Examining the Influence of Client Sociodemographic Characteristics on Perceptions of Healthcare Service Quality

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Master of Business Administration in Healthcare Management at Strathmore University

2025

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Submitted partial fulfilment of the requirements for the Degree of Master of Business Administration in Healthcare Management at Strathmore University

Strathmore University Business School
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Nairobi, Kenya

June, 2025

AUTHOR'S DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

Sarah Njeri Njoroge Okello

Approval

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ABSTRACT

Healthcare is one among the fastest-growing industries in Africa, expanding rapidly over the past few decades and continuing to contribute significantly to the region's social and economic development. At the same time, there has been increased competition within the sector, particularly among private healthcare providers. In the face of growing competition and client expectations, organisations that understand and respond to client needs have a better chance of excelling. This study examined the relationship between the sociodemographic characteristics of clients and their perception of service quality within a private health facility. Specifically, it described the sociodemographic characteristics of the clients, assessed their perception of healthcare service quality, and examined patterns of association between client sociodemographic characteristics and their perception of service quality. The study's theoretical foundation is based on the Expectation-Disconfirmation Theory and the SERVQUAL Model. A quantitative, cross-sectional survey was conducted using a modified SERVQUAL questionnaire administered to 330 adult clients who visited the hospital between January 1, 2024 and March 31, 2024, achieving a response rate of 61%. Descriptive statistics summarized sociodemographic data, with one-way ANOVA being used to assess relationships between client sociodemographic characteristics and perceptions of health service quality. The study revealed that patients' expectations exceeded their perceptions, resulting in a negative service quality gap. The study revealed strong relationships between client sociodemographic characteristics and perceived health service quality, indicating that sociodemographic characteristics significantly influence clients' perceptions of service quality. These findings offer crucial insights for healthcare managers, investors, and policymakers to inform the design of policies and strategies for measuring, assessing, and improving health service quality, thereby enhancing facility performance and overall progress toward health system goals. The study also bolsters existing literature on measuring service quality and understanding relationships between individual end-user characteristics and uptake and utilization of health services.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of variance
CHE	Current health expenditure
EDT	Expectation Disconfirmation Theory
ES	Expected service
GDP	Gross domestic product
LMIC	Low- and middle-income country
NHIF	National Hospital Insurance Fund
PS	Perceived Service
PSQ	Perceived Service Quality
SDG	Sustainable Development Goal
SERVPERF	Service Performance
SERVQUAL	Service Quality Scale, developed to measure perceived service quality
SMS	Short message service
SPSS	Statistical Package for Social Sciences
SU-IREC	Institutional Review Board of Strathmore University
NACOSTI	National Commission for Science, Technology and Innovation
USAID	United States Agency for International Development
WHO	World Health Organization

ACKNOWLEDGMENTS

First and foremost, I would like to thank God for the opportunity, time, and resources He gave me to undertake this course, particularly this study.

Next, I would like to express my sincere gratitude to my supervisor, Prof. Francis Wafula, for his patience, wisdom, and encouragement, which enabled me to complete this study successfully.

Finally, I would like to thank the board of directors and the senior management team at Halisi Family Hospital for allowing me to conduct the study there and for their unwavering support and patience.

DEDICATION

I dedicate this dissertation to my husband, Leonard Okello Ochieng, and my house managers, Mary Gathoni and Rhodah Mutio, without whom I would never have had the time to complete this course and this research. You have provided a fantastic support system for me.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

1.1.1 The Services Sector Globally and in Kenya

The service sector stands out as a rapidly growing economic segment globally. It traverses organisations, enterprises, and national and local government entities. The sector encompasses education, social security, information, and health sectors, as well as transport, legal, and law-enforcement agencies, the military, and credit-lending institutions. Additionally, the sector includes non-profit private entities, such as charitable organisations, faith-based organisations, mutual benefit organisations, research foundations, and art foundations. For-profit private services also play a vital role in augmenting the services sector across various industries, including hospitality, construction, air travel, retail, entertainment, financial services (such as banks and insurance companies), advertising, market research, and communications and consultancy firms. While not exhaustive, this list underscores the services sector's multifaceted nature as Ghobadian et al. (1994) highlighted.

Services contribute substantially to global economic output, attracting more than two-thirds of foreign direct investment and providing the majority of jobs in both developing and developed countries. Notably, services have been on the rise, representing an increasing share of the Gross Domestic Product (GDP) in developed countries and developing nations across Asia, Africa, and South America (World Trade Organization, 2019). Over the past three decades, the services sector has been a key driver of global economic growth, constituting 63.97 per cent of global GDP between 2012 and 2022 (O'Neill, 2024b).

The service sector also plays a significant role in emerging markets and developing economies than in developed ones, constituting up to 60 per cent of GDP in these regions (Nayyar & Davies, 2023). Examining Kenya specifically, the services sector has made a considerable contribution to the total gross domestic product (GDP). Between 2012 and 2022, the service sector accounted for an impressive 55.06 per cent of Kenya's GDP, underscoring its economic significance in the nation (O'Neill, 2024a).

1.1.2 The Healthcare Services Sector Globally and in Kenya

Healthcare holds significant importance within the services sector due to its costly and intricate nature, widespread usage, and direct influence on a nation's economic development and its populace's well-being (Berry & Bendapudi, 2007). Additionally, in 2020, global health spending accounted for 10.89 per cent of GDP, whereas, in Kenya, healthcare spending accounted for 4.48 per cent of GDP (World Health Organization, 2021, 2022). For this reason, Berry and Bendapudi (2007) challenge and encourage service academicians and professionals to conduct research in the healthcare field. Figure 1 below illustrates Kenya's healthcare spending as a percentage of its GDP from 2000 to 2020.

