considered as an overall post-purchase evaluation by the consumer (Fornell, 1992). Giese and Cote (2000) defined satisfaction as a customer response (cognitive or affective) to a particular focus (a purchase experience or an associated product) and occurs at a certain time (post-purchase or post-consumption). Sureshchandar, Rajendran, & Anantharaman (2002) posited that satisfaction is determined by the customer's cumulative experience at the point of contact with the supplier. Customer satisfaction has also been defined as the extent to which a product's perceived performance matches a buyer's expectations (Kotler et al., 2002, p. 8). According to Schiffman and Kanuk (2004, p. 14), customer satisfaction is an individual's perception of the

performance of the products or services in relation to his or her expectations. In a nutshell, customer satisfaction could be the pleasure obtained from consuming an offer.

Measuring customer satisfaction could be very difficult at times because it is an attempt to measure human feelings. Levy (2009, p. 6) in his studies suggested three ways of measuring customer satisfaction including (a) a survey where customer feedback can be transformed into measurable quantitative data; (b) a focus group discussion orchestrated by a trained moderator to reveal what customers might think; and (c) informal measures like reading blogs or talking directly to customers. Asking each and every customer is advantageous in as much as the company might come to know everyone's feelings; though it might be disadvantageous because the company will have to collect information from each customer (NBRI, 2009). The National Business Research Institute (NBRI) suggested a possible set of dimensions that one can use in measuring customer satisfaction, which includes quality of service, innocence, speed of service, pricing, complaints or problems, trust in company employees, the closeness of the relationship with company employees, other types of services needed, customer imaging of the brand/ company.

There exist two conceptualizations of customer satisfaction; transaction-specific and cumulative (Boulding, et al., 1993). Following the transaction-specific, customer satisfaction is viewed as a post-choice evaluation judgment of a specific purchase occasion (Oliver, 1980). Until present date, researchers have developed a rich body of literature focusing on this antecedents and consequences of this type of customer satisfaction at the individual level (Yi, 1990). Cumulative customer satisfaction is an overall evaluation based on the total purchase and consumption experiences with a product or service over time (Fornell, 1992). Cumulative approach is a more useful approach than transaction-specificity in predicting customer satisfaction; and in motivating a firm to invest more in satisfaction survey (Fornell et al., 1996).

2.2 Service Quality

Service can be defined in many ways depending on in which area the term is being used. According to Kotler and Keller (2009, p. 789), service is any intangible act or performance that one party is willing to offer to another- which does not result in the ownership of anything. Service can be thought of being the performance of the product. The generation and consumption of service take place simultaneously since service cannot be stored for future consumption. On the other hand, the term ‘quality’ can be defined as the totality of features and characteristics of a product or service that bear on its ability to satisfy a stated or implied need (Kotler et al., 2002, p. 831). Quality of a product or an object can be identified when service is generated (Solomon, 2004, p. 413). In short, quality is the ability of any product or service that can meet customers’ expectations. It is evident that quality is related to the value of an offer- which results in satisfaction or dissatisfaction on part of the user.

In the literature of marketing, service quality is the extent to which customers' perceptions of service meet or exceed their expectations of the same service (Bowen and David, 2005, p. 340). Service quality is the difference between customer expectation and perception of service (Parasuraman et al., 1988). The aim of providing quality services is to satisfy or delight customers. Whether the service provided by the firm is good or bad can be traced after measuring the service. Haywood (1988) listed three components of service quality, such as (i) physical facilities, processes and procedures; (ii) personal behavior on the part of serving staff, and; (iii) professional judgment on the part of serving staff. He stated that these three elements of service quality must be carefully synchronized to ensure customer satisfaction. He added that the appropriate mix of these elements, in part, will be determined by the relative degree of labor intensity, service process customization, and interaction between the customer and the service provider.

One of the most useful measurements of service quality is SERVQUAL model. In the creation of this model for the very first time, Parasuraman et al. (1985) identified 97 attributes which were squeezed to ten dimensions afterwards (Parasuraman et al., 1988). These dimensions have been found to have an impact on service quality and have been regarded as the criteria to assess customer’s expectations and perceptions on delivered services (Kumar et al., 2009). These ten dimensions of service quality proposed by Parasuraman et al. (1988) are (i)

Tangibles: The physical facilities and appearance of service staff; (ii) Reliability: The ability to deliver the promised service; (iii) Responsiveness: The readiness of staff members to help in a pleasant and effective way; (iv) Competence: The capability of staff members in executing the service; (v) Courtesy: The respect and politeness of service staff shown to the customers; (vi) Credibility: The trustworthiness and honesty of the service provider; (vii) Security: The absence of doubt, economic risk, and physical danger in serving customers; (viii) Access: The accessibility of the service provider; (ix) Communication: An understandable manner and use of language by the service provider; and (x) Understanding: Efforts by the service provider to know and understand the customer. After refinement, these ten dimensions were later reduced to five dimensions, including (i) Tangibility: physical facilities, equipment, and appearance of personnel; (ii) Reliability: Ability to perform the promised service dependably and accurately; (iii) Responsiveness: Willingness to help customers and provide prompt service; (iv) Assurance: Knowledge and courtesy of employees and their ability to inspire trust and Confidence in customers; (v) Empathy: Customized care and attention the firm provides to its customers.

The SERVQUAL scale, known as the gap model, by Parasuraman, et al. (1988) has been proven to be one of the best ways to measure service quality. It has been proven consistent and reliable (Brown et al., 1993). They stated that, when perceived service is below the level of expected service; the quality of service is less than satisfactory; and vice-versa. SERVQUAL best fits in evaluating service quality from the perspective of customers (Jain and Gupta, 2004). This is because perception and expectation of service quality can be best judged by the person who experiences it, i.e. the customer. The aggregated sum of the difference between the perceptions and expectations of the five dimensions forms the global perceived quality construct (Laroche et al., 2004). Customers' expectations are met through the outcome dimension (reliability) and exceed it by means of the process dimensions (tangibility, assurance, responsiveness, and empathy). According to Zeithaml et al (2006, p. 106-107), "service quality is a focused evaluation that reflects the customer's perception of reliability, assurance, responsiveness, empathy, and tangibles". They also added that among these five dimensions, 'reliability' is most important in judging service quality.

Parallel to SERVQUAL, there are a number of models that measure service quality. Lehtinen and Lehtinen (1982) proposed three guidelines for quality measurement of a service; such as physical quality, corporate quality, and interactive quality. LeBlanc (1992) suggested six factors of customer perception of service quality. These factors, in order of importance, are corporate image, competitiveness, courtesy, responsiveness, accessibility, and competence. Grönroos, (1984) saw the need for additional components of service expectations that is functional and technical dimensions. Consumers make service evaluations based on the technical dimension, i.e. what is delivered and on the functional dimension, i.e. how and when it is delivered. (Laroche et al., 2004; Grönroos 1984). Afterwards, Gronroos (1984, 1988) postulated six criteria of perceived service quality; which included professionalism and skills, attitudes and behavior, accessibility and flexibility, reliability and trustworthiness, service recovery, & reputation and credibility. However, Gronroos (2000) added one more criteria of perceived service quality – which is atmosphere (physical surroundings and environment).

However, SERVQUAL is not free from criticism. Cronin and Taylor (1992) developed SERVPERF instrument claiming that it can measure service quality better than the SERVQUAL model by simply measuring the perception of service performance, unlike the expectations-perception paradigm of SERVQUAL. Cronin and Taylor (1992) discarded the 'E' for 'expectation' claiming instead that 'P' for 'performance' alone should be used. They meant that higher perceived performance entails higher quality service. SERVQUAL was also criticized on both theoretical and operational grounds by a number of researchers (Asubonteng et al., 1996; Carman, 1990; Williams, 1998). Many get confused regarding the superiority of the SERVQUAL or SERVPERF instrument in measuring service quality (Jain and Gupta, 2004). Yet, Asubonteng et al. (1996) concluded that "Until a better but equally simple model emerges, SERVQUAL will predominate as a service quality measure".

2.3 Customer Satisfaction and Service Quality

Since customer satisfaction has been considered to be based on the customer's experience on a particular service encounter, it is in line with the fact that service quality is a determinant of customer satisfaction (Cronin & Taylor, 1992). It is because, service quality comes from outcome of the services from service providers. Lewis and Booms (1983) posited "definitions of consumer satisfaction relate to a specific transaction (the difference between predicted service and perceived service) in contrast with 'attitudes', which are more enduring and less situation-oriented." This is in line with the idea of Zeithaml et al (2006, p. 106-107). Regarding the relationship between customer satisfaction and service quality, Oliver (1980) first suggested that service quality would be antecedent to customer satisfaction regardless of whether these constructs were cumulative or transaction-specific. Some researchers have found empirical supports for the above-mentioned view-point that customer satisfaction is the result of service quality. (Anderson and Sullivan, 1993; Fornell et al 1996; Spreng, Mackenzie, and Olshavsky, 1996).

In relating customer satisfaction and service quality, researchers have been more precise about the meaning and measurements of satisfaction and service quality. Satisfaction and service quality have certain things in common, but satisfaction generally is a broader concept, whereas service quality focuses specifically on dimensions of service. (Wilson et al., 2008, p. 78). Although it is stated that other factors such as price and product quality can affect customer satisfaction, perceived service quality is a component of customer satisfaction (Zeithaml et al. 2006, p. 106-107). This theory complies with the idea of Wilson et al. (2008) and has been confirmed by the definition of customer satisfaction presented by other researchers. The idea of linking service quality and customer satisfaction has existed for a long time. Both the constructs have positive impacts on repurchase intention and favorable word of mouth communication (Beeho and Prentice, 1997). Satisfaction has a positive impact on post-purchase behavior (Oliver, 1980) and service quality directly and indirectly exerts influence on repurchase intention through its influence on satisfaction (Boulding et al., 1993; Keaveney, 1995). Bojanic (1996) affirmed that a high service quality results in customer satisfaction and repeat purchase intention, with perceived service quality functioning as an antecedent to satisfaction and satisfaction leading to repurchase and loyalty over time. This view that perceived quality is an antecedent to satisfaction - was rather established much earlier by Churchill and Supernant (1982).

