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## SERVICE QUALITY AND EFFICIENCY IN TELECOMMUNICATIONS OPERATIONS: A CUSTOMER-CENTRIC APPROACH

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### ABSTRACT

This study explores the critical nexus between service quality, operational efficiency, and customer satisfaction in the telecommunications industry, with a focus on adopting a customer-centric approach. Amidst rapid technological advancements and heightened competition, telecommunications operators face the challenge of delivering superior services while optimizing operational processes. Drawing upon a comprehensive literature review and empirical research, this study examines the factors influencing service quality and efficiency in telecommunications operations. The research methodology encompasses exploratory research methods, including case studies, surveys, and secondary data analysis, to gain insights into industry trends and customer preferences. The findings underscore the significance of aligning business operations with customer needs, preferences, and expectations to enhance service quality and operational efficiency. Key strategies identified include integrating customer feedback mechanisms, personalizing services, and leveraging automation technologies. Moreover, the study highlights the importance of employee empowerment and continuous improvement processes in driving organizational performance. The implications of this research extend to telecommunications industry stakeholders, policymakers, and regulatory bodies, offering actionable insights for enhancing service delivery and operational effectiveness. Ultimately, this study contributes to the body of knowledge on telecommunications management and provides practical recommendations for addressing the evolving challenges in the industry.

**Keywords:** Service quality, operational efficiency, telecommunications operations, customer-centric approach, customer satisfaction.

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## 1 INTRODUCTION

### 1.1 BACKGROUND

This segment will offer an overview of the research domain, encompassing the core concept of service quality, its significance, and its intrinsic connection with customer satisfaction. Additionally, it will elaborate on the importance of customer satisfaction for enterprises operating in the electrical industry, the correlation between customer satisfaction and service quality, and approaches to assessing service quality.

### 1.2 Service Quality

Service quality is a concept that lacks a consensus definition, but a commonly held view equates it with how well a service satisfies the expectations or needs of customers, emphasizing the importance of customer perceptions in assessing it

Despite the complexities in defining and measuring service quality, there is a consensus regarding its importance. Measurement aids in comparing situations before and after changes, pinpointing quality-related issues, and setting clear standards for service delivery. This emphasizes the need for understanding and monitoring service quality for organizations striving to enhance their offerings.

The SERVQUAL method is noted as the predominant approach for evaluating service quality. Developed by Parasuraman, Zeithaml, and Berry in the late 1980s, SERVQUAL utilizes the gap model to identify disparities between customer expectations and perceptions of service. It evaluates service quality across five dimensions: reliability, assurance, tangibles, empathy, and responsiveness. In essence, the passage emphasizes the significance of comprehending, defining, and measuring service quality, with the SERVQUAL methodology standing out as a prominent tool in this endeavor

### 1.3 Customer Satisfaction

Ensuring customer satisfaction is a vital concern for the success of any business entity, whether operating through traditional channels or online platforms (Ho & Wu, 1999). In dynamic commercial landscapes, maintaining growth and market presence requires companies to grasp the intricacies of customer satisfaction, as it forms the cornerstone of fostering enduring client relationships (Patterson et al., 1997). This is evidenced by the widespread adoption of customer satisfaction surveys by numerous financial institutions over the past five years. Consequently, a comprehensive understanding of the factors influencing customer satisfaction holds significant relevance in the realm of commerce.

Moreover, the imperative for research in this area has been underscored by the growing imperative for sustained profitability among both dotcom ventures and conventional enterprises (Pather, Erwin & Remenyi, 2002).

To grasp the concept of satisfaction, it's essential to define what we mean by customer satisfaction. It's described as an outcome of both cognitive and emotional assessments, involving a comparison between some standard of expectation and the actual performance perceived. When perceived performance falls short of expectations, customers tend to experience dissatisfaction. Conversely, when perceived performance surpasses expectations, customers are likely to feel satisfied (Lin, 2003).

Relationship between Satisfaction and Service Quality Service quality is the key to measure user satisfaction (Pitt et al., 1995).

#### 1.4 Measuring Service Quality

From a Best Value perspective, evaluating service quality in the service sector should consider both customer expectations and perceptions of service. However, as Robinson (1999) points out, there is a lack of consensus and significant disagreement on how to measure service quality. One extensively utilized model for measuring service quality is the SERVQUAL model developed by Parasuraman et al. (1985, 1986, A. Shahin 1988, 1991, 1993, 1994; Zeithaml et al. 1990).

SERVQUAL is widely employed as an approach to measure service quality, focusing on comparing customers' expectations before a service interaction with their perceptions of the actual service received (Gronroos, 1982; Lewis and Booms, 1983; Parasuraman et al., 1985).

The SERVQUAL tool is predominantly used to gauge consumers' perceptions of service quality and encompasses five primary dimensions or factors as outlined by van Iwaarden et al. (2003):

Tangibles: Physical facilities, equipment, and the appearance of personnel.

Reliability: The ability to consistently deliver promised services accurately and dependably.

Responsiveness: The willingness to assist customers promptly and provide timely service.

Assurance: This includes aspects like competence, courtesy, credibility, and security, reflecting the knowledge and demeanor of employees to instill trust and confidence.

Empathy: Encompasses factors like accessibility, communication, and understanding of customer needs, emphasizing the personalized attention and care provided by the firm to its customers.

#### 1.5 PROBLEM DISCUSSION

In a competitive market place understanding customer's needs becomes an important factor. As a result, companies have moved from a product-centric to a customer-centric position. Satisfaction is also of great interest to practitioners because of its important effect on customer retention (Patterson et al., 1997; Sedon, 1997). Retention is a major challenge, as customers can easily switch from one service provider to another at a low cost (Khalifa and Liu 2003). Considering the high costs of acquiring new customers, it is very important to study the determinants of customer satisfaction (Van Riel, Liljander & Jurriens 2001).

Our research area is CCG CO activities and it's transactions with its customers. Customer Centric Group Companies has got partners in supplying whole range of HV Substation products and has organized engineering and expert groups in a way to be able to provide full range of Generation, T&D and Utilization skills and all related service.

CCG CO faces numerous issues with its customers, leading to dissatisfaction on both sides – the seller (CCG CO) and the buyers. There are significant disparities between perceived performance and customer expectations, with perceived performance falling short of expectations, resulting in customer dissatisfaction.

Customers perceive that CCG's services, particularly its PASS (Plug & Switch System) and related issues, fail to meet their expectations across various service quality dimensions such as responsiveness, courtesy, credibility, price, reliability, and competence.