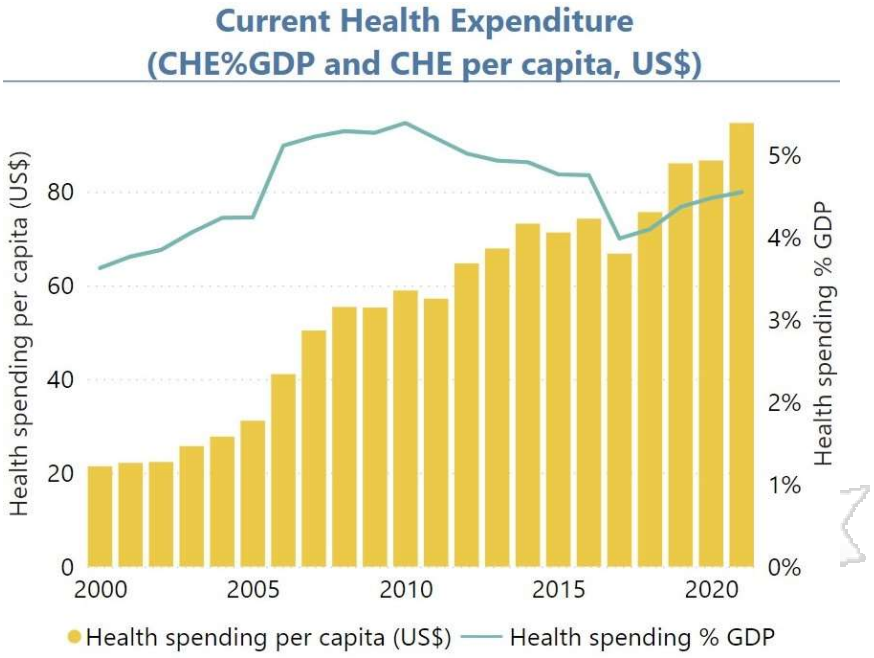

Figure 1.1: Current Health Expenditure in Kenya *(World Health Organization, 2021)*

This sustained growth in the services sector and the steady increase in global and regional healthcare spending have intensified competition in the healthcare industry. Organisations must position themselves strategically to compete favourably.

In Kenya, the devolution of healthcare services following the promulgation of the 2010 constitution was intended to improve access to care, tailor service delivery to meet the needs of local communities, and design local strategies to enhance the quality of care. County authorities have been working towards achieving these objectives despite the inevitable

challenges that any transition presents (Mohamoud & Mash, 2022). Additional efforts by the national government through the Ministry of Health have been geared primarily towards enhancing patient care.

Nevertheless, measuring the quality of service is a complex task, especially within the healthcare context, where different factors influence how individuals perceive quality of care. As a starting point, patient satisfaction is often considered a yardstick for determining service quality. However, other aspects, such as individual expectations and sociodemographic elements, play a key role in determining how individuals perceive service quality (Mohamoud & Mash, 2022).

The healthcare system in Kenya is made up of public, private for-profit, and non-profit facilities (Mohamoud & Mash, 2022). Public facilities serve at least 48 per cent of Kenyans seeking healthcare services. Non-profit facilities and private for-profit facilities serve the remaining 14 per cent and 38 per cent, respectively. Therefore, non-public facilities serve 52 percent of the Kenyan population (Mohamoud & Mash, 2022). Given this capacity, there is sufficient justification for investigating the quality of service in healthcare delivery within the private sphere.

According to a USAID (2018) report on private sector opportunities for investment in Kenya's health sector, the entire health system is worth roughly US$4.5 billion and is projected to grow to US$11 billion by 2030. The private health sector is expected to account for most of this growth, with estimates predicting a rise of US$6 billion. Additionally, a World Bank working paper on private healthcare in Kenya reported that approximately two-thirds of healthcare facilities in Kenya are privately owned and that most trained healthcare professionals are employed in private healthcare facilities (Barnes et al., 2010).

The works outlined above by Barnes et al. (2010), Mohamoud and Mash (2022), and USAID (2018) underpin the increasing significance of the private healthcare sector in Kenya and explain why private sector investors and stakeholders must continually explore opportunities to improve the quality of service.

1.1.3 The Importance of Healthcare Service Quality

The World Health Organization (WHO), in the World Health Report 2000, stated that a health system includes "all the activities whose primary purpose is to promote, restore, and maintain health" (World Health Organization, 2000). The report also stated that a health system's primary purpose is to "improve the health of the population it serves, respond to people's expectations, and provide financial protection against the cost of ill health."

Later, the WHO developed a framework to describe the "building blocks" that make up a health system in order to strengthen global health systems and foster a universal understanding of what constitutes a health system (World Health Organization, 2007). Figure 1.2 below illustrates this.