2.4 Empirical Studies on Satisfaction & Service Quality in Different Service Settings

Customer satisfaction is one of the most important and most frequently examined issues in modern marketing practice (Gursoy, McCleary, and Lepsito, 2007; Yi, 1990). Satisfaction is considered as a central concept in understanding customer behavior (Ross and Iso-Ahola, 1991). Academic literature on satisfaction has affirmed that the key to retaining customers lies in ensuring high level of satisfaction (Alegre and Cladera, 2006; Petrick, 2004). To evaluate satisfaction through the use of service quality, SERVQUAL has been used most widely and frequently in many service industries (Parasuraman, Zeithaml, and Berry, 1985, 1988). SERVQUAL was extensively applied in the measurement of customer satisfaction with hotel service quality by a number of researchers (Gabbie and O'Neill, 1997; Getty and Thompson, 1994; Heung, Wong, and Qu, 2000; Knutson, 1988; Lam, Yeung, and Chang, 1998; Loundsbury and Hoopes, 1985; Nash, Thyne, and Davies, 2005; Oberoi and Hales, 1990; Saleh and Ryan, 1991; Thanika, 2004; Tribe and Snaith, 1998). SERVQUAL was also applied by Knuston, Stevens, Wullaert, Patton, and Yokomama (1991) to create a 26-item lodging-specific instrument, called LODGSERV, to measure customers' expectations for service quality of hotel. However, LODGSERV was not as popular as SERVQUAL among the researchers (Ekinci, Riley, and Fife-Schaw, 1998; Patton, Stevens, and Knuston, 1994).

Stevens, Knutson, and Patton (1995) used the SERVQUAL approach to measure the satisfaction of diners by developing an instrument called DINESERV. Raajpoot (2002) accentuated on the tangible quality constructs by developing a model called TANGSERV in the restaurant industry. Using the SERVQUAL instrument the service quality in restaurants was measured by Bojanic and Rosen (1995); Johns and Tyas (1996); Johns, Tyas, Ingold, and Hopkinson (1996); and Lee and Hing (1995). Service quality, through the SERVQUAL instrument, was examined also in tour operations and group tour management (Luk, DeLeon, Leong, and Li, 1993; Whipple and Thach, 1988; Yamamoto and Gill, 1999; Yoon and Shafer, 1997). Mercer (1971) specifically identified the gap between the expected and perceived service quality of trip elements in a recreational setting. Within the last two decades, a good number of studies (through service quality) dealt directly and indirectly with customer satisfaction of destination aspects (Bitner, Booms, and Tetreault, 1990; Chon and Olson, 1991; Danaher and Arweiler, 1996; Pizam and Milman, 1993; Weber, 1997).

2.5 Empirical Studies on Customer Satisfaction & Service Quality in Power Sector

Not too many studies have been found in the area of power sector involving either customer satisfaction, or service quality, or both together. However, a few studies have been found and these have been presented briefly as follows:

A survey on 'Electricity supply in Nigeria: A customer satisfaction survey' was conducted by Philips Consulting Ltd. which was published in February 2013 (www.philipsconsulting.net). The Federal Government of Nigeria took an initiative to make a widespread reform in the local power industry following the enactment of the Electric Power Sector Reform Act in 2005. In order to obtain an informed view of the impact of the reforms on the general public, Philips Consulting Limited conducted a survey from 15 December 2012 to 31 January 2013. The survey was conducted using an online questionnaire in which e-mails were sent to 9000 people. However, only 418 questionnaires were received from 26 states of the federation out of which 6 were unusable resulting in 412 questionnaires for use in data analyses. The results of the survey confirmed that most of the customers were not satisfied with the current state of power supply in the country. The survey also discovered some challenges for the supply of power in Nigeria. These were irregular/ inconsistent power supply, high tariff, voltage fluctuations, frequent power outages due to overloaded transformers, non-availability of new per-paid meters, poor customer service, and slow response to customer complaints (www.philipsconsulting.net).

Molaie (2014) investigated the different dimensions of perceived justice and their relationships to customer satisfaction in the electricity distribution company. Since, the electricity distribution company rarely has a face-to-face contact with customers; it is difficult to examine the customers' satisfaction through the conventional techniques. Therefore, based on the previous studies and literature, the researcher developed a questionnaire and distributed it among 2395 individuals of diverse groups. By running exploratory factor analysis, six different factors of the electricity distribution company's performance were detected. Finally, these factors' relation to the different dimensions of justice and customer satisfaction was studied. The results indicated that the factors which were the most effective in customers' satisfaction and their perceived justice were the ones related to communication. Although, the announcing factor indicated the highest correlation with customer satisfaction, considering

some differences in perceived procedural and distributive justice, it may be claimed that a good face-to-face contact has no substitute so far, and one-way communication can only serve its role partially.

Abdullah (2011) carried out a survey on Dhaka Electric Supply Company (DESCO) with a view to ascertaining and assessing the impact of outsourcing on DESCO's customer service quality in areas like meter reading, bill serving, billing ledger keeping, and quick handling of customer complaints. He developed a questionnaire and distributed it among 430 customers of the 12 Sales & Distribution Divisions of DESCO. In his research design, there were seven independent variables (customer service, operating cost, efficiency of service, accountability, profit, reduction in internal HR, and core competencies) and one dependent variable (outsourcing). The study revealed that outsourcing had a positive effect on the variables of improved customer service, reduced operating cost, improved efficiency of service, increased profit, and reduced internal human resources. The researcher recommended that E-call centers be introduced for quick handling of customer complaints.

CHAPTER 3

RESEARCH DESIGN & METHODOLOGY

Chapter Objective: This chapter provides a detailed view about the research design and methodology of the study. It embodies the following major aspects:

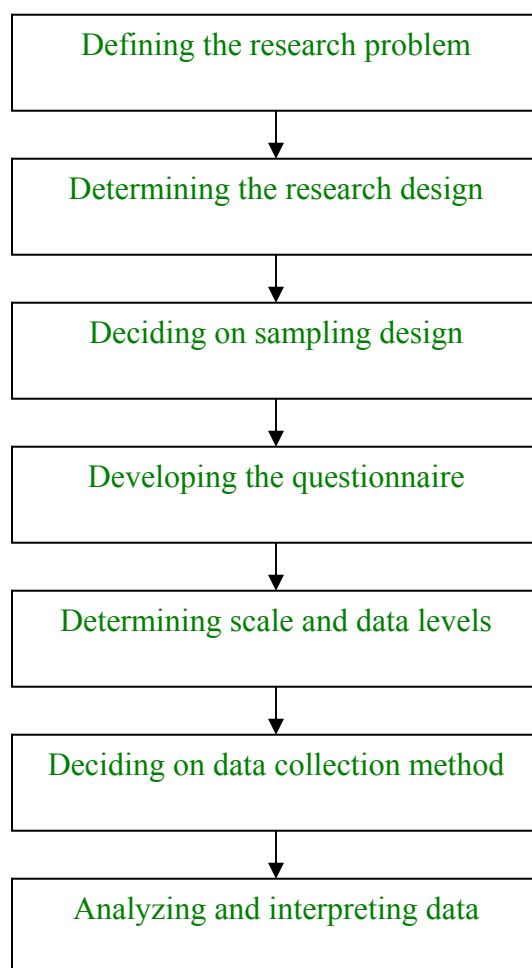
- 3.0 Research Chronology
- 3.1 Defining the Research Problem
- 3.2 Determining the Research Design
- 3.3 Nature of the Research
- 3.4 Sampling Design
- 3.5 Questionnaire Design
- 3.6 Data Collection
- 3.7 Data Analysis
- 3.8 Operational Definitions of Concepts Used in the Study

RESEARCH DESIGN & METHODOLOGY

3.0 Research Chronology

Research is about creating new contributions to the present stock of knowledge. One of the prime qualities of a good research is that it is systematic (Kothari, 2005, p. 20). A research should be structured with certain steps in a specified sequence under justifiable and well-defined set of rules. Thus, the present study is conducted as per the following chronology.

Figure 3.1 Research process followed in the present study



3.1 Defining the Research Problem

In research, the proverb, 'a problem well defined is a problem half solved' is worthwhile (Zikmund, 2002, p. 48). To identify the research area and to define the research problem suitably, there are some methods viz. literature survey, case study, pilot study, experience survey etc. The present study has used all the methods mentioned above, except case study. After carefully reviewing the literature and conducting pilot study followed by experience survey, the objectives and hypotheses of the study are finalized.

3.2 Determining the Research Design

The research design can be defined as the blue print to accomplish objectives and answer research questions (Cooper & Schindler, 2006, p. 71). There are four approaches to conducting a research— such as observation, focus-group, survey, and experimentation (Kotler, 1994, p. 135). However, no particular approach covers all the variations of research design (Azim, 2008, p. 102). The present study has followed the survey approach since data are collected through a questionnaire.

3.3 Nature of the Research

From the view points of different aspects, the nature of the present study can be categorized as follows:

3.3.1 The Extent of Topic

Regarding scope, a study may include either the breadth or depth of a research area and therefore it can be either a statistical study or a case study (Azim, 2008). The present study can be considered a statistical study since it attempts to evaluate customer satisfaction through service quality in the power sector of Bangladesh.

3.3.2 Perspective of Functions

A study can be treated as descriptive, exploratory, or conclusive. The present study has all three features. In the beginning, descriptive study is carried out through extensive literature survey. Afterwards, nature of the power sector in general and of Bangladesh in particular have been explored through secondary sources of information. Then, a formal and conclusive study is conducted to test the hypotheses to arrive at a conclusion with necessary implications.

3.3.3 Control over Variables

On the basis of researcher's control over variables, a study can be described as either experimental or ex post facto. The present study is an ex post facto study since no attempt is made to exert control over the variables.

3.3.4 Purpose of Study

A research can be pure or applied. The present study can be considered as embodying both the objectives, since a model (SERVQUAL) has been central in measuring DESCO's service quality and the applicability of the model has been tested in the context of power sector of Bangladesh.

3.3.5 Nature of Data

A study can be either qualitative or quantitative with respect to the nature of data. The present study is a qualitative study since the data captured in the study are all attitudinal as well as subjective in nature. However, necessary quantifications are made for the purpose of understanding and decision-making.

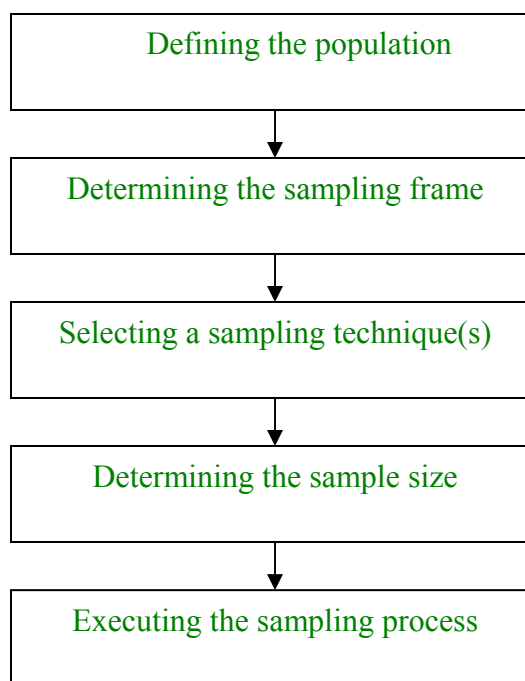
3.3.6 Time Frame

With respect to span of time, a study can be expressed as plain survey, panel, or longitudinal. The current study is a plain survey as it was conducted at a particular point of time.