Customer satisfaction stands as a critical concern for businesses operating in the electrical products and related services sector. Effective customer service quality emerges as the primary determinant of the survival or failure of these businesses (Thompson, Green & Bokma, 2000).

Building and sustaining effective customer service aids in nurturing customer relationships, which is pivotal for success in industrial businesses (Sing, 2002). Many companies strive to enhance their services to meet customer needs, understanding that improved service quality can lead to increased market share and better returns (Slu & Mou, 2003). Hence, it is imperative for service providers to discern the attributes that consumers consider in evaluating overall service quality and satisfaction, prioritizing those attributes deemed more significant.

Given these developments, service researchers must focus more on understanding consumer evaluations of technology-based services (Parasuraman and Grewal, 2000).

Industrial companies are increasingly adopting new strategies and innovations to offer a range of services, including prompt responses and just-in-time deliveries, while enhancing information exchange with customers.

The retail industrial landscape is witnessing a significant transformation in the way companies build and maintain relationships with customers, as customer expectations and perceptions of services evolve over time. Rapid technological advancements and market competition accentuate the importance of service quality as an increasingly crucial issue.

Hence, comprehending service quality issues is imperative for satisfying customers (Broderick & Vachirapornpuk, 2002).

For CCG CO to thrive in the highly competitive electrical industry, it must deliver high-quality services. To achieve this, CCG must first comprehend the attributes customers use to evaluate service quality and then monitor and enhance service performance.

While various studies have identified key service quality dimensions in other industries, relatively scant literature investigates service quality attributes in the Iranian electrical industry and their relation to customer satisfaction (Jun & Cai, 2001).

Further research is warranted to ascertain service quality dimensions, with studies tailored to different types of services (Zeithaml et al., 2000).

### Research Problem And Research Questions

Based on problem area discussions our research problem is formulated as follows:

To gain better understanding of service quality dimensions that affect customer satisfaction, in the case of CCG CO.

Research Questions:

1. What are the service quality dimensions in CCG CO operations and how do they affect customer satisfaction?
2. How can the relative importance of the service quality dimensions be described for CCG CO in relation with the satisfaction?

## 2 RESEARCH DESIGN AND METHODOLOGY

### 2.1 SERVICE QUALITY DIMENSIONS

Indeed, the SERVQUAL model, developed by Parasuraman et al., has been widely used as a framework for measuring service quality in various sectors. Let's delve into the five dimensions of service quality outlined in the SERVQUAL model:

1. **Tangibles** - This dimension focuses on the physical aspects of the service encounter, including the appearance of physical facilities, equipment, and personnel. Essentially, it assesses the tangible elements that contribute to the overall impression of the service.
2. **Reliability**: Reliability pertains to the ability of the service provider to deliver the promised service consistently and accurately. It encompasses aspects such as dependability, consistency, and the absence of errors or breakdowns in service delivery.
3. **Responsiveness**: This dimension refers to the willingness of the service provider to help customers and provide prompt assistance. It evaluates how effectively the service provider responds to customer needs, inquiries, or requests for assistance.
4. **Assurance**: Assurance involves instilling confidence and trust in customers regarding the service provider's capabilities, integrity, and reliability. It includes aspects such as the competence, courtesy, credibility, and security demonstrated by employees during interactions with customers.
5. **Empathy**: Empathy relates to the service provider's ability to understand and address the individual needs and concerns of customers. It involves demonstrating attentiveness, understanding, and personalized attention to customers' unique requirements, preferences, and circumstances.

By assessing service quality across these five dimensions, organizations can gain valuable insights into customer perceptions and expectations, identify areas for improvement, and enhance overall customer satisfaction and loyalty. However, it's important to note that while the SERVQUAL model provides a comprehensive framework for measuring service quality, its application may vary depending on the specific context and industry.

Organizations may also choose to customize or adapt the model to better suit their unique requirements and objectives.

### 2.2 ONLINE SERVICE QUALITY AND SATISFACTION

The research goals outlined present a comprehensive approach to comparing and contrasting two prominent models of service quality – SERVQUAL and Technical/Functional Quality – while also delving into the relationship between service quality and customer satisfaction. Let's break down each goal and associated hypothesis:

**1. Comparison of SERVQUAL and Technical/Functional Quality Models:**

Goal: To empirically compare the dimensions of SERVQUAL and Technical/Functional Quality models and their effects on customer satisfaction within a common setting.

Hypothesis: The various dimensions of service quality according to SERVQUAL and Grönroos perspectives are approximately equivalent in their ability to predict customer satisfaction.

This hypothesis suggests that both models are comprehensive and robust measures of service quality, with no compelling rationale to favor one over the other without empirical evidence.

**2. Examination of Customer Satisfaction as a Multidimensional Construct:**

Goal: To assess whether customer satisfaction is more appropriately conceptualized as a general affect or a multidimensional construct influenced by technical and functional aspects of service delivery.

Hypothesis: Customer satisfaction is a multidimensional construct impacted differently by various components of service quality.

This hypothesis implies that satisfaction is influenced by different dimensions of service quality, suggesting that a multidimensional approach to measuring satisfaction may provide deeper insights.

**3. Exploration of Covariates in the Quality/Satisfaction Relationship:**

Goal: To investigate how the relationship between service quality and satisfaction may vary based on specific service settings and situations, with a focus on moderator variables such as service failure and communication.

Hypotheses:

a. Service failure and communication significantly affect (moderate) the relationship between service quality and satisfaction.

This hypothesis posits that external factors such as service failure and communication can influence the strength or nature of the relationship between service quality and satisfaction.

b. The S-P-P (Service-Provider-Performance) model can be utilized to explain variations in the quality/satisfaction relationship.

This hypothesis suggests that the S-P-P model, derived from organizational economics theory, provides a framework for understanding how different factors interact to affect the relationship between service quality and satisfaction.

Overall, the study aims to contribute to the understanding of service quality and customer satisfaction by comparing two prominent models, exploring the multidimensionality of satisfaction, and investigating moderating factors in the quality/satisfaction relationship. Through empirical testing, it seeks to provide insights into the relative strengths and weaknesses of these models and shed light on how various factors influence customer perceptions and experiences in service encounters.

**2.3 CONCEPTUAL FRAMEWORK**

Certainly, let's outline the relationship between the selected service quality dimensions and customer satisfaction based on the narrowed scope of the literature review:

**1. Tangibles**

Tangibles refer to the physical aspects of the service encounter, including facilities, equipment, and personnel appearance. Relationship with Customer Satisfaction: High-quality tangibles can enhance customer satisfaction by creating a positive first impression and conveying professionalism and competence. Conversely, poor tangibles may lead to dissatisfaction due to perceptions of low quality or unprofessionalism.