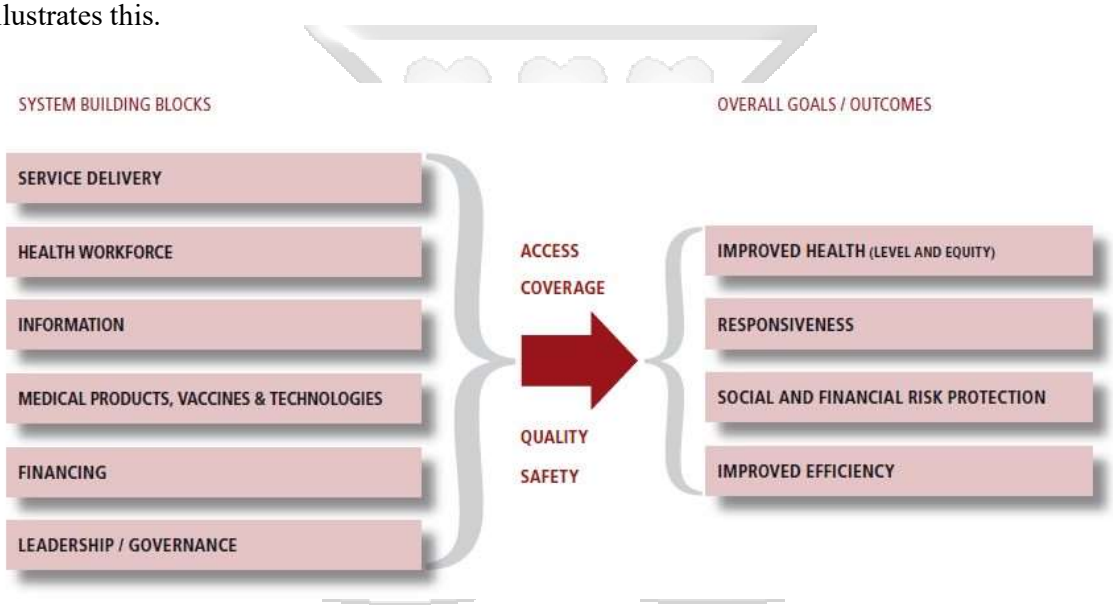

Figure 1.2: WHO Health Systems Framework *(World Health Organization, 2007)*

Service delivery is one of the building blocks of a health system. The World Health Organization (2007) describes good services as those services that “deliver effective, safe, and high-quality personal and non-personal health interventions to those who need them, when and where they are needed, with minimal waste of resources”. Responsiveness in service delivery is one major goal of any health system. Responsiveness describes the way a system meets people's expectations of how they would like to be treated by health providers. It includes respect for people and dignity, the confidentiality of personal health information, freedom to participate in one's own health decisions, client-oriented service, freedom to choose one's

provider, access to social support from family and friends, and access to a clean environment and pleasing ambience (World Health Organization, 2000).

Tromp and Baltussen developed a conceptual map using the aforementioned WHO health system building blocks to help policymakers determine the criteria for priority setting in healthcare (Tromp & Baltussen, 2012). The authors outlined "patient-perceived quality of care" as one of the criteria for prioritising improvements in health system responsiveness.

In September 2015, the United Nations adopted the 2030 Agenda for Sustainable Development to build upon the 2000 Millennium Development Goals. The third Sustainable Development Goal (SDG) is to make sure everyone has a healthy life and to foster well-being. This SDG targets "achieving universal health coverage, including financial risk protection, access to quality essential healthcare services, and access to safe, effective, high quality, and affordable essential medicines and vaccines for all" (United Nations, 2015).

The works outlined above by the WHO and the United Nations further underscore the importance of healthcare service quality.

1.1.4 Perception of Healthcare Service Quality

Service quality discussions have been a prominent feature of the public health sphere since the 1980s, largely due to the strategic significance of the global service industry. Companies that offer high-quality services tend to have higher market shares, higher returns on their investments, and higher asset turnover rates. They can attract and retain more customers, generate positive recommendations, and establish a reputation as a reputable corporate brand. This means that high service quality positively affects business performance and profitability (Ghobadian et al., 1994; Ladhari, 2009; Zeithaml et al., 1996). Moreover, companies that prioritise service quality can differentiate themselves from competitors because of their existing and sustainable competitive advantage (Chaniotakis & Lymperopoulos, 2009; Lewis, 1989; Moore, 1987).

With the present increase in competition, the significance of service quality continues to rise, making it a critical aspect of any organisation's marketing and operations strategy. Therefore, organisations must have valid and reliable ways to measure service quality and monitor changes over time (Asubonteng et al., 1996).

Regardless of its apparent magnitude, defining and measuring service quality remains challenging in healthcare (Babakus & Mangold, 1992)To fully understand service quality, the intrinsic qualities of services, such as perishability, heterogeneity, intangibility, and inseparability, must be considered.

The intangibility of services refers to their inability to be experienced, sensed, smelled, or tasted before they are purchased. Inseparability describes the reality that services cannot be manufactured and then stored; instead, they are consumed as they are produced, with the consumer being present and involved in the production process. Heterogeneity describes the principle that service quality depends on the person producing the service. It is, therefore, challenging to ensure that every service is produced in the same manner. Perishability means services cannot be stored for future consumption (Kotler et al., 2022). Because of these characteristics, the service must be produced right the first time and every time.

Several authors have attempted to define service quality, and many agree that service quality is a subjective or objective measure of how the produced service meets or exceeds the expectations and needs of the consumer (Ghobadian et al., 1994; Gronroos, 1984; Parasuraman et al., 1985)Therefore, the perception of service quality is a construct that compares the recipient's expectations with the actual service execution (service outcome) and the service delivery process (service process).

Parasuraman et al. (1985, 1988) used the Gap Model to develop the SERVQUAL scale. SERVQUAL measures perceived service quality using a scale comprising 22 attributes that fit into five broad categories: tangibles, empathy, assurance, reliability, and responsiveness, which define the criteria customers use to gauge service quality. It is considered a reliable and adaptable instrument for assessing perceived service quality. It has been successfully tested in various service sectors and is modifiable according to the needs of specific industries and organisations (Buttle, 1996; Wisniewski, 2001).

An extensive review of quality dimensions and metrics in healthcare service concluded that no scale or tool had been applied universally to evaluate and quantify health service quality (Upadhyai et al., 2019). Several models and tools have been developed and tested by different researchers. These include but are not limited to Donabedian's Model, SERVPERF, PRIVHEALTHQUAL, PubHosQual, HEALTHQUAL, HospitalQual, and MEDQUAL.