3.4 Sampling Design

A sample refers to a subgroup of the elements of the population selected for participation in a study (Malhotra, 2003, p. 328). The process of sampling design used in the study involves the following steps:

Figure 3.2 The sampling design process



Source: Malhotra, 2003, p. 329

3.4.1 Defining the Population

The sampling process starts with defining the target population. The target population is the collection of elements that hold the information objectively sought by the researcher and about which inferences are to be drawn (Malhotra, 2003, p. 330). The prime objective of this study is to assess customer satisfaction through service quality in the power sector of Bangladesh. Thus, all the users of power (electricity) are the target population of the study.

3.4.2 Determining the Sampling Frame

Sampling frame is a complete list of population from which the sample is drawn (Cooper and Schindler, 2006, p. 411). For the present study, the sampling frame is confined to only the customers of DESCO and as such the study is limited to only Dhaka region simply because DESCO doesn't have any operation in the country other than Dhaka.

3.4.3 Selecting a Sampling Technique

Sampling techniques are either probability or non-probability (Kothari, 1990, p. 58). Probability sampling techniques can be either pure probability (simple random sampling) or restricted probability (systematic sampling, stratified sampling, area sampling, cluster

sampling, and multi-stage sampling). On the other hand, non-probability sampling techniques include convenience sampling, judgment sampling, quota sampling, and snowball sampling. The present study has used pure probability technique (simple random sampling) for data collection.

3.4.4 Determining the Sample Size

Determining an appropriate sample size depends on a number of factors, such as, the purpose of the study, population size, and the risk of selecting a bad sample (Israel, 2003). In addition to the purpose of the study and population size, three more criteria should be specified in determining an appropriate sample size; such as the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976). The current study has specified all the three criteria in the following manner:

3.4.4.1 The Level of Precision

The level of precision, also called sampling error, is the range within which the true value of the population is estimated to be (Israel, 2003). This range is often expressed in percentage points. The current study has used a 5% precision level.

3.4.4.2 The Confidence Level

The confidence or risk level is based on the idea known as the Central Limit Theorem. The theory postulates that when a population is repeatedly sampled, the average value of the attribute obtained by the samples is equal to the true population value (Israel, 2003). In a normal distribution, approximately 95% of the sample values are within two standard deviations of the true population value, for example, mean. The confidence level for the current study is specified at 95%.

3.4.4.3 Degree of Variability

The degree of variability in the attributes being measured refers to the distribution of attributes in the population (Israel, 2003). The more heterogeneous a population, the larger the sample size required to obtain a given level of precision and vice-versa. A proportion of 50% indicates the highest level of variability. Thus, the degree of variability used in the present study is 0.5.

3.4.4.4 Strategies to Determine Sample Size

There are several approaches to determining the sample size. These include using a census for small population, imitating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size (Israel, 2003). The current study attempts to evaluate customer satisfaction in the power sector of Bangladesh. The number of the customers of DESCO is very large (total customer base is 573356 as on 30 June, 2013). In this context, the present study has used the following formula (Cochran, 1963, p. 75) to determine the sample size.

$$n_0 = \frac{Z^2 pq}{e^2}$$

Here, n_0 is the sample size, Z is the abscissa of the normal curve that cuts off an area α at the tails at 95% confidence level, e is the level of precision at 5%, p is .5 and q is $1 - p = 1 - .5 = .5$.

By putting the values in the formula, the sample size has been calculated as follows:

$$n_0 = \frac{Z^2 pq}{e^2}$$

$$n_0 = \frac{(1.96)^2 (.5 \times .5)}{(.05)^2}$$

$$n_0 = \frac{(3.8416) (.25)}{.0025}$$

$$n_0 = 384.16$$

$$n_0 = 385$$

Hence, the sample size for the study as calculated from the use of Cochran's (1963) formula comes to 385 users of DESCO.

3.4.5 Executing the Sampling Process

Execution of the sampling process refers to the detailed specification of how the sampling design decisions should be implemented in terms of population, frame of sample, sampling unit, techniques of sampling, and the size of sample to be determined (Malhotra, 2003, p. 332). Initially, a total of 385 users of DESCO have constituted the sample size for the present study. However, only 173 respondents returned the complete questionnaires. Thus, the analyses of the study have been made on 173 users of DESCO.

3.5 Questionnaire Design

"A questionnaire is a structured technique for data collection consisting of a series of questions, written or verbal, to which a respondent replies" (Malhotra, 2003, p. 293).

3.5.1 Structure of the Questionnaire

For the present study, survey method is adopted using a structured and closed-end questionnaire. The questionnaire has three sections. The first section of the questionnaire focuses on the demographic information of the respondents. The demographic part contains information on the respondents' age, sex, education, profession, and income. All the questions are either dichotomous or multiple-choice type. The second section of the questionnaire attempts to explore the level of service quality of DESCO. SERVQUAL (Parasuraman, Zeithaml, and Berry, 1985, 1988, 1991, 1994) questionnaire is used as the instrument for data collection. The original SERVQUAL is adapted to suit the study relevant for DESCO. The questionnaire has 31 expectation items and 31 perception items. Data related to all the expectation and perception items are captured on a 5-point Likert scale ranging from strongly disagree with scale point 1 to strongly agree with scale point 5. The third section, as well as the final section, of the questionnaire attempts to explore the overall level of tourist satisfaction. The sample respondents' satisfaction is measured on a self-administered questionnaire containing 1 item. The data are captured on a 5-point Likert scale with scale point 1 indicating highly dissatisfied to scale point 5 indicating highly satisfied.

3.5.2 Reliability of the Questionnaire

Reliability refers to the degree to which a scale generates consistent results even if the measurements are made repetitively (Malhotra, 2007, p. 284). To evaluate the internal consistency of the scale items, reliability analysis is conducted. Reliability of the instrument is calculated employing the Cronbach's Alpha (Cronbach, 1951) since it is the most commonly used tool in measuring the internal consistency. The Cronbach alpha (α) for the overall expectation and overall perception are 0.94 and 0.89 respectively. For scale items which are used for the first time in a new environment, the cut-off value for the Cronbach's alpha should remain at 0.60 (Churchill and Peter, 1984; Nunnally, 1978; 1988). Since all the scale items in the present study produce desirable Cronbach's alpha at .94 for overall expectation and .89 for overall perception much beyond the minimum cut-off value of .60, the data reliability issue in this study can be considered highly satisfactory.

3.5.3 Validity of the Questionnaire

Validity refers to the power of an instrument to measure what is expected to measure (Zikmund, 2002, p. 232). The present study uses a questionnaire which is divided into three sections. All three sections i.e. the 'demographic profile', the 'expectation-perception', and 'satisfaction of customers regarding DESCO service quality'– were required to be validated. It is because these sections were prepared by the researcher himself. Content validity (also called face validity) has been used to assess the validity of the questionnaire. After making necessary modifications, the content validity of the questionnaire has been approved and confirmed by a panel of experts.

3.6 Data Collection

The present study has been conducted by taking both secondary and primary data. The data collection of the study has been done in the following manner.

3.6.1 Sources of Secondary Data

For the current study, secondary data have been collected through extensive review of literature. Different books, printed journals, electronic journals, websites, published and unpublished master's theses, and DESCO reports and publications– have been used to collect data relevant to the research objectives. To develop an understanding of the concepts 'customer satisfaction' and 'service quality', an in-depth desk study has also been conducted. In this context, scholarly online journal sites such as Emerald, SAGE, and JSTOR have been

browsed frequently. Apart from this, the Central Library of Dhaka University and the Central Library of Chittagong University have been personally visited.

3.6.2 Duration and Time of Primary Data Collection

The primary data were collected in 45 days time starting on 25 October 2014 to ending on 10 December 2014. Data were collected from DESCO users on the basis of pure probability sampling (simple random sampling).

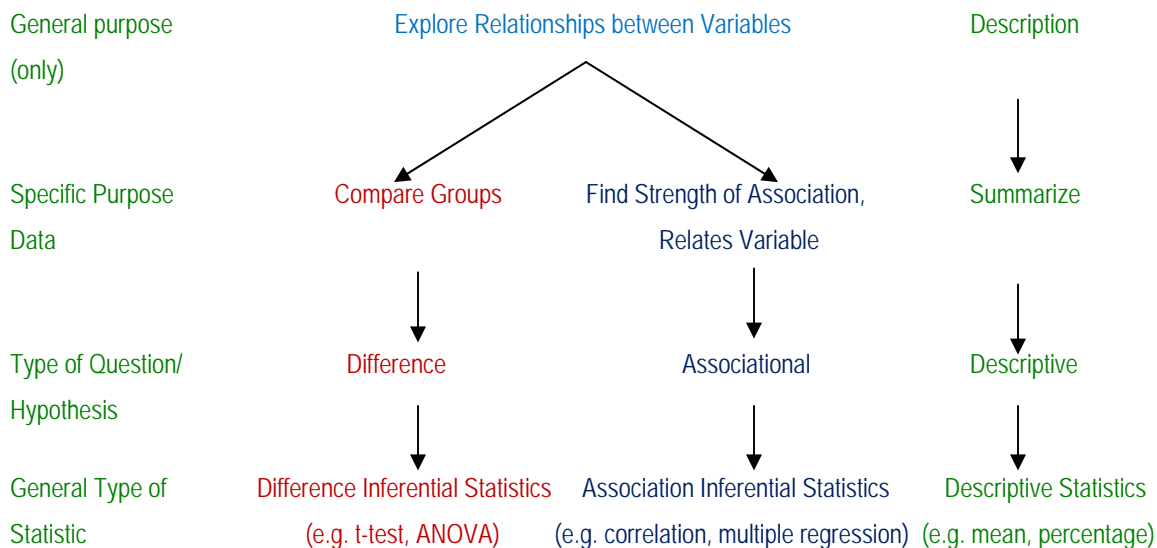
3.6.3 Response Rate of the Survey

A total of 385 DESCO users were planned to be surveyed. However, all the randomly approached tourists did not participate in the survey. Only, 192 responded by filling in the questionnaires out of which 19 were not usable. This resulted in the overall usable response rate of 44.9% for the study.

3.7 Data Analysis

Data collected from the sample respondents (DESCO customers) are analyzed on the basis of both descriptive and inferential statistics. The following figure depicts how the research purpose and three fundamental types of research questions – difference, associational, and descriptive, correspond to the general type of statistic used in a study (Leech, Barrett, & Morgan, 2005, p.4).