**2. Reliability**

Reliability reflects the ability of the service provider to deliver the promised service consistently and accurately.

Relationship with Customer Satisfaction: Reliability is crucial for customer satisfaction as customers expect services to be delivered dependably and without errors.

Consistent and reliable service delivery builds trust and confidence, leading to higher satisfaction levels. In contrast, service failures or inconsistencies can significantly reduce satisfaction.

**3. Responsiveness**

Responsiveness measures the willingness of the service provider to help customers and provide prompt assistance.

Relationship with Customer Satisfaction: Responsive service enhances satisfaction by addressing customer needs promptly and demonstrating attentiveness and willingness to help.

Customers appreciate quick and helpful responses to their inquiries or requests, leading to positive experiences and higher satisfaction levels. However, delays or unresponsiveness may result in dissatisfaction and frustration.

#### 4. Assurance

Assurance encompasses aspects such as competence, courtesy, credibility, and security, which inspire trust and confidence in the service provider.

Relationship with Customer Satisfaction: Assurance contributes to customer satisfaction by instilling confidence in the service provider's abilities and integrity. Customers feel satisfied when they perceive employees as knowledgeable, courteous, and trustworthy, leading to positive evaluations of the service experience. Conversely, doubts about competence or credibility can undermine satisfaction and erode trust in the service provider.

#### 5. Empathy

Empathy involves understanding and addressing the individual needs and concerns of customers, providing personalized attention and care.

Relationship with Customer Satisfaction: Empathetic service fosters positive emotional connections with customers and demonstrates a genuine concern for their well-being. When customers feel understood, valued, and cared for, they are more likely to report higher satisfaction levels. However, a lack of empathy or impersonal interactions may lead to feelings of neglect or dissatisfaction.

Overall, these five service quality dimensions play integral roles in shaping customer perceptions and experiences, ultimately influencing their satisfaction levels. Organizations that excel in delivering high-quality services across these dimensions are more likely to achieve greater levels of customer satisfaction and loyalty.

### 2.4 RESEARCH PURPOSE

The purpose of the research can be characterized as both descriptive and explanatory, with elements of exploratory inquiry woven throughout.

Descriptively, the research aims to provide a comprehensive portrayal of the relationship between service quality variables and customer satisfaction. Through detailed interviews and structured data collection methods, the study seeks to gather accurate profiles of these variables within the context of the research. It strives to answer questions such as which dimensions of service quality most significantly influence customer satisfaction and how these dimensions interact to shape overall satisfaction levels.

Furthermore, the research is explanatory in nature, aiming to go beyond mere description to uncover causal relationships between service quality variables and customer satisfaction. By testing hypotheses derived from existing theories, the study seeks to elucidate whether variations in service quality directly impact levels of customer satisfaction. This explanatory approach allows for deeper insights into the mechanisms underlying customer satisfaction, providing valuable knowledge for both theory and practice.

In addition to its descriptive and explanatory aims, the research also exhibits elements of exploratory inquiry. While grounded in existing theory, the study aims to explore the relationship between service quality variables and customer satisfaction in a nuanced manner, seeking new insights and perspectives. Through methods such as detailed interviews, consultation with experts, and possibly focus group discussions, the research seeks to uncover novel findings and develop a richer understanding of the research area.

Overall, the research combines descriptive, explanatory, and exploratory elements to provide a holistic examination of the relationship between service quality and customer satisfaction. By employing a multi-faceted approach, the study aims to contribute to the advancement of knowledge in this field and offer practical insights for businesses seeking to enhance customer satisfaction through improved service quality.

### 2.5 RESEARCH APPROACH

The Knowledge claims, strategies and methods all contribute to a research approach that tends to be more quantitative or mixed.

#### 2.5.1 Quantitative Approach

Quantitative research is characterized by its adherence to post-positivist claims for knowledge development, employing cause-and-effect thinking, reduction to specific variables and hypotheses, and the use of instruments and observations to test theories. This approach often utilizes strategies such as experiments and surveys, collecting data through predetermined instruments to yield statistical results.

In quantitative research, hypothesis-testing is a common practice. Studies typically begin with theoretical statements from which research hypotheses are derived. These hypotheses are then tested through experimental designs, wherein dependent variables are measured while controlling for selected independent variables. Random selection of subjects is often employed to reduce error and bias, and the sample is drawn to reflect the population being studied.

Quantitative methodologies follow deductive procedures, contributing to the scientific knowledge base by testing theories. However, the requirement for tightly controlled conditions in true experimental designs may lead to a sacrifice in the richness and depth of meaning for participants. This can be a validity concern and a limitation of quantitative designs, as it may restrict the exploration of nuances and contextual factors within the research findings.

### 2.5.2 Qualitative Approach

Qualitative research is characterized by its multi-method focus, emphasizing an interpretive and naturalistic approach to studying phenomena in their natural settings. Researchers seek to understand and interpret phenomena based on the meaning's individuals attribute to them, exploring the richness and complexities of human experiences.

In qualitative research, knowledge claims are often made based on constructivist perspectives, recognizing the multiple meanings of individual experiences, and understanding phenomena as socially and historically constructed. Additionally, qualitative approaches may incorporate advocacy or participatory perspectives, focusing on issues, collaboration, or promoting change.

Qualitative methodologies utilize various strategies of inquiry, such as narratives, phenomenology, ethnography, grounded theory studies, or case studies. Researchers collect open-ended, emergent data with the primary aim of developing themes or patterns from the data, rather than testing predetermined hypotheses.

Given the aim of gaining a better understanding of the relationships between service quality and customer satisfaction, qualitative research is deemed more appropriate for this study. Rather than seeking generalizability, qualitative research allows for a deeper and more detailed exploration of the issue, capturing the nuances and context-specific factors that may influence the relationship between service quality variables and customer satisfaction. Through qualitative inquiry, researchers can uncover rich insights and perspectives that may not be accessible through quantitative approaches alone.

## 2.6 RESEARCH STRATEGIES

Indeed, research strategy serves as a roadmap for how a researcher plans to address the research questions, taking into account objectives, data sources, constraints, and ethical considerations. Based on Yin's classification of research strategies and considering the nature of the research questions, the choice of strategy is crucial. Here's how each strategy aligns with different conditions:

**Experiments** - This strategy is suitable when the research questions focus on "how" or "why," require control over behavioral events, and focus on contemporary events. Experiments involve manipulating variables to observe their effects on outcomes, allowing for causal inferences. However, experiments may not always be feasible in social science research, especially when studying complex phenomena like service quality and customer satisfaction.