However, SERVQUAL has consistently been applied and researched more than any other tool measuring healthcare service quality (Ali et al., 2023; Fatima et al., 2019; Ladhari, 2008).

The formative works of Parasuraman et al. (1985, 1988, 1991, and 1994) on SERVQUAL form the foundation of this study.

1.1.5 Sociodemographic Characteristics and Perception of Service Quality

In service marketing, understanding your customers is pivotal to competing more effectively (Kotler et al., 2022). Organisations must adopt targeted marketing, a strategy based on three cardinal principles: targeting, market segmentation, and positioning. Market segmentation describes the process of categorising or classifying customers with relatively homogeneous geographical, sociodemographic, and psychographic characteristics (Kotler et al., 2022). A customer's sociodemographic characteristics, such as their age, level of education, employment status, gender, marital status, household size, and family income, strongly influence their needs and wants, expectations, buying behaviour, and perception of quality (Christia & Ard, 2016; Kotler et al., 2022).

An organisation that understands its customers' differences and how they evaluate service quality can design its services to enhance this evaluation positively, thereby improving its business performance and competitive advantage (Gronroos, 1984). This study hypothesises that one way of understanding customers is by researching how their sociodemographic characteristics influence their perception of service quality.

1.2 Problem Statement

Despite the significance of healthcare service quality, outlined above, residents of low- and middle-income nations (LMICs) receive relatively poor-quality healthcare services, with the most vulnerable populations receiving the worst quality (Kruk et al., 2018). This study by (Kruk et al., 2018) found that one in every three participants mentioned negative experiences within their healthcare system, specifically related to aspects such as attentiveness, respect, communication, waiting time, and the duration of their visits. Some individuals reported extreme instances of disrespect and even abuse. Kruk et al. (2018) opined that health systems should intentionally measure, evaluate, and report on quality because, without measurement, there can be no improvement. Just as customer experience is paramount in other service industries, health systems must consider their clients' needs and preferences, given that access

to high-quality healthcare services is a human right and a moral obligation (UN Economic and Social Council, 2000).

In Kenya, the private sector provides a large portion of healthcare services (Barnes et al., 2010; Mohamoud & Mash, 2022; USAID, 2018). As the private health sector grows, competition among private healthcare providers to retain and increase their market share intensifies (Mohamoud & Mash, 2022). This competition drives innovative strategies to improve clients' perception of the quality of services they receive. To remain competitive, private healthcare providers must examine and understand how multiple factors, including but not limited to the socio-demographic profile of their clients, influence their perception of service quality.

On a global, regional, and local scale, there have been numerous studies investigating the effect of sociodemographic factors on the perception of healthcare service quality. These studies have, however, yielded very varied and highly context-specific results. (A'aqoulah et al., 2022; Al Fraihi & Latif, 2016; Alanazi et al., 2023; Fatima et al., 2017; Goula et al., 2021; Myshketa et al., 2022; Pekkaya et al., 2019). Considering the diverse nature of healthcare systems globally, regionally, and locally, these studies also demonstrate the need for nation-specific and even organisational-specific investigations to determine how clients' sociodemographic profiles influence their perceptions of healthcare services.

This study seeks to address these problems.

First, the study acknowledges that health service quality in low- and middle-income countries (LMICs) is often poor, reinforcing the need to measure and improve service quality. Second, the study recognises that all private sector facilities (the largest provider of health services in Kenya) must improve their quality to better contribute to health system goals and survive growing competition. Finally, this study acknowledges that to improve healthcare service quality, providers must first understand the unique and context-specific needs, preferences, expectations, and perceptions of the clients they serve.

To this end, this study will examine how client sociodemographic characteristics influence their perception of healthcare service quality, particularly within the private healthcare sector. The study findings will be beneficial to the management of healthcare organisations in their journey towards continuous quality improvement, improving responsiveness to client needs and expectations, and developing a sustainable competitive advantage.

1.3 Research Objectives

1.3.1 General Objective

To examine the relationship between sociodemographic characteristics of clients visiting the Halisi Family Hospital and explore their perceptions of healthcare service quality.

1.3.2 Specific Objectives

i. To describe the sociodemographic characteristics of clients who visited the Halisi Family Hospital between January 2024 and March 2024.
ii. To examine the clients' perceptions of healthcare service quality at the Hospital using modified SERVQUAL dimensions.
iii. To assess patterns of association between the sociodemographic characteristics of clients at Halisi Family Hospital and their perception of healthcare service quality.

1.4 Research Questions

i. What are the sociodemographic characteristics of clients at Halisi Family Hospital?
ii. What is the perception of healthcare service quality among clients visiting the Halisi Family Hospital?
iii. What are the relationships between the sociodemographic characteristics of clients at Halisi Family Hospital and their perception of healthcare service quality?

1.5 Scope of the Study

This study examined the relationships between the sociodemographic characteristics of adult clients who visited Halisi Family Hospital between January 1, 2024, and March 31, 2024, and their perception of healthcare service quality.

The study site, Halisi Family Hospital, serves as an example for private healthcare providers in Kenya. It is a private, 25-bed inpatient and outpatient hospital located in Kitengela, Kajiado County, Kenya, serving over 25,000 clients annually. The hospital provides the following services in addition to inpatient and outpatient services: Accident and emergency, laboratory, pharmacy, X-ray and ultrasound, theatre, maternity and neonatal care, antenatal, postnatal and family planning, well-baby and immunisation, nutrition and wellness, physiotherapy and occupational therapy, and specialised services in internal medicine, general surgery,

orthopaedics, paediatrics, and obstetrics & gynaecology. The hospital serves both insured and non-insured clients.