Figure 3.3: Schematic diagram showing how the purpose and type of research question correspond to the general type of statistic used in a study



Source: Adapted from *SPSS for Intermediate Statistics* by Nancy L. Leech, Karen C. Barrett, & George A. Morgan, 2005, p. 4)

Keeping the above figure in mind, the statistical tools that are used to analyze the findings of the study include percentage, mean, standard deviation, paired sample t-test, one-sample t-test, chi-square, multiple correlation, and multiple regression. For example, demographic profile of the respondents is analyzed by showing only percentages. Expectation and perception of DESCO's service quality and the gap between the both are analyzed by the use of mean and standard deviation. Hypotheses are tested by employing paired sample t-test. Afterwards, the overall level of satisfaction of DESCO customers is tested through the employment of one-sample t-test. On the other hand, the relationship between perceived service quality and overall satisfaction is investigated by running multiple correlation. All the calculations are carried out with the help of SPSS (version 11.5), the most widely and frequently applied software for statistical analysis in the social sciences (Bryman & Cramer, 2003).

3.8 Operational Definitions of Concepts Used in the Study

The operational definitions, terminologies, and concepts used in the present study are briefly presented below.

Customer: 'Customers refer to those individuals who purchase for the purpose of individual or household consumption' (Loudon & Bitta, 2002, p. 5). In the present study, DESCO users are considered as customers.

Customer Expectations: The term customer expectations refer to the standards or reference points for performance against which service experiences are compared and are often understood in terms of what a customer believes should or will happen (Zeithaml and Bitner, 2003, p. 33). In the present study, customer expectations are limited to the DESCO users' expectations of DESCO services.

Customer Perceptions: Customer perception can be defined as the true or actual state of the service experience encountered by the customer (Zeithaml and Bitner, 2003, p. 32). This is the subjective assessment of actual experience with the service or product. In the present study, customer perceptions are confined to the DESCO users' actual experiences of DESCO services.

Customer Satisfaction: Customer satisfaction can be referred to as the reflection of a customer's comparative judgment resulting from the perceived performance of a product or service (Kotler and Keller, 2006, pp. 25-26). For the current study, DESCO customers' satisfaction is measured.

Respondents: Respondents considered for the study are those who have used and experienced DESCO services.

Service: A service is any act or performance that one party offers to another party which is essentially intangible in nature and does not result in title to anything. The production of a service may or may not be tied to a physical product (Kotler, 2003, p. 444). In the present study, billing, meter-reading, meter change, meter installation, load change, meter box change, meter board change, billing address correction, service drop wire replacement, entrance service drop wire change and the like by DESCO are considered as services.

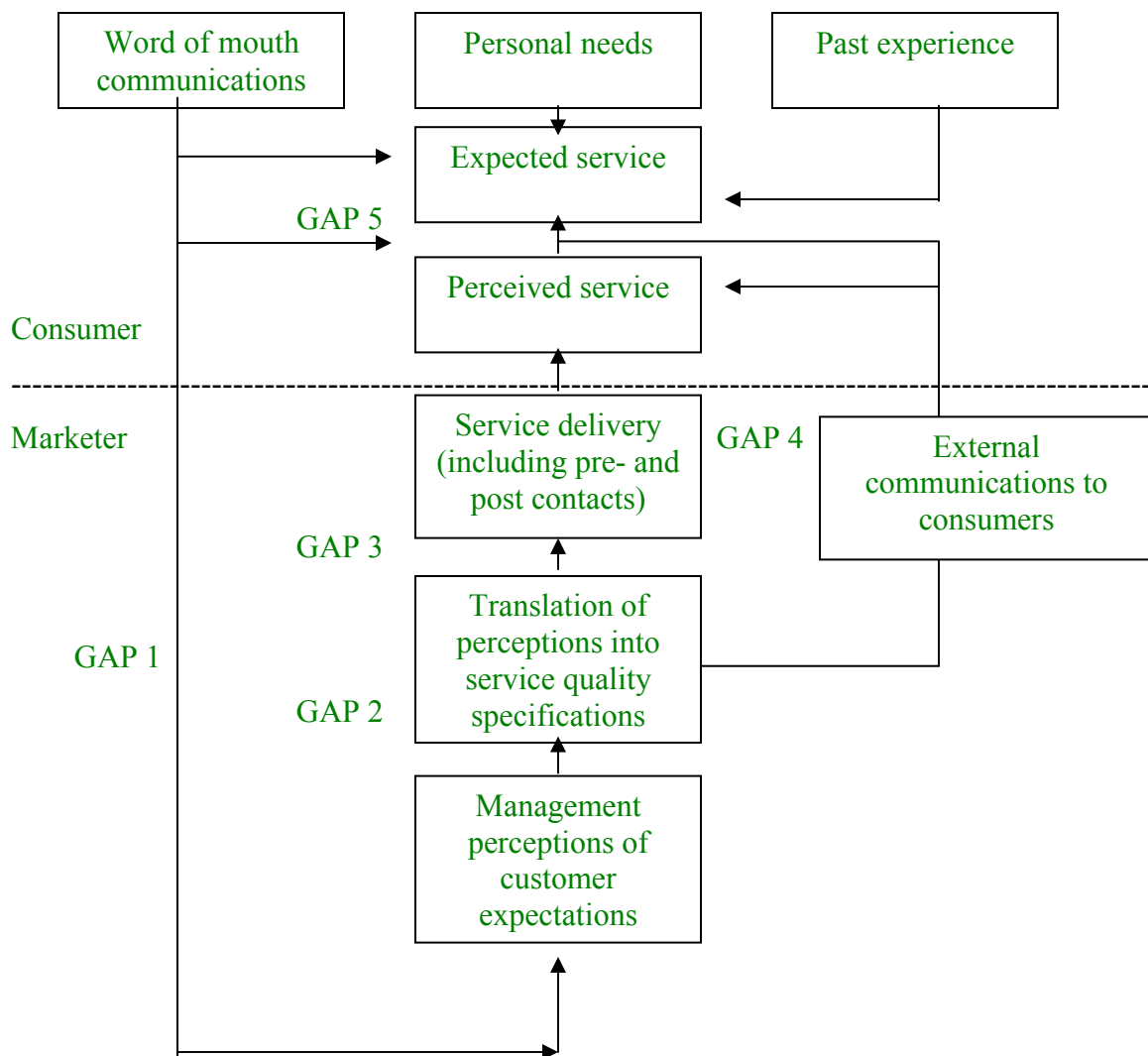
Quality: The term quality can be defined as any object's ability to conform to requirements (Crosby, 1984). In other words, quality is a total system that identifies customer specifications, designs the output to those requirements and establishes a production or service delivery system that meet customer expectations in conformance with the specifications (Stonebraker and Leong, 1994).

Service Quality: Service quality is the standard of delivery of service- which is expressed in terms of the magnitude to which the expectations of customers are met (Palmer, 2001, p. 491).

SERVQUAL: SERVQUAL is a test instrument that measures service quality (Parasuraman et al. 1988, 1991). The instrument is based on the ground that service quality is the gap between customers' expectation and perception of the service they have experienced (Kurtz and Clow, 2002, p. 105). There are five dimensions of service quality (reliability, responsiveness, assurance, empathy, and tangibles) in the SERVQUAL instrument measured in two sections of expectation and perception containing 22 items in each. For the current study, SERVQUAL has been adapted by extending the items to 31 for both expectations and perceptions sections.

Service Quality Model: Parasuraman, Zeithaml, and Berry (1985) developed a model that focused the main requirements for delivering expected service quality. This model identified five gaps. For the purpose of the current study, only the fifth gap is considered.

Figure 3.4 Service Quality Gap Model



Source: A conceptual model for service quality and its implications for future research by Parasuraman A., Valerie A. Zeithaml, & Leonard L. Berry, 1985, p. 44.

The next chapter exhibits the findings of the present study with necessary analyses and explanations.

CHAPTER 4

FINDINGS & ANALYSIS

Chapter Objective: This chapter unearths the findings of the study, which are presented under the following heads.

- 4.0 Introduction
- 4.1 Demographic Profile of the Respondents
 - 4.1.1 Sex
 - 4.1.2 Age
 - 4.1.3 Education
 - 4.1.4 Occupation
 - 4.1.5 Monthly Income
 - 4.1.6 Accommodation Types
 - 4.1.7 Number of Years Respondents Receiving DESCO Utility Services
- 4.2 Expectation and Perception of DESCO Service Quality
 - 4.2.1 Expectation of DESCO Service Quality
 - 4.2.2 Perception of DESCO Service Quality
 - 4.2.3 Gap in Expectation and Perception of DESCO Service Quality
- 4.3 Testing of Hypotheses
- 4.4 Overall Satisfaction
- 4.5 Relationship between Perceived Service Quality and Satisfaction

FINDINGS & ANALYSIS

4.0 Introduction

This chapter focuses on the findings and analyses of the study along with necessary explanations. The objective of the study is to evaluate customer satisfaction through service quality in the power sector of Bangladesh with focus on DESCO services. Primarily, the analyses section highlights the demographic profile of the respondents, and then traces the gaps in expectations and perceptions of customers regarding DESCO services. In addition, the level of DESCO customers' satisfaction is measured and the relationship between the customers' perception of DESCO services and the level of satisfaction is investigated.

4.1 Demographic Profile of the Respondents

First of all, the demographic profile of the sample respondents (173 users of DESCO power services) is exhibited. The following section gives a brief overview of the demographic profile of the sample respondents as collected from the field survey.

4.1.1 Sex

Table 4.1.1 Gender of the respondents

Sex	Number of Respondents	Percentage
Male	135	78
Female	38	22
Total	173	100

After data collection, it is observed that the majority of the respondents are male (78%) and the rest are female (22%).

4.1.2 Age

Table 4.1.2 Age of the respondents

	21-30 years	31-40 years	41-50 years	51-60 years	60+ years	Total
Male	25	77	15	9	9	135
Female	14	16	8	0	0	38
Total	39 (22.5)*	93 (53.8)	23 (13.3)	9 (5.2)	9 (5.2)	173 (100)

** percentages of the respondents are shown in parentheses*

It is observed that most of the respondents (53.8%) are within the age group of 31 to 40 years, followed by 22.5% within the age group of 21 to 30 years. The third highest age group (41-50 years) constitutes 13.3% of the total respondents. The age group of 51 to 60 years has a 5.2% share of sample respondents in the overall study. The rest of the respondents are from the age group of 60+ years that constitutes the remaining 5.2% of the total number of respondents. It is also interesting to find that within the age group of 31 to 40 years, male respondents (frequency 77) are almost five times the female respondents (frequency 16). Male respondents also dominate in 21 to 30 years' age category and 41 to 50 years' age category being almost double the size of female respondents. The absolute dominance of the male respondents is observed in the 51 to 60 years' age group, as well as in 60+ years' age group. The data revealed from the study indicate that most of the respondents (22.5% + 53.8% + 13.3% = 89.6%) are within the combined age group of 21 to 50 years. Only 10.4% respondents are found in the combined age group of 51 to 60+ years.