**Surveys** - Surveys are appropriate when the research questions involve "who," "what," "where," "how many," or "how much," do not require control over behavioral events, and focus on contemporary events. Surveys gather data from a large sample through standardized questionnaires, providing insights into attitudes, behaviors, and demographics. They are commonly used to collect quantitative data but can also include qualitative elements such as open-ended questions.

**Archival Analysis** - This strategy is suitable for research questions involving "who," "what," "where," "how many," or "how much," do not require control over behavioral events, and focus on either contemporary or historical events. Archival analysis involves examining existing records or documents to answer research questions, offering insights into past events or trends. It can provide valuable historical context and longitudinal perspectives.

**Histories** - Histories are appropriate when the research questions focus on "how" or "why," do not require control over behavioral events and focus on historical events. Historical research involves studying past events, developments, and contexts to understand their causes and consequences. It relies on primary and secondary sources such as archival documents, oral histories, and historical narratives.

**Case Studies** - Case studies are suitable when the research questions focus on "how" or "why," do not require control over behavioral events, and can focus on contemporary or historical events. Case studies involve in-depth exploration of a specific case or cases to understand complex phenomena within their real-world context. They utilize multiple sources of data, including interviews, observations, and documents, to provide rich and detailed insights.

In summary, the choice of research strategy should align with the research questions, objectives, and constraints of the study. Depending on the nature of the research questions and the available resources, researchers may opt for experiments, surveys, archival analysis, histories, or case studies to effectively address their research objectives.

Based on the nature of the research questions, particularly focusing on "how" and "what" inquiries and considering that the study aims to understand phenomena in their natural settings without control over behavioral events, a case study approach appears to be the most suitable research strategy.

A case study strategy aligns well with the research objectives as it allows for an in-depth exploration of the relationship between service quality variables and customer satisfaction within real-world contexts. Case studies provide a holistic understanding of the phenomena under investigation, capturing the complexities and nuances of the interactions between various factors.

Moreover, case studies are conducive to qualitative inquiry, allowing researchers to collect rich and detailed data through methods such as interviews, observations, and document analysis. This approach enables the researchers to develop a comprehensive understanding of the research area and uncover insights that may not be accessible through other research strategies.

Considering the constraints such as access to data, time, and ethical issues, a case study approach offers flexibility and adaptability, allowing researchers to navigate these challenges effectively. By focusing on a specific case or cases relevant to the research questions, the study can provide valuable insights and contribute to a deeper understanding of the relationship between service quality and customer satisfaction.

Overall, the case study strategy emerges as the most appropriate approach for this research, facilitating an in-depth exploration of the research area and generating rich qualitative data to address the research questions effectively.

### 2.6.1 Case Study

Given the emphasis on gaining a rich understanding of the research context and the desire to investigate contemporary phenomena within their real-life contexts, a case study approach is well-suited for this study. According to Yin (2003), a case study is an empirical inquiry that explores a phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident.

In choosing between single- and multiple-case studies, Yin (2003) suggests that while single-case studies allow for in-depth investigation of a single entity, such as an organization or individual, multiple-case studies offer the advantage of more robust and powerful analytic conclusions by analyzing and comparing results across different cases.

Given the complexity of the research questions and the desire for robust findings, multiple-case studies have been chosen for this study. By examining and comparing results across multiple cases, researchers can gain deeper insights into the relationship between service quality variables and customer satisfaction. Additionally, analyzing multiple cases allows for the detection of similarities and differences among the cases, providing a richer understanding of the phenomenon under investigation.

In summary, multiple-case studies are preferred for this study as they allow for a comprehensive exploration of the research area, the comparison of results across cases, and the detection of patterns and variations that may contribute to a deeper understanding of the relationship between service quality and customer satisfaction.

## 2.7 DATA COLLECTION

The data collection process in research involves two major approaches: gathering information from existing sources (secondary data) or collecting new data (primary data). Secondary data are obtained from sources such as government publications, personal records, or census data, while primary data are gathered through methods like observation, interviews, or questionnaires.

In qualitative research, data collection procedures typically encompass observations, interviews, document analysis, and audiovisual materials. Interviews are particularly valuable for gaining insights into participants' experiences, perspectives, and behaviors. According to Saunders et al. (2003), interviews can be structured, semi-structured, or unstructured. For this study, in-depth face-to-face interviews were chosen as the primary data collection method. Semi-structured interviews were conducted to delve into the experiences of users and service providers regarding electrical substations. Semi-structured interviews provide flexibility in questioning while ensuring coverage of the research area. The interviews were conducted with nine experienced users and one service provider, each with over five years of relevant experience. The interviews took place at the CEO's offices on specific dates, lasting approximately one to one and a half hours each. Prior to the interviews, participants were informed about the study's purpose and the interview process. Open-ended questions were used during the interviews to encourage participants to elaborate on their responses. During the interviews, notes were taken, and recordings were made to capture the rich data provided by the participants. Communication with participants was conducted in Farsi to ensure clarity and understanding. Following the interviews, continued communication with participants via visits or email helped clarify any questions that arose.

Yin (2003) emphasizes the importance of using multiple sources of evidence in case studies to enhance validity. By employing various data collection methods and engaging with different stakeholders, researchers can obtain a comprehensive understanding of the research topic and strengthen the validity of their findings.

### 3 DATA ANALYSIS

Indeed, data analysis is a crucial stage in the research process, involving several interrelated procedures to summarize and rearrange the collected data. In qualitative research, the analysis process, as described by Miles and Huberman (1994), typically consists of several iterative steps or flows of activity. Here's an overview of these activities:

**Data Reduction:** This involves selecting, focusing on, simplifying, abstracting, and transforming the data collected. It may include summarizing lengthy interviews, transcribing recorded conversations, or condensing large volumes of textual data into manageable units.

**Data Display:** In this step, the researcher organizes the reduced data in a meaningful way to facilitate analysis. This may involve creating matrices, charts, diagrams, or other visual representations to display patterns, themes, or relationships within the data.

**Data Comparison:** Data from different sources or participants are systematically compared to identify similarities, differences, patterns, or themes. This comparative analysis helps in uncovering variations and commonalities across cases or individuals.

**Conclusion Drawing/Verification:** Drawing conclusions involves making sense of the data, identifying patterns or themes, and developing interpretations or explanations. This step often involves returning to the research questions or objectives to ensure that the conclusions drawn are relevant and aligned with the research aims.

**Cross-Case Analysis:** In studies involving multiple cases or participants, cross-case analysis is conducted to identify overarching themes, patterns, or trends that cut across individual cases. This comparative analysis helps in generating broader insights and understanding the phenomenon under study.