The study employed a quantitative cross-sectional survey design. Data on the sociodemographic characteristics of clients was collected using an online questionnaire. The SERVQUAL scale, described by Parasuraman et al. (1988, 1991) was adapted and utilised to measure service quality perception.

1.6 Significance of the Study

The results of this research will help healthcare managers and investors, especially in the private healthcare sector, to improve how they quantify the perception of healthcare service quality, to diagnose service areas within their organisation that do not meet their patients' expectations (gaps), and to identify service quality elements that are the most important to their patients, and then apply this information to prioritise and optimise resource allocation and implement quality improvement initiatives while monitoring progress over time. In so doing, managers ensure that their organisations develop a sustainable competitive advantage in the increasingly competitive healthcare industry, thereby ensuring their profitability and sustainability.

These findings will also help health system policymakers formulate policies and implement interventions geared towards improving the overall quality of health systems and enhancing citizens' perception of the responsiveness of their country's public and private healthcare systems.

Additionally, the research will contribute to the existing corpus of information by providing contextual insight into the perception of healthcare service quality, measured using the SERVQUAL scale, and its relationships with patients' sociodemographic characteristics in Africa, particularly in a developing country like Kenya. The results may be useful for extrapolation to other African and Kenyan healthcare markets serving populations with similar sociodemographic characteristics.

CHAPTER TWO: LITERATURE REVIEW

This chapter examines the theoretical literature on service quality expectations and perceptions. Thereafter, it examines the empirical research on service quality models and dimensions, the application of SERVQUAL in the healthcare industry, and how clients' sociodemographic profiles influence their perception of the services they receive. Finally, the chapter highlights the existing research gaps identified from the literature review findings, the contribution of the current study to the body of research knowledge and presents the study's conceptual framework.

2.1. Theoretical Literature Review

This section reviews the existing literature on the guiding theory, the Expectation-Disconfirmation Theory (EDT) and discusses the SERVQUAL Model. Arguments for and against SERVQUAL are also presented and discussed.

Service quality has been an area of interest over the last forty years, and it has been studied extensively, with many agreeing that high-quality services give organisations a competitive advantage. Attaining and maintaining the highest standards of care from the client's perspective results in customer loyalty, a bigger clientele base comprising new and returning customers, enhanced brand image and reputation, positive customer-driven recommendations, reduced operational costs, higher revenues, and subsequent profitability expansion. (Ladhari, 2009).

Many studies have attempted to define the service quality construct and develop reliable and replicable instruments for measuring it. This study will build upon the seminal works of authors Gronroos, Parasuraman, Zeithaml, and Berry and the models they proposed.

2.1.1 The Expectation Disconfirmation Theory (EDT)

The Expectation Disconfirmation Theory (EDT) is centred on the idea that disconfirmation occurs where there is an inconsistency between client expectations and their perceptions of the actual service provided (Zhang et al., 2022). The argument is that negative disconfirmation leads to dissatisfaction because the service fails to meet expectations. Conversely, positive disconfirmation leads to satisfaction, as the service meets or exceeds expectations. Higher values of disconfirmation, whether positive or negative, indicate a wider gap between the service provided and the client's expectation (Forero & Gómez, 2017; Zhang et al., 2022).

Figure 2.1 illustrates the relationships between the four primary principles that guide the EDT: expectations, disconfirmation, performance, and satisfaction (outcome).

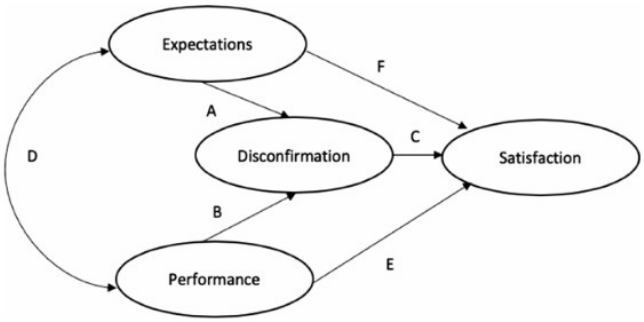

Figure 2.1: Expectation Disconfirmation Theory *(Zhang et al., 2022)*

The link (D) connects expectations and perceived performance. The link has two possible outcomes (A and B): when expectations are met or exceeded by perceived performance, there is positive disconfirmation, which results in satisfaction. Likewise, when perceived performance fails to meet or exceed expectations, there is negative disconfirmation, which results in dissatisfaction (Zhang et al., 2022). The correlation between disconfirmation and satisfaction, denoted by the link (C), is considered a fundamental element of the Expectation Disconfirmation Theory. Links (E) and (F) illustrate that perceived performance and expectations can be external to the model and can individually influence satisfaction directly, regardless of disconfirmation (Lee et al., 2022; Zhang et al., 2022).

Going beyond the traditional approach of describing disconfirmation and its correlation to satisfaction above, Grobler et al. (2012) tried to separate the concept of disconfirmation from satisfaction. They explained that while disconfirmation depicts the comparison between pre-use expectations and the actual execution of a service, satisfaction is merely the likelihood of the consumer maintaining their association or engagement with the organisation in the future should they need that product or service again.