4.1.3 Education

Table 4.1.3 Education status of the respondents

	SSC	HSC	Bachelor's	Master's	Others	Total
Male	11	21	60	35	8	135
Female	0	12	13	13	0	38
Total	11 (6.4)*	33 (19.1)	73 (42.2)	48 (27.7)	8 (4.6)	173 (100)

** percentages of the respondents are shown in parentheses*

The table shows the level of education of the sample respondents. The highest level of education (master's degree) is found with 27.7% of the respondents. Most of the respondents have Bachelor's degree (42.2%), followed by HSC (19.1%). Only 6.4% of the respondents have SSC; whereas the remaining 4.6% have other degrees.

4.1.4 Occupation

Table 4.1.4 Occupation of the respondents

	Business	Service	Others	Total
Male	48	76	11	135
Female	5	30	3	38
Total	53 (30.6)*	106 (61.3)	14 (8.1)	173 (100)

**percentages of the respondents are shown in parentheses*

The table shows the type of occupation of the sample respondents. As per table, 61.3% of the respondents are engaged in service, whereas 30.6% are in business. Only 8.1% of the sample respondents selected the option 'others' when they were asked about their occupation. The term 'others' in the questionnaire stood for 'student or house wife or unemployed'.

Among the male respondents (frequency 135), 56.3% are engaged in service; whereas 35.6% (frequency 48) are involved in business and the remaining 8.1% (frequency 11) are either students or unemployed. Among the female it is found that 79% (frequency 30) are in service; whereas 13.2% (frequency 5) are engaged in business; and the remaining 7.8% are either student, or house wives, or unemployed.

From a comparative perspective it may be revealed that among the respondents, male (90.6%) are much more engaged in business than female (9.4%). The study also reveals that 71.7% male (frequency 76) are involved in service; which is only 28.3% (frequency 30) in the case of female.

4.1.5 Monthly Income

Table 4.1.5 Income of the respondents

	Up to Tk. 20000	Tk. 20001 – Tk. 40000	Tk. 40001 – Tk. 60000	Tk. 60001 – Tk. 80000	Tk. 100000+	Total
Male	48	54	20	9	4	135
Female	12	9	12	0	5	38
Total	60 (34.7)*	63 (36.4)	32 (18.5)	9 (5.2)	9 (5.2)	173 (100)

** percentages of the respondents are shown in parentheses*

The data reveals that 34.7% (frequency 60) of the total sample respondents have income up to Tk. 20000 per month; whereas 36.4% (frequency 63) are within the income range of Tk. 20001-40000 per month. It is also found that 18.5% (frequency 32), 5.2% (frequency 9), and 5.2% (frequency 9) of the studied samples fall within the income ranges of Tk. 40001-60000, Tk. 60001-80000, and more than Tk. 100000 per month respectively. The table also depicts that majority of the respondents (89.6%) including both male and female fall within the income range of Tk. 20000-60000 per month; and the rest 10.4% fall within the range of Tk. 60001-100000+ per month.

4.1.6 Accommodation Types

Table 4.1.6 Types of accommodation of the respondents

Sex	Own House/ Apartment	Rented House/ Apartment	Total
Male	80	55	135
Female	23	15	38
Total	103 (59.5)	70 (40.5)	173 (100)

** percentages of the respondents are shown in parentheses*

The study reveals that 59.5% of the respondents live in their own house or apartment; whereas the remaining 40.5% live in rented house or apartment.

4.1.7 Number of Years Respondents Receiving DESCO Utility Services

Table 4.1.7 Number of Years Respondents Receiving DESCO Utility Services

	1 Year	2 Years	3 Years	4 Years	5 Years & Above	Total
Male	0	13	18	5	99	135
Female	3	4	5	11	15	38
Total	3 (1.8)*	17 (9.8)	23 (13.3)	16 (9.2)	114 (65.9)	173 (100)

* percentages of the respondents are shown in parentheses

The data reveals that majority of the sample respondents (65.9%) have used the utility services of DESCO for 5 years or more. On the other hand, 13.3%, 9.8%, and 9.2% of the respondents have experienced DESCO utility services for 3 years, 2 years, and 4 years respectively. Only 1.8% have used DESCO utility services for 1 year. The data indicates that since the largest group of the sample respondents (65.9% + 13.3% + 9.8% + 9.2% = 98.2%) have used and experienced DESCO utility services for more than 2 years, the results revealed from these sample groups will be representative of the whole customer base of DESCO to draw conclusion on the overall assessment of DESCO's service quality.

4.2 Expectation and Perception of DESCO Service Quality

A major focus of the current study is to explore the expectation and perception of DESCO's service quality and the gap between them.

4.2.1 Expectation of DESCO Service Quality

The following table shows the item-wise expectation of DESCO service quality:

Table 4.2.1 Item-wise Mean Expectation of DESCO Service Quality

Items	N	Mean	Std. Deviation
DESCO should provide service with integrity	173	4.5029	.50144
DESCO should upgrade electric distribution system	173	4.4971	.50144
DESCO's power supply should be unaffected by load change	173	4.3988	.74506
DESCO should regularly check meter reading	167	4.6108	.75131
DESCO should send monthly electric bill through online/sms	173	4.3468	.85993
DESCO should provide online banking system so that customers can pay bills from anywhere	173	4.3468	.63425
DESCO should adjust bills within reasonable time period	173	4.4913	.53503
DESCO should correct bill once it has been informed	173	4.5318	.56587
DESCO should send the bill to the client's address without delay	173	4.4971	.53510
DESCO should refund the advance deposit of bill	171	4.4152	.75740
DESCO should change old/ analog meter without delay	173	4.4277	.76381
there shouldn't be any meter display problem	173	4.4277	.73273
the digits displayed on the meter should be correct	173	4.3353	.77217
DESCO should issue meter card within reasonable time	173	4.4682	.70329
main meter should be installed within reasonable time	173	4.3064	.98466
burnt meter should be replaced quickly	173	4.6705	.58180
lost meter card should be re-issued quickly	173	4.5260	.55580
meter should not run fast	173	4.4682	.60557
meter should not run slow	173	4.3699	.67481
meter with defects should be tested within reasonable time	169	4.5148	.54671
meter should show load while moving	173	4.0058	.88592
DESCO should return old meter within reasonable time	173	4.2775	.78014
request for load change should be promptly taken care of	169	4.2485	.76205
request for re-connection should be taken care of promptly	173	4.4566	.91793
DESCO should correct billing address upon request without delay	173	4.4971	.62528
owner name change on bill should be corrected without delay	173	4.2948	.82816
unusable meter-board should be replaced quickly	173	4.4509	.58485
unusable meter-box should be replaced quickly	173	4.3699	.58232
damaged/ burnt 'entrance drop-wire' should be replaced quickly	173	4.5029	.58691
damaged/ burnt 'entrance service drop-wire' should be replaced quickly	173	4.5145	.64345
stolen 'service drop wire' should be redressed quickly	173	4.6474	.53641
Overall Mean	173	4.4337	.41501

Source: Results derived from the field survey

It is observed that from the 31 statements, the overall mean customer expectation of DESCO's service quality on a 5-point scale is 4.4337 with standard deviation .41501. This overall expectation can be considered high. Item-wise it is found that the overall expectation of customers is high since all the items have scored well above 4.00. It is observed that the customers expect the most regarding 'burnt meter should be replaced quickly' (mean 4.67). Customers also expect that 'stolen service drop wire should be redressed quickly' (mean 4.64) and 'DESCO should regularly check meter reading' (mean 4.61). Moreover, the respondents (sample users of DESCO services) have shown high expectation of a number of issues related to DESCO service quality; including 'DESCO should correct bill once it has been informed' (mean 4.53), 'lost meter card should be re-issued quickly' (mean 4.52), 'meter with defects should be tested within reasonable time' (mean 4.51), 'damaged or burnet entrance service drop-wire should be replaced quickly' (mean 4.51), 'damaged or burnet entrance drop-wire should be replaced quickly' (mean 4.50), and 'DESCO should provide service with integrity' (mean 4.50).

None of the items have shown any score below 4.00. However, the items that received the lowest scores are 'meter should show load while moving' (mean 4.00), 'request for load change should be promptly taken care of' (mean 4.24), 'DESCO should return old meter within reasonable time' (mean 4.27), 'owner name-change on bill should be corrected without delay' (mean 4.29), 'main meter should be installed within reasonable time' (mean 4.30), 'the digits displayed on the meter should be correct' (mean 4.33), 'DESCO should send monthly electric bill through online or sms' (mean 4.34), 'DESCO should provide online banking system so that customers can pay bills from anywhere' (mean 4.34), 'meter should not run slow' (mean 4.36), 'unusable meter-box should be replaced quickly' (mean 4.36), and 'DESCO's power supply should be unaffected by load change' (mean 4.39).