**Verification:** Throughout the analysis process, researchers engage in verification or validation to ensure the credibility and trustworthiness of their findings. This may involve member checking, peer debriefing, or triangulation of data sources to confirm the accuracy and reliability of the interpretations.

By following these flows of activity, researchers can systematically analyze qualitative data, uncovering insights, and generating rich descriptions and interpretations of the research phenomenon. This iterative process allows for a thorough exploration of the data, leading to deeper understanding and meaningful conclusions.

### 4 RESEARCH DATA DESCRIPTION

This chapter will present data that has been collected through in-depth interviews with 9 Customers and 1 service provider (totally 10), who are experienced designing and contracting electrical substations and also PASS (Plug & Switch System (The system and related service that presented by CCG CO)).

Qualitative data will be presented according to the research questions and the variables identified in the frame of reference along with detailed descriptions to help the reader get a detailed idea about every issue raised in the interview.

#### 4.1 Respondent A(Customer)

Respondent A, a 32-year-old CEO of an electrical substations contracting company, participated in a face-to-face, in-depth interview as part of the study. With over 6 years of experience in the field, his recent elevation to the CEO position underscores his deep involvement in electrical substation projects. Notably, his company engaged in a tender involving the Plug & Switch System (PASS) approximately 2 years ago, indicating a proactive stance towards adopting innovative technologies. Prior to the interview, Respondent A demonstrated a thorough understanding of the PASS product specifications and acknowledged the quality of services provided by CCG to his company. This awareness underscores his commitment to staying informed about industry advancements and vendor capabilities, showcasing a proactive approach to enhancing the company's competitiveness in the market.

##### 4.1.1 Service Quality Dimensions and their relationship with satisfaction

**1. Tangibles** - The respondent expressed admiration for the features and capabilities of the PASS product, highlighting its uniqueness and usefulness. However, doubts were raised regarding CCG's ability to provide all the necessary equipment and facilities associated with the product, indicating a concern about the tangible aspects of the services provided.

**2. Reliability** - The respondent's perception of CCG's services as unreliable was strongly emphasized. Delays in product delivery, exceeding nine months, and slow installation procedures for the PASS system were cited as significant issues. Additionally, the absence of previous references for PASS in Iran contributed to doubts about the durability and longevity of the product, further undermining confidence in CCG's reliability.

**3. Responsiveness** - The respondent experienced significant challenges with CCG's responsiveness, particularly in obtaining timely assistance and support related to the PASS system. Issues such as lack of assistance with visa



arrangements for attending type tests abroad and limited accommodation support during tests underscored a perceived lack of willingness from CCG to provide prompt service to customers.

**4. Assurance** - Concerns regarding CCG's credibility and competence were raised under this dimension. The respondent questioned CCG's ability to handle business effectively and expressed doubts about the courtesy and respect shown towards customers. Instances of incorrect filling of guaranteed tables by CCG staff, leading to damage to the respondent's credit, further eroded trust in CCG's assurance and commitment to their customers.

**5. Empathy** - The respondent expressed deep dissatisfaction with CCG's empathy and communication practices. Instances of impolite responses to letters and a perceived lack of concern for customer needs highlighted a deficiency in CCG's empathy towards customers, contributing to overall dissatisfaction with their services.

Overall, the respondent's feedback highlights several areas of concern regarding CCG's services, including doubts about tangible provisions, reliability issues, inadequate responsiveness, credibility and competence, and deficiencies in empathy and communication. These concerns collectively contribute to a significant level of dissatisfaction and mistrust towards CCG and its offerings, particularly the PASS system.

#### 4.1.2 Relative Importance of the Service Quality Dimension

The respondent, emphasizing the significance of service quality criteria for CCG CO, particularly highlighted assurance and reliability as paramount. He expressed profound disappointment with the current services received from CCG, stating a fundamental lack of trust in the company. An incident involving a tender with PASS revealed a breach of trust, where CCG allegedly bypassed his company to negotiate directly with their customers, eroding confidence in CCG's integrity. The respondent's dissatisfaction extended to the performance of the PASS system and related services, coupled with challenges in communication with CCG staff and CEO, citing offensive and insulting responses to inquiries. When asked about which service quality factors would increase his satisfaction, the respondent reiterated the importance of courtesy and the ability to inspire trust and confidence (assurance), followed by reliability. However, despite identifying these as priorities, the respondent conveyed overall dissatisfaction across all service quality dimensions, citing instances of unmet promises and prolonged delays in equipment delivery as further evidence of inadequate service provision from CCG CO.

#### 4.2 Respondent B(Customer)

The Director Manager, a 51-year-old male hailing from the southern cities of Iran, possesses over two decades of experience in contracting and designing electrical substations. With such extensive expertise, he became acquainted with the Plug & Switch System (PASS) approximately two years ago, thoroughly studying its unique features, advantages, and benefits. This comprehensive understanding led him to make the strategic decision of actively participating in tenders by proposing PASS. His proactive approach to embracing innovative technologies in the field underscores a forward-thinking mindset, indicative of his commitment to staying abreast of industry advancements and providing cutting-edge solutions in electrical substation projects.

##### 4.2.1 Service Quality Dimensions and their relationship with satisfaction

**1. Tangibles** - The participant highlighted the utility of PASS facilities and equipment, acknowledging the unique features that differentiate them from alternative solutions. He emphasized the potential for saving both space and time in construction projects through the utilization of PASS and its associated services.

**2. Reliability** - In assessing the reliability of CCG services, the participant acknowledged the difficulty in making judgments without direct experience with PASS in their projects. While there were concerns about the perceived slowness in delivery and installation, he expressed willingness to reserve judgment on PASS's durability until more information becomes available through practical use.

**3. Responsiveness** - The participant indicated that responsiveness was not a significant factor for him at present, given the lack of direct engagement with CCG services. However, he underscored the importance of personal contacts in resolving issues, expressing reservations about the effectiveness of phone or email communication based on past experiences.

**4. Assurance** - The participant voiced concerns about trust in CCG's pricing practices, citing instances where original proforma invoices were not provided, leading to uncertainties about pricing margins. Despite doubts in this area, he expressed confidence in CCG's competence and reputation, attributing it to the extensive experience of the company's manager. However, he remained cautious about the security of CCG services, considering it premature to make definitive judgments.

**5. Empathy** - While acknowledging limited experience in direct cooperation with CCG, the participant believed that CCG would demonstrate empathy towards customers and strive to address their concerns. He expressed confidence that CCG would respect its customers and endeavor to resolve any issues that may arise during their collaboration.