Similarly, rather than describing EDT from the perspective of satisfaction or lack thereof, Fearon and Philip (2008) offered a conceptual overview of disconfirmation without associating it with satisfaction. They did this by introducing the concept of expectation hierarchy in disconfirmation. In this hierarchy, the range of expectations runs from 'ideal', the highest level, to 'worst imaginable', the lowest level. Next to 'ideal' is the 'should be' level, which stands out

as the most challenging across the expectation levels, as it sets a hypothetical standard of what the service should be against what will be offered or is realistically possible. The middle ground between the higher and lower hierarchies of expectation is referred to as the neutral zone. Above the neutral zone is the zone of tolerance. Within the zone of tolerance, outcomes align with pre-use expectations.

Figure 2.2 below shows the expectations hierarchy.

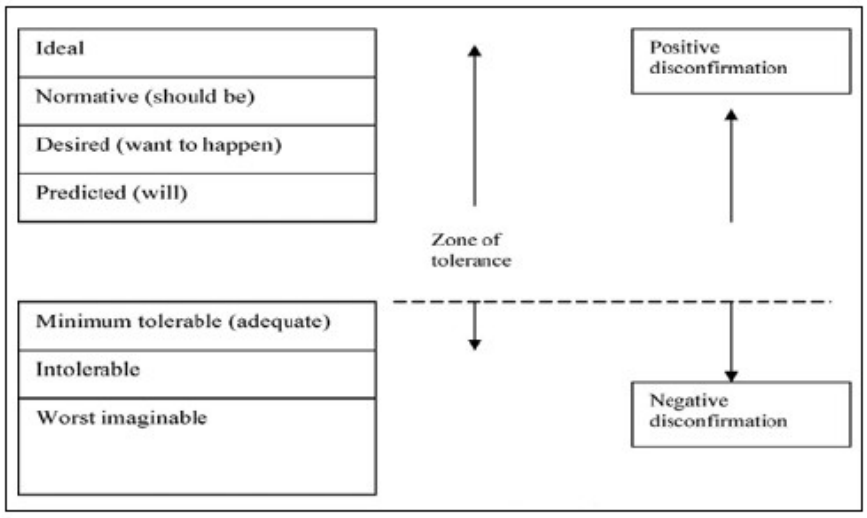

Figure 2.2: Hierarchy of Expectations *(Fearon & Philip, 2008)*

Despite their attempt to disassociate expectation and disconfirmation from satisfaction, Fearon and Philip (2008) agree that disconfirmation is a significant precursor to consumer satisfaction. They explain that satisfaction is met only at or above the neutral zone. Thus, within the zone of tolerance, the consumer may derive some sense of emotional delight, which may be interpreted as satisfaction (Fearon & Philip, 2008).

2.1.2 The Gronroos Service Quality Model.

To better understand perceived service quality, Gronroos presented three characteristics of service quality and a model for understanding service quality. (Gronroos, 1982, 1984).

The author postulated that customers are concerned with both the outcome of the service and the manner in which it is delivered. He described the result of a service as its "technical quality," representing what the customer receives, and its delivery method as its "functional quality,"

representing the manner through which the customer receives the service. The customer typically measures technical quality objectively, while functional quality is measured subjectively. Examples of technical quality, as defined by Gronroos, include a consumer receiving a meal at a restaurant, a bed in a hotel, and transportation from one point to another. In contrast, examples of functional quality include the accessibility, behaviour, and performance of an organisation's employees during the service delivery process, as well as what they say and how they say it (Gronroos, 1982, 1984).

(Gronroos, 1982, 1984) further describes perceived service quality as the variance between expected service and the actual service received. A customer's expectations of an organisation's services stem from promises made to the customer through conventional marketing techniques, among others. These include field selling, pricing, public relations, and advertising, as well as the customer's previous experiences with the organisation's services and external influences such as traditions (how things are typically done), ideologies (cultural, religious, and political), and word-of-mouth from previous customers.

The author then proposed a third dimension of service quality, 'corporate image', also known as brand image (Gronroos, 1982, 1984). Customers' perceptions of the company and its offerings comprise its brand image, which is influenced by the functional and technical excellence of the services it provides. Additionally, there is a reciprocal connection between brand image and expected service, where brand image influences the customer's expectations, and customers' expectations, in turn, influence brand image.

An organisation may use traditional marketing practices, such as advertising, to build a desirable image and, therefore, raise expectations in the eyes of its customers. However, if the organisation’s image does not match the technical and functional quality of its services, customers will be disappointed, negatively affecting its brand image. Still, customers may unconsciously excuse temporary quality problems if the organisation has a positive brand image. Figure 2.3 below shows this relationship.