4.2.2 Perception of DESCO Service Quality

The study also reveals the perception of DESCO's service quality. The following table shows it all:

Table 4.2.2 Item-wise Mean Perception of DESCO Service Quality

Items	N	Mean	Std. Deviation
DESCO provides services with integrity	173	3.6936	1.1380
DESCO upgraded electricity distribution system	173	3.9595	.9172
DESCO's power supply is unaffected by load change	170	3.8412	.9380
DESCO regularly checks meter reading	173	3.9538	.7762
DESCO sends monthly bill through online/ sms	173	3.1561	1.1017
DESCO provides online banking system so that customers can pay bill from anywhere	173	3.6069	1.0094
DESCO adjusts bills within reasonable time	170	3.8765	.8716
DESCO corrects bill once informed	170	3.9824	.6569
DESCO sends the bill to client's address without delay	173	4.0578	.7754
DESCO refunds the bill which is advance deposited	168	4.0060	.7300
DESCO changes old/ analog meter without delay	171	3.9708	.7702
there is no meter display problem	173	3.6590	1.1784
the digits displayed on the meter are correct	170	3.7353	.9455
DESCO issues meter card within reasonable time	173	3.9653	.7692
DESCO installs main meter within reasonable time	167	4.0060	.6721
DESCO replaces burnt meter quickly	170	4.2353	.7714
DESCO re-issues lost meter card quickly	167	3.6647	.9025
meter doesn't run fast	170	3.7118	.9065
meter doesn't run slow	167	3.7006	.9347
meter with defects is tested within reasonable time	173	3.8150	.9403
meter shows load while moving	166	3.4639	1.0596
DESCO returns old meter within reasonable time	171	3.6257	.9268
request for load change is taken care of promptly	170	3.6059	.9748
request for re-connection is taken care of promptly	168	3.9940	1.0970
DESCO corrects billing address upon request without delay	173	3.6532	.7281
'owner name change' bill is corrected without delay	173	3.7457	.8853
unusable meter board is replaced quickly	164	3.7073	.7830
unusable meter box is replaced quickly	163	3.7607	.8152
damaged/ burnt 'service drop-wire' is replaced quickly	173	4.1214	.8775
damaged/ burnt 'entrance service drop wire' is replaced quickly	169	4.2485	.8293
stolen 'service drop wire' is redressed quickly	170	4.0529	.9500
Overall Mean		3.8137	.4402

Source: Results derived from the field survey

It is observed from the 31 statements that the overall mean perception of DESCO's service quality is 3.8137 with standard deviation .4402. Though the overall perception is not very low, it is neither high. The overall perception of customers is not high since out of 31 items 24 have scored below 4.00. The 7 items that have captured better user perception include 'damaged or burnt entrance service drop-wire is replaced quickly' (mean 4.24), 'DESCO replaces burnt meter quickly' (mean 4.23), 'damaged or burnt service drop-wire is replaced quickly' (mean 4.12), 'DESCO sends electricity bill to client's address without delay' (mean 4.05), 'stolen service drop-wire is redressed quickly' (mean 4.05), 'DESCO refunds the bill which is advance deposited' (mean 4.00), and 'DESCO installs main meter within reasonable time' (mean 4.00).

The result reveals that 24 items scored below 4.00. However, 9 of them are close to 4.00 indicating that users' perceptions regarding these items are almost satisfactory. These include 'request for re-connection is taken care of promptly' (mean 3.99), 'DESCO corrects bill once informed' (mean 3.98), 'DESCO changes old/ analog meter without delay' (mean 3.97), 'DESCO issues meter-card within reasonable time' (mean 3.96), 'DESCO upgraded electricity distribution system' (mean 3.95), 'DESCO regularly checks meter-reading' (mean 3.95), 'DESCO adjusts bills within reasonable time' (mean 3.87), 'DESCO's power supply is unaffected by load change' (mean 3.84), and 'meter with defects is tested within reasonable time' (mean 3.81).

The poorest perception of DESCO sample customers is found with the item stating 'DESCO sends monthly bill through online or sms' (mean 3.15); followed by the item stating 'meter shows load while moving' (mean 3.46).

4.2.3 Gap in Expectation and Perception of DESCO Service Quality

The first objective of the study is to explore the gap in expectation and perception of customers DESCO service quality. The gaps should be measured by subtracting expectation from perception scores (Parasuraman, Zeithaml, and Berry, 1985; 1988; 1991). The following table shows the gap followed by relevant and precise analyses:

Table 4.2.3 Item-wise Gap between Perception and Expectation

Item Statements	Mean Perception	Mean Expectation	Gap
DESCO provides services with integrity	3.69	4.50	-0.81
DESCO upgraded electricity distribution system	3.95	4.49	-0.54
DESCO's power supply is unaffected by load change	3.84	4.39	-0.55
DESCO regularly checks meter reading	3.95	4.61	-0.66
DESCO sends monthly bill through online/ sms	3.15	4.34	-1.19
DESCO provides online banking system so that customers can pay bill from anywhere	3.60	4.34	-0.74
DESCO adjusts bills within reasonable time	3.87	4.49	-0.62
DESCO corrects bill once informed	3.98	4.53	-0.55
DESCO sends the bill to client's address without delay	4.05	4.49	-0.44
DESCO refunds the bill which is advance deposited	4.00	4.41	-0.41
DESCO changes old/ analog meter without delay	3.97	4.42	-0.45
there is no meter display problem	3.65	4.42	-0.77
the digits displayed on the meter are correct	3.73	4.33	-0.60
DESCO issues meter card within reasonable time	3.96	4.46	-0.50
DESCO installs main meter within reasonable time	4.00	4.30	-0.30
DESCO replaces burnt meter quickly	4.23	4.67	-0.44
DESCO re-issues lost meter card quickly	3.66	4.52	-0.86
meter doesn't run fast	3.71	4.46	-0.75
meter doesn't run slow	3.70	4.36	-0.66
meter with defects is tested within reasonable time	3.81	4.51	-0.70
meter shows load while moving	3.46	4.00	-0.54
DESCO returns old meter within reasonable time	3.62	4.27	-0.65
request for load change is taken care of promptly	3.60	4.24	-0.64
request for re-connection is taken care of promptly	3.99	4.45	-0.46
DESCO corrects billing address upon request without delay	3.65	4.49	-0.84
'owner name change' bill is corrected without delay	3.74	4.29	-0.55
unusable meter board is replaced quickly	3.70	4.45	-0.75
unusable meter box is replaced quickly	3.76	4.36	-0.60
damaged/ burnt 'service drop-wire' is replaced quickly	4.12	4.50	-0.38
damaged 'entrance service drop wire' is replaced quickly	4.24	4.51	-0.27
stolen 'service drop wire' is redressed quickly	4.05	4.64	-0.59
Overall Total	3.8137	4.4337	-0.62

Source: Results derived from the field survey

The above table shows a clear gap between the perception and expectation of DESCO's service quality. Since the perception scores in all the items are smaller than the expectation scores of the same, the gaps are negative for all the items. The overall gap between perception and expectation is found to be -0.62. The result shows that in general, the users' perception of DESCO's service quality does not match their expectation. This is evident from all gap scores (perception minus expectation) being negative, ranging from -0.27 to -1.19.

From the table it can be observed that the highest gap lies with the item stating 'DESCO sends monthly bills through online or sms' which is -1.19. The gaps are also high for the following items: 'DESCO re-issues lost meter-card quickly' with gap score being -0.86, 'DESCO corrects billing address upon request without delay' with gap score being -0.84, and 'DESCO provides services with integrity' with gap score being -0.81. The gaps have also been found to be high for the items stating 'there is no meter display problem' with the score being -0.77; followed by 'unusable meter board is replaced quickly' with gap score -0.75, 'meter does not run fast' with gap score -0.75, 'DESCO provides online banking system so that customers can pay bill from anywhere' with gap score -0.74, and 'meter with defects is tested within reasonable time' with gap score -0.70.

On the contrary, the lowest gap is found with the item stating 'damaged or burnt entrance service drop-wire is replaced quickly' with gap score being -0.27. Gaps are also found to be low (below -0.50) with a number of statements as well. These are 'DESCO installs main meter within reasonable time' with gap score -0.30, 'damaged or burnt service drop-wire is replaced quickly' with gap score -0.38, 'DESCO refunds the bill which is advance deposited' with gap score -0.41, 'DESCO sends the bill to client's address without delay' with gap score -0.44, 'DESCO replaced burnt meter quickly' with gap score -0.44, 'DESCO changes old or analog meter without delay' with gap score -0.45, and 'request for re-connection is taken care of promptly' with gap score -0.46. These low gaps imply that the DESCO authority is trying hard to meet the expectations of the customers.

4.3 Testing of Hypotheses

From the above table, the gaps in expectation and perception of customers regarding DESCO's service quality are clearly visible. However, it requires statistical proof to examine whether these gaps are truly significant or not. Thus, the gap between the expectation and perception of DESCO's service quality is examined to achieve the first objective of the study.

Objective 1: To uncover the gap in DESCO service quality with reference to customer expectation and customer perception.

To achieve the first objective of the study, the following hypothesis is developed for testing purpose.

Hypothesis 1: H_0 : There is no difference between the expectation and perception of DESCO’s service quality

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

Table 4.3.1 Descriptive statistics showing the gap between 'expectation' and 'perception' of DESCO service quality

	Mean	N	Std. Deviation	Std. Error Mean
'Expectation' of DESCO's service quality	4.4337	173	.4150	.0315
'Perception' of DESCO's service quality	3.8137	173	.4402	.0334

The above table shows the difference between the means of expectation and perception of DESCO’s service quality. The difference is negative since the perception score (M = 3.8137) is smaller than the corresponding expectation score (M = 4.4337). This negative gap is due to the fact that all the perception scores are smaller than the corresponding expectation scores. To check if the difference between the expectation and perception is statistically significant, paired sample *t*-test is employed. The result is shown in the table below.

Table 4.3.2 Paired sample *t*-test showing the gap between 'expectation' and 'perception' of DESCO's service quality

Pair	Paired Differences		<i>t</i> -test for Equality of Means		
	Mean Gap	Std. Deviation	<i>t</i>	df	Sig. (2-tailed)
'Expectation' of DESCO's service quality – 'Perception' of DESCO's service quality	-0.62	.4697	17.361	172	.000***

Note. *** $p < .01$

It is observed from the paired sample *t*-test that the gap between 'expectation' and 'perception' with respect to the service quality of DESCO is statistically significant ($t = 17.361, p < .01$). Therefore, it can be concluded that there is significant difference ($M = -0.62$) between the 'expectation' ($M = 4.4337$) and 'perception' ($M = 3.8137$) of DESCO's service quality.

4.4 Overall Satisfaction

The fundamental objective of the present study is to identify the level of customer satisfaction through the gap between perception and expectation of DESCO users. The following section exhibits the overall level of satisfaction with DESCO's service quality as revealed from the study:

Table 4.4.1 Level of customer satisfaction with DESCO's service quality

	Number of Respondents	Mean Satisfaction	Standard Deviation
Overall	173	4.1214	.66669

The above table shows that the mean satisfaction is 4.1214 on a 5-point scale, which indicates 'satisfaction' with DESCO's service quality. Otherwise said, the level of customer satisfaction is not 'highly satisfactory'.

The second objective of the study is to identify the level of customer satisfaction regarding DESCO service quality.

Objective 2: To identify the level of customer satisfaction regarding DESCO service quality

The overall mean satisfaction (M= 4.1214) indicates that the level of DESCO’s service quality is not highly satisfactory. However, it is important to know whether the mean satisfaction found from the study is statistically significant or not. For this purpose, the following hypothesis is developed for testing purpose:

Hypothesis 2: H₀: The overall level of DESCO’s service quality is highly satisfactory

$$H_0: \mu \geq 4.01$$

$$H_1: \mu < 4.01$$

One sample t-test is run to investigate if the overall satisfaction of the customers with DESCO’s service quality is below 5.0. The result is shown below:

Table 4.4.2 One sample t-test for overall level of satisfaction

Test Value = 5.0						
	<i>t</i>	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
overall I am satisfied with the quality of service provided by DESCO	-17.334	172	.000	-.8786	-.9787	-.7786

The result shows that the overall mean satisfaction (M = 4.1214) is highly significant which is lower than the test value 5.0 (t = -17.334, p < .01). This result leads to reject the null hypothesis and holds the alternative hypothesis. Thus, it can be concluded that the level (M = 4.1214) with DESCO’s service quality not highly satisfactory (Highly satisfactory = 5.0).