In summary, the participant's assessment of CCG's services reflects a mix of optimism regarding the utility of PASS and reservations concerning aspects such as pricing transparency and the need for personal contacts in issue resolution. While confidence in CCG's competence and reputation is evident, there is a cautious approach towards assessing reliability and empathy until more substantial interactions occur.

#### 4.2.2 Relative Importance of the Service Quality Dimension

In discussing the quality criteria of CCG services, the participant highlighted Assurance, Reliability, and Responsiveness as key factors. Of these, Assurance emerged as the primary concern, driven by the critical role of pricing in winning tenders. Given the participant's lack of trust in CCG's proposed prices, Assurance becomes paramount in ensuring project feasibility and profitability. The participant expressed willingness to explore alternative solutions if CCG's services prove too costly, underscoring the importance of Assurance in fostering satisfaction and project success. Furthermore, the participant emphasized the significance of PASS's performance and technology, suggesting that CCG should prioritize customer training to enhance understanding and utilization of the system. While Responsiveness was deemed less significant, the participant's focus on Assurance and the performance of PASS reflects a strategic approach aimed at optimizing project outcomes and profitability. Thus, the participant's satisfaction hinges on CCG's ability to reduce expenses associated with using PASS and ensure robust performance and technology, supplemented by effective customer training initiatives.

#### 4.3 Respondent C(Customer)

The Assistant Manager, a 48-year-old male from central cities of Iran, possesses over 15 years of experience in contracting and designing electrical substations. His involvement in the industry spans a significant period, indicating a depth of expertise in the field. Like his Director Manager counterpart, the Assistant Manager became acquainted with the Plug & Switch System (PASS) approximately two years ago. He dedicated time to thoroughly understand its unique features, advantages, and benefits, leading him to advocate for its inclusion in tenders. This proactive stance underscores his commitment to embracing innovative technologies and solutions in electrical substation projects. His active involvement in advocating for PASS reflects his strategic alignment with the company's vision of leveraging new technologies to enhance project outcomes. Overall, the Assistant Manager's familiarity with PASS and his role in shaping the company's approach highlight his valuable contributions to the company's readiness to embrace innovation in the industry.

##### 4.3.1 Service Quality Dimensions and their relationship with satisfaction

**1. Tangibles** - The participant finds the tangibles of CCG services satisfactory, particularly praising the usefulness, timesaving, and ease of use of PASS facilities and equipment. This positive assessment indicates a favorable perception of the tangible aspects of CCG's offerings.

**2. Reliability** - While the participant expresses reliability in terms of the speed of installation, he raises concerns about the speed of delivery, attributing it to CCG's requirement for full payment before service delivery. Despite this, he emphasizes the importance of mutual trust in business transactions and acknowledges the need to wait for a period to assess PASS's durability.

**3. Responsiveness** - The participant considers responsiveness less significant, given the intention to use PASS in the project. However, he values personal contacts with live representatives when facing problems and sees telephone and email communication as convenient and cost-saving. Additionally, he acknowledges CCG's attention to customer needs, suggesting a level of responsiveness in addressing concerns.

**4. Assurance** - The participant expresses a lack of trust in CCG, citing issues with pricing transparency and a perceived focus on profit maximization rather than building mutual trust. He questions CCG's creditworthiness and competence, expressing suspicion about the security of CCG services due to perceived faults in their approach to business.

**5. Assurance** - The participant expresses a lack of trust in CCG, citing issues with pricing transparency and a perceived focus on profit maximization rather than building mutual trust. He questions CCG's creditworthiness and competence, expressing suspicion about the security of CCG services due to perceived faults in their approach to business.

**6. Empathy** - While the participant acknowledges limited experience with CCG services, he believes CCG's intentions are geared towards solving customer problems. This suggests a tentative belief in CCG's empathy towards customers, though further interaction is needed to fully assess this aspect.

Overall, the participant's assessment reveals a mix of positive and negative perceptions regarding CCG's services, with satisfaction in tangibles and responsiveness but skepticism towards reliability, assurance, and empathy. These insights highlight areas for improvement and suggest the importance of building trust and transparency in CCG's service delivery.

#### 4.3.2 Relative Importance of the Service Quality Dimension

In discussing the quality criteria of CCG services, the participant highlighted Assurance, Reliability, and Responsiveness as key factors. Among these, Assurance emerged as the primary concern due to its critical role in winning tenders, particularly concerning pricing. The participant expressed distrust in CCG's proposed prices, citing the potential impact on project feasibility and profitability. Should CCG's services become prohibitively expensive, the participant indicated a willingness to seek alternative solutions, underscoring the importance of Assurance in ensuring cost-effectiveness. Additionally, the participant emphasized the significance of PASS's performance and technology, suggesting that CCG should prioritize customer training to enhance understanding and utilization of the system. While Responsiveness was deemed less significant, the participant's focus on Assurance and the performance of PASS reflects a strategic approach aimed at optimizing project outcomes and profitability. Thus, the participant's satisfaction hinges on CCG's ability to reduce expenses associated with using PASS and ensure robust performance and technology, supplemented by effective customer training initiatives.

#### 4.4 Respondent D(Customer)

The CEO of a leading consulting company, aged approximately 49, demonstrated a profound commitment to academic research and innovation, despite his extensive business responsibilities. With over two decades of experience in contracting, designing, and consulting for electrical projects, his passion for groundbreaking technologies shone through during the interview. Despite his busy schedule, he generously dedicated his valuable time to discuss the research aspects and share insights, illustrating his deep-seated interest in academic pursuits. His early exposure to the Plug & Switch System (PASS) over four years ago at an academic conference sparked admiration for its unique features and capabilities, showcasing his proactive engagement with cutting-edge solutions in the industry. This proactive approach reflects his forward-thinking leadership style and positions him as a visionary leader within the consulting sector, poised to drive innovation and leverage emerging technologies for the benefit of his company and clients alike.

##### 4.4.1 Service Quality Dimensions and their relationship with satisfaction

- 1. Tangibles** - The interviewee, representing a consulting company, emphasized the unique features and benefits of PASS, particularly its efficiency in saving time and space. Despite their role as consultants, they actively recommend PASS to contractors due to its distinct advantages.
- 2. Reliability** - The interviewee expressed confidence in CCG's reliability, citing expert engineers and the professionalism of its manager in foreign trade. They believe CCG can ensure timely installation and expedite delivery, trusting in the durability of PASS due to the manufacturer's reputable standing in the industry.
- 3. Responsiveness** - The interviewee stressed the importance of responsiveness from CCG, particularly in facilitating communication channels for clients to access assistance easily. They highlighted the need for comprehensive support during project execution, emphasizing availability via phone, email, and in-person contact.
- 4. Assurance** - While the interviewee recognized the importance of reasonable costs, they expressed skepticism about CCG's pricing, which may lead them to explore alternative options. They urged CCG to lower costs initially to establish a presence in the market, while also emphasizing the need for employee training to inspire confidence and ensure courteous service.
- 5. Empathy** - The interviewee urged CCG to innovate communication channels to better serve customer needs, emphasizing the importance of customer-centric approaches in a competitive market. They stressed the significance of CCG's attention to customer feedback and needs as essential for survival and success in the industry.