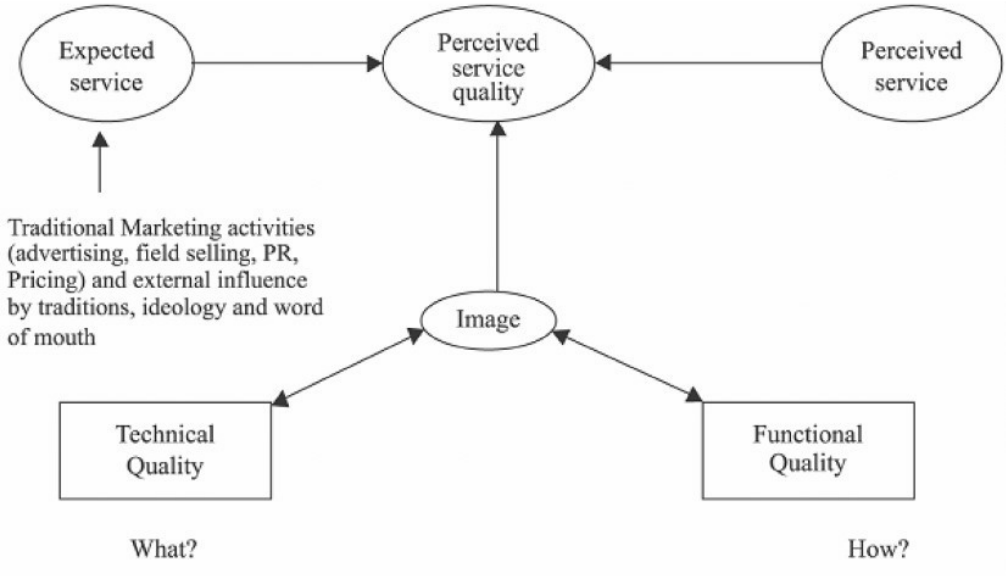

Figure 2.3: The Gronroos Service Quality Model *(Gronroos, 1984)*

In closing, Gronroos urges organisations to minimise the discrepancy between expected and perceived service by ensuring that promises made in conventional marketing and through word-of-mouth are accurate and commensurate with the "what" and "how" of the services they produce (Gronroos, 1984).

The primary flaw with Gronroos' Model is the failure to explain what goes into technical and functional service quality and how these constructs can be measured (Ghotbabadi et al., 2015).

2.1.3 The SERVQUAL Model

Like Gronroos (1984), Parasuraman et al. (1985) posit that perceived service quality is the variance between expected service and the actual service received. They believe that a favourable perception of service quality is attained by minimising this difference. Parasuraman et al. developed the SERVQUAL model by applying the expectation-disconfirmation paradigm. They also believed that customers across industries or sectors evaluate service quality with an almost similar criterion (Parasuraman et al., 1985; 1988; 1991; 1994).

The authors initially proposed ten determinants or dimensions to conceptualise and measure perceived service quality across industries. Because some of the proposed dimensions overlapped, the authors progressively refined the original ten into five compressed dimensions (Parasuraman et al., 1988, 1991, 1994). The resulting dimensions included (1) reliability

(measured using five elements), which describes the dependability and accuracy in the performance of the promised service; (2) responsiveness (four elements), which describes an organisation's willingness and promptness in the provision of a service to the customer; (3) empathy (five elements), which describes the organisation's ability to demonstrate individualised attention and care for the customer; (4) assurance (four elements), describing employees' knowledge and culture of courtesy, including conveying confidence and inspiring trust; and (5) the tangibles dimension (four elements), which describes the aesthetical appeal and presentation of the organisation's infrastructure, equipment, educational materials, and personnel (Ladhari, 2009).

Figure 2.4 shows the refined SERVQUAL model.

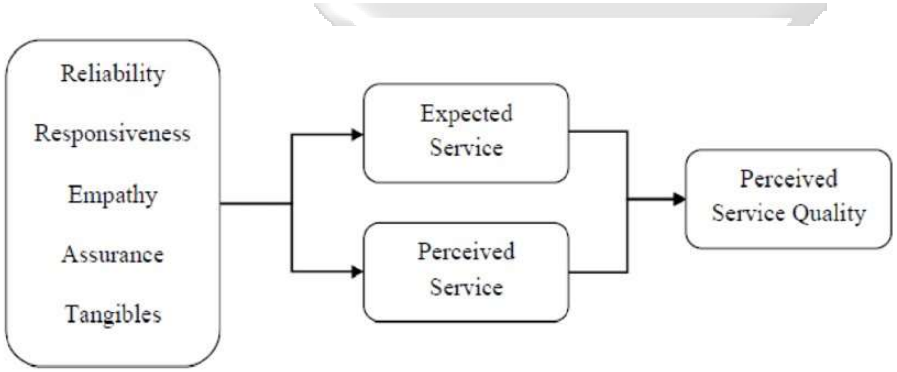

Figure 2.4: The SERVQUAL Model *(Parasuraman et al., 1988)*

SERVQUAL is a widely used tool for assessing perceived service quality. The instrument consists of twenty-two pairs of statements: each expectation statement has its corresponding perception statement. A customer using the instrument indicates their degree of agreement or disagreement with each statement by assigning ratings on a seven-point Likert scale. The respondents' choices range from "strongly agree" to "strongly disagree". Perceived service quality (PSQ), also known as the "gap score" (G), is calculated by subtracting the expected service (ES) from the perceived service (PS).

PSQ (G) = PS – ES

Parasuraman et al. (1985, 1988, 1991) proposed that when perceived service is the same as expected service (PS = ES), perceived service quality is "satisfactory", where PS > ES, the PSQ is "more than satisfactory", and finally, where PS < ES, PSQ is "less than satisfactory". In other

words, a negative gap score indicates lower-than-expected service quality, while a positive score depicts an organisation that meets or exceeds expected service.

The authors initially tested the SERVQUAL instrument across five industries: credit card services, security brokerage, appliance repair and maintenance, long-distance phone services, and retail banking. They found that "…it is a generic instrument with good reliability and broad applicability..." (Parasuraman et al., 1991 p. 445). The scale has since been used in numerous industries, including healthcare, telecommunications, retail, library services, and information technology, in multiple countries, including the United States, Hong Kong, China, Korea, Australia, South Africa, the United Kingdom, the Netherlands, and Cyprus. However, despite its widespread use, the instrument suffers from criticism, with some researchers arguing that there are problematic concepts in the theoretical foundations as well as the operationalisation of the scale (Ladhari, 2008, 2009).

2.1.3.1 Arguments for and against SERVQUAL

Ladhari's twenty-year review of SERVQUAL research identifies and summarises some of the theoretical and empirical criticisms of SERVQUAL (Ladhari 2008, 2009). Robinson (1999) also reviewed existing literature and attempted to summarise agreeable and contentious positions among previous authors regarding service quality measurement.