4.5 Relationship between Perceived Service Quality and Satisfaction

The third objective of the study is to examine the relationship between DESCO service quality and customer satisfaction.

Objective 3: To examine the relationship between DESCO service quality and customer satisfaction.

Since the third objective of the study is to examine the relationship between the perceived service quality and satisfaction with respect to DESCO services, the following hypothesis is developed for testing purpose:

Hypothesis 3: H₁: There is relationship between the perception of DESCO’s service quality and customer satisfaction

Multiple correlations are run to test the hypothesis which is shown in the table below:

Table 4.5.1 Correlation between perceived service quality and satisfaction

		Overall Satisfaction	Overall Perceived Service Quality
Overall Satisfaction	Pearson Correlation	1	.613(**)
	Sig. (2-tailed)	.	.000
	N	173	173
Overall Perceived Service Quality	Pearson Correlation	.613(**)	1
	Sig. (2-tailed)	.000	.
	N	173	173

*Note. ** Correlation is significant at the 0.01 level (2-tailed).*

The correlation table shows that there is relationship between the perception of DESCO’s service quality and customer satisfaction. The result shows a positive correlation (r = .613) between the predictor variable i.e. the perception of service quality and the dependent variable i.e. satisfaction. This result is significant at 0.01 level. Thus, it can be concluded that there is relationship between the perception of DESCO’s service quality and customer satisfaction.

CHAPTER 5

INTERPRETATIONS & IMPLICATIONS

Chapter objective: The chapter covers the interpretations and implications of the study which have been presented under the following heads.

- 5.0 Introduction
- 5.1 Interpretations
 - 5.1.1 Interpretation of Demographic Profile of Customers
 - 5.1.2 Interpretation of DESCO Service Quality
 - 5.1.2.1 Interpretation of Expectation of DESCO Service Quality
 - 5.1.2.2 Interpretation of Perception of DESCO Service Quality
 - 5.1.2.3 Interpretation of Gap between Perception and Expectation of DESCO Service Quality
 - 5.1.3 Interpretation of Overall Level of Satisfaction
 - 5.1.4 Interpretation of Relationship between Perceived Service Quality and Satisfaction
- 5.2 Implications for DESCO to Raise Customer Satisfaction
- 5.3 Conclusion & Future Research Agenda
 - 5.3.1 Conclusion
 - 5.3.2 Future Research Agenda

INTERPRETATIONS & IMPLICATIONS

5.0 Introduction

This chapter, divided into three sections, primarily focuses on the discussions and implications based on the findings & analyses of the study. Moreover, at the end some future research agenda are proposed.

The first section of this chapter has attempted to make discussions in the light of the findings of the study. First, discussions on demographic profile of the respondents are made based on the descriptive findings of the study. Second, discussions on the DESCO's service quality with respect to customer expectation; perception; and the gap between the two are made on the basis of both descriptive and inferential findings of the study. Third, discussions on the level of satisfaction and the relationship between perceived service quality and satisfaction are made. On the other hand, the second section of the chapter has attempted to develop some implications to raise the level of customer satisfaction with DESCO's service quality. In the third section, some research agenda are listed for those who would like to make contributions to the development in the tourism sector of the country in future.

5.1 Interpretations

5.1.1 Interpretation of Demographic Profile of Customers

Although the prime objective of the study was not to analyze the demographic profile of the users of DESCO, the discussion on demographic variables of the respondents is made to develop an understanding about the customers. The discussion is presented as follows:

1. *Gender*: The study made assessment of more male customers (78%) of DESCO than the female customers (22%). This might be due to the fact that in Bangladesh women are mostly home-bound and they do not feel free exchanging their views with strangers (in this case the researcher of the present study). Since most of the data were collected from households, the male respondents showed up in most cases than the female respondents. As such, the percentage of male respondents in this study is much higher than the female respondents.

2. *Age:* The study revealed that most of the respondents (89.6%) are within the combined age group of 21 to 50 years. Only 10.4% respondents were found in the combined age group of 51 to 60+ years. This picture might be supportive of the fact that younger adults tend to like making assessments of any service compared to the older adults simply because younger adults are the prime earners in most families and as such they more likely try to compare what they receive with what they expect.
3. *Education:* The study unwrapped that majority of the sample respondents (69.9%) are well educated as obtained master and bachelor degrees. This revelation is quiet consistent with the overall country-wide literacy rate- which is about 65%.
4. *Occupation:* The study unveiled that 61.3% of the respondents were engaged in service; whereas 30.6% were involved in business. Only 8.1% of the sample respondents were either students or house wives or unemployed. Moreover, male respondents were found to have been much more engaged in business (90.6%) than the female respondents (9.4%). This might be attributive of the fact that in Bangladesh business is managed mostly by the males irrespective of any sector. On the other hand, 71.69% male were found to have been engaged in service compared to the 28.30% female respondents. Though the proportion of female participation in job market is less than half the proportion of male, this result of the study also resembles the common picture of the job market in the country- where increased participation of women in the job market in recent years has improved the scenario in favor of the women.
5. *Monthly Income:* The study uncapped that majority (89.6%) of the sample respondents fell within the income range of Tk. 20000 to Tk. 60000 per month; whereas only 10.4% had the income ranging from Tk. 60001 to more than Tk. 100000 per month. This result seems natural as most of the sample respondents (61.3%) were found to be engaged in service (please refer to the discussion on ‘occupation’ on page 73).
6. *Accommodation Types:* The study revealed that 59.5% of the sample respondents lived in their own house or apartment; whereas the remaining 40.5% lived in rented house

or apartment. This result is interesting and goes against the facts found from the study. It is because, majority of the sample respondents (61.3%) were service holders and 89.6% of the sample respondents had the monthly income ranging from Tk. 20000 to Tk. 60000. With this income range, it deems very unnatural for 40.5% of the respondents having their own house or apartment. This might be attributed to the fact that a good portion of the 40.5% owners of flats or apartments might have possessed their flats or apartments by heredity.

7. *Number of Years Respondents Receiving DESCO Utility Services:* The study discovered that majority of the sample respondents (98.2%) used the utility services of DESCO for at least 2 years to 5 years or more. This result might justify the fact that since DESCO has been in commercial operation for more than 18 years (as DESCO came into being in 1996 and started its commercial operation in 1998) and has been rendering its electricity supply services for this long time-period through 16 S&Ds under Mirpur, Gulshan, and Uttara Zones- the residents of these areas logically must have experienced DESCO services for more than 2 years to 5 years or even more.

5.1.2 Interpretation of DESCO Service Quality

One of the prime objectives of the study was to know the expectation and perception of DESCO service quality and explore the gap between the two areas. This section of the chapter has made an attempt to discuss the results related to the expectation and perception of DESCO service quality and the corresponding gap as revealed from the study.

5.1.2.1 Interpretation of Expectation of DESCO Service Quality

The study revealed that the mean expectation of the respondents regarding DESCO's service quality was 4.4337 which can be considered 'high'. Item-wise it was found that the mean expectations did not fall below the scale point 4.00; rather the scores were considerably higher than 4.00. It is plainly due to the fact that people generally have high expectations of services. When customers expect, they expect to get the best- which is a very natural human instinct. The sample respondents expected the most in the areas of customer service. For example, expectations were high for customer service issues including 'quick replacement of burnt meter (mean 4.67)', 'quick redressing/ installation of stolen service drop wire (mean 4.64)',

‘regularity in checking meter-reading (mean 4.61)’, ‘correction of bill (mean 4.53)’, ‘quick re-issuance of lost meter-card (mean 4.52)’, ‘testing of defective meters within reasonable time (mean 4.51)’, ‘quick replacement of damaged or burnet entrance service drop-wire (mean 4.51)’, ‘quick replacement of damaged or burnet entrance drop-wire (mean 4.50)’, and ‘commitment of DESCO in rendering service with integrity (mean 4.50)’. These high expectations in the above customer service areas are quite natural since customers do not expect interruption in electricity supply as power is fundamental to most of the amenities of modern life.

5.1.2.2 Interpretation of Perception of DESCO Service Quality

It was observed that the mean perception of DESCO’s service quality was 3.8137 with standard deviation .4402. Though not very low, this mean perception was neither high. This perception score was moderate because the sample respondents did not experience excellent quality of service from DESCO. The mean standard deviation of all the perception scores was higher than the mean standard deviation of all the expectation scores due to the fact that perception of service quality generally varies more between individuals since service experience highly differs with respect to individuals, service settings, and level of service performance by service providers. The overall perception of customers was not found to be high since out of 31 items 24 have scored below 4.00. This result simply indicates that DESCO could not manage its services as per the expectations of its respondents i.e. the users.

5.1.2.3 Interpretation of Gap between Perception & Expectation of DESCO Service Quality

The gap between the perception and expectation of DESCO’s service quality was found to be -0.62, ranging from the lowest at -0.27 to the highest at -1.19. Since the perception scores in all the items were smaller than the corresponding expectation scores, the gaps were negative for all the items. This finding clearly indicates that the respondents’ perception did not match their expectation. In fact, large gap is generally found in almost every service sector of Bangladesh. Power sector, in this regard DESCO, is not an exception.

5.1.3 Interpretation of Overall Level of Satisfaction

One of the major objectives of the study was to explore and assess the overall level of satisfaction pertaining to the service quality of DESCO. From the study it was revealed that

the mean satisfaction of the sample respondents with DESCO's service quality was 4.1214. Otherwise said, though the level of customers' assessment was 'satisfactory', it was not 'highly satisfactory'. This result might be indicative of the fact that DESCO failed to serve the customers as per their expectations. In other words, since customers' expectations were very high, it was difficult for DESCO to fulfill most of those. Thus, the resulting score is 'not highly satisfactory'.

5.1.4 Interpretation of Relationship between Perceived Service Quality & Satisfaction

The final statistical objective of the study was to examine the relationship between perceived service quality of DESCO and customer satisfaction. The result of correlation showed a positive as well as moderately strong relationship ($r = .6137$) between DESCO's perceived service quality and customer satisfaction. This result might be due to the fact that the mean perception of the respondents was 3.8137, which was found to be close to the satisfaction score at 4.1214. However, the moderate relationship between perception and satisfaction could have improved if the sample respondents had perceived little better service from DESCO.