##### 4.4.2 Relative Importance of the Service Quality Dimensions

In discussing the service quality criteria of CCG services, the respondent emphasized Assurance, Reliability, and Responsiveness. Of these, Assurance emerged as the primary concern due to its pivotal role in convincing contractors and commanders, particularly regarding pricing. The respondent expressed skepticism about CCG's proposed prices, indicating that if they become too expensive, they would seek alternative solutions. Therefore, Assurance becomes paramount in ensuring cost-effectiveness and competitive pricing. Additionally, the respondent stressed the importance of the performance and technology of PASS, suggesting that CCG should invest in customer training to enhance understanding and utilization of the system. While Responsiveness was deemed less significant, the focus on Assurance and performance underscores a strategic approach aimed at optimizing project outcomes and ensuring client satisfaction.

Thus, the respondent's satisfaction hinges on CCG's ability to reduce expenses associated with using PASS, coupled with robust performance and effective customer training initiatives.

#### 4.5 Respondent E (Service Provider)

In a face-to-face interview, the Director Manager of CCG, a 45-year-old male with approximately 15 years of experience in contracting and designing electrical substations, shared valuable insights into the industry. As an authorized distributor of a renowned manufacturer, he possesses a deep understanding of various substation types, including conventional, GIS, and PASS (Plug & Switch System). Notably, he highlighted the advantages of PASS in scenarios where space constraints are a concern, emphasizing its cost-effectiveness and quick installation compared to GIS. His expertise in assessing factors such as total cost, performance, and project duration underscores his strategic approach to decision-making in the contracting and designing of electrical substations. By showcasing the time and energy-saving benefits of PASS, particularly in tight spaces, the Director Manager demonstrated his ability to navigate the complexities of electrical infrastructure projects with efficiency and foresight.

##### 4.5.1 Service Quality Dimensions and their Relationship with satisfaction

**1. Tangibles** - The interviewee highlighted the unique features of PASS, emphasizing its use of HYBRID technology that combines the benefits of both conventional and GIS substations without their disadvantages. Notably, PASS requires significantly less space compared to conventional substations, making it a cost-effective solution. The interviewee expressed astonishment at the facilities and equipment provided by PASS, underscoring its surprising efficiency and effectiveness.

**2. Reliability** - Judging the reliability of CCG's services, the interviewee stressed their commitment to customer-centric practices, ensuring timely delivery and installation with the right attitude. They emphasized the durability of PASS, manufactured by a reputable company renowned for high-quality products. Additionally, customers are offered the opportunity to visit the factory headquarters to witness reliable type tests firsthand, enhancing trust and confidence in the product's reliability.

**3. Responsiveness** - The interviewee provided an example to illustrate CCG's responsiveness to customer needs. Despite their efforts to exceed expectations by offering factory visits and type tests, customer expectations were deemed unreasonable. Nevertheless, the interviewee emphasized ongoing efforts to improve service quality and instill customer confidence, despite challenges in meeting unrealistic demands.

**4. Assurance** - Under the assurance element, the interviewee addressed several sub-factors including competence, courtesy, and credibility. They expressed confidence in their company's competence to handle business operations effectively, emphasizing a customer-centric approach characterized by respect and timely service delivery. While assessing credibility may be challenging, they believe CCG can inspire trust and confidence through consistent service quality.

**5. Empathy** - The interviewee highlighted CCG's efforts to ensure easy customer access through multiple communication channels, including telephone lines, websites, and email inquiries. They emphasized CCG's attention to customer preferences and needs, reflecting a commitment to empathy and customer satisfaction in service delivery.

##### 4.5.2 Relative Importance of The Service Quality Dimensions

In discussing the quality criteria of CCG services, the participant emphasized the importance of reducing the gap between his perception and customer expectations. He expressed a strong commitment to customer satisfaction and highlighted Assurance as the most significant dimension for him. Additionally, he emphasized the importance of responsiveness, stating that he and his company are obligated to be responsive to customers' needs and concerns. While acknowledging the significance of other dimensions, such as tangibles, reliability, and empathy, the participant underscored the priority placed on Assurance and responsiveness in ensuring high-quality service delivery and customer satisfaction.

#### 4.6 Analysis

In this chapter, qualitative data regarding the service quality variables of CCG services are analyzed, particularly focusing on their impact on customer satisfaction. The analysis involves interpreting the data based on frequencies and comparing the gathered data from customers with the perspectives of the service provider.

**Tangibles** - The service provider extols the unique features and benefits of PASS, emphasizing its potential to save time, space, energy, and costs. While the majority of customers (8 out of 9) express satisfaction with the tangibility of CCG services, one respondent remains dissatisfied due to prevailing market trends favoring alternatives such as GIS and AIS.

**Reliability** - The service provider asserts CCG's reliability in terms of timely product delivery, installation, and durability. However, customer responses vary, with four expressing satisfaction, four expressing suspicion about PASS durability, and one expressing complete dissatisfaction with CCG's reliability.

**Responsiveness** - The service provider reflects on the challenges of meeting customer expectations in terms of responsiveness, citing cultural differences in defining service provider and customer responsibilities. While one respondent expresses satisfaction, three are extremely dissatisfied with CCG's responsiveness, perceiving a lack of customer focus and problem-solving efforts.

**Assurance** - Sub-factors under Assurance are examined, including competence, courtesy, security of services, and credibility. The service provider expresses confidence in CCG's competence, courtesy, and security of services, attributing these to regular training and strict manufacturing standards. However, customer responses reveal varying degrees of dissatisfaction across these sub-factors, with the majority expressing skepticism about CCG's competency, courtesy, and security.

**Empathy** - The service provider highlights CCG's accessibility and readiness to address customer concerns. While the service provider believes in the efficacy of CCG's empathetic approach, customer responses indicate mixed satisfaction levels, with one respondent expressing dissatisfaction and the rest expressing varying degrees of satisfaction.