5.2 Implications for DESCO to Raise Customer Satisfaction

The second section of this chapter attempts to suggest some measures for DESCO so as to improve the level of its customer satisfaction. Measures suggested for the management of DESCO to raise customer satisfaction are outlined below:

1. To improve customer satisfaction with DESCO service quality, the management of DESCO should give proper attention to the 'customer perception aspects'. Since power sector is mainly a service-oriented operation, its prospect would broadly lie in managing the quality of its services. As the study revealed a moderately strong positive relationship between the perception of DESCO service quality and customer satisfaction ($r = .613$), it would be wise on part of the management of DESCO to invest more in service quality improvisation to reduce the gap between customer expectation and perception.

2. The respondents in the study perceived DESCO services as being moderate ($M=3.8137$). This perception was 'not high' due to the fact that DESCO could not manage its services up to the expectations of the sample respondents in all these areas of its services including power generation, power transmission, and power delivery. Thus, the management of DESCO should be careful in allocating its funds for improving the service quality in all three areas; especially service delivery because expectations were found to be high in the areas of customer service.
3. As the study revealed, the customers were 'not highly satisfied' ($M = 4.1214$) with the service quality of DESCO. This level of satisfaction was due to the moderate perception of DESCO's service quality ($M = 3.8137$). The level of satisfaction fell short of 'high level' only due to the poor performance on part of the management of DESCO. Thus, improvements in the area of customer perception should be given much more concern by the management of DESCO.
4. The management of DESCO can raise the level of customer satisfaction by making its services more reliable. In this regard, DESCO should show sincere interest in solving the customer problems related to meter reading, service drop-wire change, entrance service drop-wire change, damaged or burnt meter change, sending bills to online or sms, and the like. DESCO should also perform the services right the first time and within the promised time.
5. The authority of DESCO must not forget about the effect of consistent courtesy to its customers. The courteous behavior of the service staff will boost confidence in customers about DESCO's service quality, which in turn, will ensure better customer satisfaction.
6. DESCO should be more careful in transactions with its customers. For example, more care should be exercised in sending bills, correcting bills, adjusting bills, or refunding advance payments. If customers feel unsafe or lack confidence in transaction with DESCO, their overall evaluation of DESCO's service quality would not be positive and hence their level of satisfaction would be fairly low.

7. DESCO should recruit smart and knowledgeable staff as customers feel safe and happy to deal with knowledgeable staff. Though recruiting smart employees would be expensive for the management of DESCO at present, it would pay-off well in the long run.

5.3 Conclusion & Future Research Agenda

The third section of this chapter draws conclusion to the current study and suggests a list of agenda for future research in the power sector of Bangladesh with reference to DESCO.

5.3.1 Conclusion

The present study has pointed out a number of facets prevailing in the power sector of Bangladesh with reference to DESCO. The mean perception of DESCO's service quality was not found to be highly satisfactory. However, for sustainable future growth of the industry it is very important that the customers get highly satisfied. High level of satisfaction has been proven to guarantee repeat business as customers tend to be more loyal to the service provider (Jones and Sasser, 1995). Service quality has got its direct as well as indirect influences on repurchase intention through satisfaction (Boulding et al., 1993; Keaveney, 1995). Perceived service quality functions as an antecedent to satisfaction and the resulting satisfaction leads to repurchase and loyalty over time (Bojanic, 1996).

Service quality has been proven to be a strong antecedent to satisfaction in service industry in general. Since administrators in power sector are involved in service generation and service delivery, they should be highly concerned about the improvisation of quality of service.

In aggregate, the study discovered that the future of power sector in Bangladesh is promising. Though, at present the level of satisfaction with reference to DESCO's service quality is 'not high', it can be improved to this level if proper management is applied. Bangladesh is emerging in every respect and in the coming days more power will be in demand- which must be delivered to cater to this ever rising development opportunity of the country. Not only DESCO, but also the other power manufacturing as well as transmission and distribution authorities of the Government of the country, should take up the challenge of making the country a hub of power (electricity) generation. If adequate care is taken especially with

respect to service quality, the growth in the power sector the country would simply be a matter of time.

5.3.2 Future Research Agenda

The current study was confined to assessing customer satisfaction only through the study of gaps between expectation and perception of power sector of Bangladesh with reference to DESCO. As such, the present study did not attempt to seek research scopes in some other important areas of the power sector of the country. Thus, this section suggests a list of agenda for future research in the power sector of Bangladesh.

1. The study could be replicated in some other energy companies of the country so as to get a more representative view of customer satisfaction.
2. The same study might be designed longitudinally so as to see whether customer satisfaction with DESCO's service quality varies with changes in time. Such study would help the management of DESCO understand the long-held customer perceptions of its (DESCO's) service quality.
3. A similar study could be planned in some other areas of power sector – such as coal mining, gas exploration and distribution, engine oil (petrol, diesel, octane), lubrication industries, and the like.

APPENDIX A

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BIBLIOGRAPHY

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APPENDIX B

QUESTIONNAIRE

Questionnaire on Customer Survey on Service Quality of DESCO

Dear Sir/ Madam

Good morning/afternoon. The following questionnaire is prepared to serve an academic purpose. Your responses will be kept in strict confidence. Your spontaneous support and invaluable time would be highly appreciated.

Section 1 Demographic & Personal Information

Name (optional) : _____

Mobile No. (optional) : _____

Sex : ___ Male ___ Female

Age : ___ 21-30 ___ 31-40 ___ 41-50 ___ 51-60 ___ 60+

Education : ___ S.S.C ___ H.S.C ___ Hons. ___ Master's ___ Other

Occupation : ___ Business ___ Service ___ Others

Monthly Income (Tk) : ___ 20000 ___ 40000 ___ 60000 ___ 80000 ___ 100000 ___ 100000+

Accommodation Type: ___ Own House/ Apartment ___ Rented House/ Apartment

Using DESCO Service: ___ 1 year ___ 2 years ___ 3 years ___ 4 years ___ 5+ years

Section 2 Expectations Section:

Directions: Based on your experience as a user of DESCO, please think about the power service you would be pleased to receive from DESCO. There are no right or wrong answers. The only concern of this section is to get your feelings (expectations) regarding DESCO's service quality. Tick once for each of the following statements that best matches your feelings (expectations) regarding DESCO's service quality.

Sl.	Statements	Highly Disagree	Disagree	Neither disagree nor agree	Agree	Highly Agree
1	DESCO should provide services with integrity					
2	DESCO should upgrade electric distribution system					

3	DESCO's power supply is unaffected by load change					
4	DESCO should regularly check meter reading					
5	DESCO should send monthly bill through online or sms					
6	DESCO should send monthly bill through online or sms					
7	DESCO should adjust my bills within reasonable time period.					
8	DESCO should correct my bill once I inform about it.					
9	DESCO should send the bill to my address without delay.					
10	DESCO should refund the advance deposit of bill.					
11	DESCO should change analog/old meter without delay.					
12	There shouldn't be any meter display problem.					
13	The digits displayed on the meter should be correct.					
14	DESCO should issue me meter card within reasonable time.					
15	Main meter should be installed within reasonable time.					
16	Burnt meter should be replaced quickly.					
17	Lost meter card should be re-issued quickly.					
18	Meter should not run fast.					
19	Meter should not run slow.					
20	Meter with defects should be tested within reasonable time.					
21	Meter should show load while moving.					
22	DESCO should return old meter within reasonable time.					
23	Request for load change should be promptly taken care of.					
24	Request for re-connection should be taken care of promptly.					
25	DESCO should correct billing address upon request without delay.					

26	'Owner name change' on bill should be corrected without delay.					
27	Unusable meter-board should be replaced quickly.					
28	Unusable meter-box should be replaced quickly.					
29	Damaged/ burnt 'service drop-wire' should be replaced quickly.					
30	Damaged/ burnt 'entrance service drop-wire' should be replaced quickly.					
31	Stolen 'service drop wire' should be redressed quickly.					

Section 3 Perceptions Section:

Directions: Now you are requested to rate DESCO based on your experience (perception) of the service quality that you have received from DESCO so far. Again, there are no right or wrong answers. The only concern of this section is to get your feelings (perceptions) regarding DESCO's service quality. Tick once for each of the following statements that best matches your feelings (perceptions) regarding DESCO's service quality.

Sl.	Statements	Highly Disagree	Disagree	Neither disagree nor agree	Agree	Highly Agree
1	DESCO provides services with integrity					
2	DESCO upgraded electric distribution system					
3	DESCO's power supply is unaffected by load change					
4	DESCO regularly checks meter reading					
5	DESCO sends monthly bill through online or sms					
6	DESCO provides online banking service to help customers pay from anywhere					
7	DESCO adjusted my bills within reasonable time period					
8	DESCO corrected my bill once I had informed about it					
9	DESCO sends the bill to my address without delay					

10	DESCO refunded the advance deposit of bill					
11	DESCO changed analog/ old meter without delay					
12	There is no meter display problem					
13	The digits displayed on the meter are correct					
14	DESCO has issued me meter card within reasonable time					
15	DESCO installed the main meter within reasonable time					
16	Burnt meter was replaced quickly					
17	Lost meter card was re-issued quickly					
18	Meter does not run fast					
19	Meter does not run slow					
20	Meter with defects was tested within reasonable time					
21	Meter shows load while moving					
22	DESCO returned old meter within reasonable time					
23	Request for load change was promptly taken care of					
24	Request for re-connection was taken care of promptly					
25	DESCO corrected billing address upon request without delay					
26	'Owner name change' on bill was corrected without delay					
27	Unusable meter-board was replaced quickly					
28	Unusable meter-box was replaced quickly					
29	Damaged/ burnt 'service drop-wire' was replaced quickly					
30	Damaged/ burnt 'entrance service drop-wire' was replaced quickly					
31	Stolen 'service drop wire' was redressed quickly					

Section 4 Satisfaction with DESCO Service Quality

Directions: The following set of statements relates to your level of satisfaction with the service quality of DESCO. If you consider your experience is highly dissatisfying, tick in the corresponding ‘Highly Dissatisfactory’ box and if you consider your experience as satisfying, tick in the corresponding ‘Highly Satisfactory’ box. If your feelings are in between, tick one of the corresponding boxes in the middle. There are no right or wrong answers. The only concern of this section is to get your level of satisfaction regarding DESCO’s service quality.

	Statements	Highly Dissatisfactory	Dissatisfactory	Neither Dissatisfactory Nor Satisfactory	Satisfactory	Highly Satisfactory
1	Overall, I am satisfied with the quality of service provided by DESCO					

Thank you very much for your cooperation.