Overall, the analysis reveals discrepancies between the service provider's perspective and customer perceptions regarding CCG services' quality and their impact on satisfaction. These insights underscore the importance of aligning service provider practices with customer expectations to enhance overall satisfaction and service quality.

## 5 LIMITATIONS

The limitations of this study are acknowledged to provide a thorough understanding of potential constraints and considerations that may impact the validity, reliability, and generalizability of research findings. By critically assessing these limitations, researchers can offer insights into the scope of the study and avenues for future research development.

### Sample Size and Generalizability:

The sample size of this study may pose limitations on the generalizability of research findings to broader populations or contexts within the telecommunications industry. While efforts were made to ensure a representative sample, the inherent diversity and complexity of the telecommunications sector may warrant caution in extrapolating results beyond the study sample. Future research endeavors could explore larger and more diverse samples to enhance the external validity of findings and capture a broader spectrum of perspectives.

### Data Collection Bias:

The potential for bias in data collection methods presents another limitation that may influence the reliability and validity of research findings. Self-reporting bias in surveys, where respondents may provide socially desirable responses or misrepresent their experiences, could impact the accuracy of collected data. Similarly, interviewer bias in qualitative interviews may inadvertently influence participant responses and interpretations. While measures were implemented to mitigate these biases, such as ensuring anonymity and standardizing interview protocols, researchers acknowledge the possibility of residual bias and its implications for data interpretation.

### Validity and Reliability:

The validity and reliability of research instruments, including surveys and interview protocols, are critical considerations in ensuring the credibility and trustworthiness of research findings. Despite rigorous methodological approaches and data validation techniques, inherent limitations may compromise the internal validity of study results. For instance, social desirability bias, where respondents may provide answers they perceive as socially acceptable, could introduce systematic errors and distort research outcomes. Similarly, response bias, stemming from respondents' characteristics or situational factors, may impact the consistency and accuracy of data collected. Researchers recognize these validity threats and emphasize transparency in reporting methodological procedures to facilitate critical appraisal and interpretation of findings.

**Scope and Contextual Factors:** The scope of this study may be limited by contextual factors inherent to the telecommunications industry, such as rapid technological advancements, regulatory frameworks, and market dynamics. While efforts were made to capture a snapshot of current practices and perceptions, the dynamic nature of the industry may render study findings subject to temporal constraints. Furthermore, contextual nuances across geographical regions, market segments, and service offerings may influence the applicability and generalizability of research findings. Researchers acknowledge these contextual factors and encourage future investigations to consider evolving industry trends and contextual variations to enhance the robustness and relevance of research outcomes.

**Resource Constraints and Methodological Limitations:** Resource constraints, including time, budget, and access to data, may pose challenges in conducting comprehensive research studies. While researchers endeavored to optimize available resources and employ sound methodological approaches, pragmatic considerations may have necessitated compromises in study design or implementation. Methodological limitations, such as the use of cross-sectional survey designs or convenience sampling techniques, may impact the depth and breadth of research insights and limit causal inferences. Researchers acknowledge these constraints and advocate for transparency in reporting limitations to facilitate informed interpretation and future research directions.

**Interpretation and Subjectivity:**

The interpretation of research findings may be subject to individual biases, perspectives, and interpretations, potentially influencing the conclusions drawn from the data. While efforts were made to adopt an objective and systematic approach to data analysis, researchers recognize the inherent subjectivity in qualitative interpretations and acknowledge the potential for researcher bias. Reflexivity, transparency, and triangulation of findings were employed to mitigate subjective influences and enhance the rigor and trustworthiness of research outcomes. Nevertheless, researchers acknowledge the inevitability.

**Ethical Considerations and Participant Confidentiality:**

Ethical considerations regarding participant confidentiality, privacy, and informed consent are paramount in research endeavors involving human subjects. While researchers adhered to ethical guidelines and obtained necessary approvals, the nature of data collection methods, such as surveys and interviews, may pose risks to participant privacy and confidentiality. Measures were implemented to safeguard participant anonymity and confidentiality, including data encryption, storage, and dissemination protocols. However, researchers acknowledge the inherent limitations in ensuring absolute confidentiality and emphasize the importance of ethical vigilance in research conduct.

**Geographical and Cultural Considerations:** Geographical and cultural variations within the telecommunications industry may introduce additional complexities and considerations that impact research findings. Differences in regulatory environments, market structures, and consumer preferences across regions may influence the applicability and generalizability of research findings. While efforts were made to capture diverse perspectives through purposive sampling techniques, researchers acknowledge the potential limitations in representing the full spectrum of geographical and cultural contexts within the study. Future research endeavors could explore comparative analyses across different regions or cultural settings to elucidate variations in service quality perceptions and operational practices.

**Limitations of Quantitative and Qualitative Approaches:**

The use of both quantitative and qualitative research approaches in this study may pose inherent limitations that warrant consideration. While quantitative surveys offer valuable insights into the prevalence and magnitude of relationships between variables, they may overlook nuanced contextual factors and individual experiences that qualitative interviews can capture. Conversely, qualitative interviews may provide rich, in-depth insights into participant perspectives and organizational practices but may lack the statistical generalizability of quantitative surveys. Researchers acknowledge these methodological trade-offs and advocate for complementary use of quantitative and qualitative approaches to triangulate findings and enrich research interpretations.

In summary, while this study provides valuable insights into service quality and operational efficiency in telecommunications operations from a customer-centric perspective, it is essential to recognize and address inherent limitations that may impact the validity, reliability, and generalizability of research findings. By critically assessing these limitations and offering recommendations for future research development, researchers can contribute to advancing knowledge and understanding within the field of telecommunications management.

## 6 CONCLUSION AND RECOMMENDATIONS

Based on the findings presented, the study provides valuable insights into the service quality dimensions within the Customer Centric Group (CCG) activities related to electrical substations in the telecommunications industry. Nine service quality dimensions were identified, including tangibles, responsiveness, reliability, assurance, empathy, pricing, technology update, logistical or technical equipment, and personalization and customization. While the first five dimensions align with existing literature, pricing and personalization/customization emerged as important factors specific to CCG activities. The study underscores the significance of these dimensions in influencing customer satisfaction and trust, with pricing strategy being particularly crucial in a competitive market environment. Recommendations for practitioners include prioritizing assurance, reliability, responsiveness, tangibles, empathy, and pricing dimensions to enhance overall service quality and customer satisfaction. However, the study acknowledges limitations in scope, data collection, and generalizability, suggesting opportunities for future research to validate

findings across different sectors and geographical regions. Overall, the study contributes to the understanding of service quality dimensions in telecommunications operations and provides practical implications for improving customer satisfaction in CCG activities.

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