Robinson points out that earlier writers concur that service quality is a perspective that sets itself apart from customer satisfaction. Additionally, when the perception of service quality is being measured, the dimensions thereof should be context-specific, and negatively worded statements in the measuring scale or tool should be avoided (Robinson, 1999).

The two researchers mentioned the following areas of disagreement between previous authors (Ladhari, 2008, 2009; Robinson, 1999):

The concept and operationalisation of "gap scores" or the notion of subtracting expectations from perceptions was questioned because it has no foundation in psychological theory, and there is limited empirical evidence that this is the actual technique that customers use to assess quality (Buttle, 1996; Ekinci & Riley, 1998; Peter et al., 1993).

Historically, authors' conceptions and definitions of service quality have varied. Parasuraman et al. (1985, 1988) considered service quality to be a comparison between service expectations

and performance expectations (disconfirmation paradigm). Teas (1993, 1994) considered the quality of service a measure of performance in comparison with an ideal standard, while Cronin and Taylor (1992) viewed service quality as solely based on the perception of performance. The authors' diverse perspectives on service quality prompted them to critique the understanding of their fellow writers and then develop their own models for measuring quality.

In addition, the expectation concept has been criticised for its multiple definitions and interpretations (Teas, 1993, 1994). Even Parasuraman et al. have various definitions for expectations: ideal standards, individual desires, individual wants, normative expectations or personalised opinions of what service should be delivered (Parasuraman et al., 1988). For that reason, there will always be diverse interpretations of SERVQUAL.

Cronin and Taylor (1992) believe that a more accurate measure of the quality of service is based exclusively on perception and that perception-only scores have a higher predictive value, that is, the capability to deliver a more accurate service quality rating than gap scores. Parasuraman et al. (1994) later defended their model by stating that the presence of both expectations and perceptions increased the diagnostic value of the scale, that is, the capability to pinpoint the causes of quality deficiencies, which they believed managers would find more informative in their service quality improvement journey. As a result, it is left to managers to decide whether predictive or diagnostic goals inform their intention to evaluate and quantify service quality.

The significance of weighting the relative importance of dimensions in SERVQUAL, added in 1991 (Parasuraman et al., 1991) has also been widely debated, and no consensus has been reached. Cronin, Taylor and Teas conducted empirical tests and concluded that weighting relative importance does not add to the predictive value of the instrument but reduces it (Cronin & Taylor, 1992; Teas, 1993). In contrast, Quester et al. (1995) reached the opposite conclusion, that relative importance weighting improves the predictive value of the instruments by a small degree. Other authors have argued that explicitly asking customers to weigh the relative importance of the dimensions is unreliable, and instead, they advocate for indirect methods, such as statistically deriving the implicit importance (Lewis & Mitchell, 1990; Taylor & Miyazaki, 1995).

Some authors have highlighted conceptual issues with the underlying assumption in SERVQUAL, suggesting that a negative or positive gap does not necessarily represent low or high service quality, respectively. Teas (1993) argued that a positive score did not necessarily

mean good service, and vice versa. Additionally, Smith (1995) observed that even when perception scores are high, there is a tendency to get an overall negative gap score because customers are unlikely to expect a service level below what is currently being offered. She also opined that customers are unlikely to rate their perception higher than their expectation, fearing that this could increase the cost of the service.

Some practical issues have also been identified. In the usual application of SERVQUAL, where expectations and perceptions are recorded immediately after receiving a service, the customer's experience affects how they respond to the instrument (Carman, 1990; Clow & Vorhies, 1993). A negative experience may lead to overstating expectations, while a positive experience may lead to understating expectations. In addition, customers are unlikely, in ordinary business circumstances, to present their expectations before receiving a service. Even if they did, their knowledge and understanding of the service would affect their responses.

The above arguments for and against SERVQUAL are not exhaustive; many other authors have criticised SERVQUAL for various other reasons. Regardless, SERVQUAL remains useful for purposes of service quality research (Ladhari, 2009). However, Ladhari advised that researchers should exercise caution when using the SERVQUAL scale and modify it by either rewording, adding to, or deleting some of its elements to develop industry- and context-specific instruments. Furthermore, researchers should validate the instrument using validation and reliability analysis tools after data collection.

2.2 Empirical Review

This section examines empirical research on healthcare service quality models and dimensions, the application of SERVQUAL in evaluating service quality within the healthcare industry, and studies which outline the connection between clients' sociodemographic characteristics and their perception of the quality of healthcare services.

2.2.1 Healthcare service quality models and dimensions

This subsection provides an overview of empirical research on models and dimensions of healthcare service quality.

To identify the models and dimensions used to evaluate the quality of healthcare services, several authors have conducted comprehensive reviews of existing literature and proposed

recommendations for future research areas. Some of these models include HospitalQual, MedQual, PubHosQual, SQSH, HealthQual, SERVQUAL, SERVPERF, and PrivHealthQual (Ali et al., 2023; Endeshaw, 2021).

First, the authors found that the SERVQUAL model, with its dimensions of assurance, responsiveness, empathy, reliability, and tangibles, is the most often used and empirically tested to measure quality in both developed and developing countries (Ali et al., 2023; Endeshaw, 2021; Fatima et al., 2019; Upadhyai et al., 2019). However, Upadhyai et al. (2019) added that scales using perception-only scores, such as SERVPERF, were more widely used than scales using gap scores. The latter had higher predictive validity for patient satisfaction and was preferred when comparing settings within the same or different industries.

Second, the existing models and dimensions for measuring health service quality are generic. They have mainly been designed and tested in developed countries, and so they might be insufficient for use in developing countries, considering the disparities in cultural and economic patterns (Ali et al., 2023; Endeshaw, 2021; Fatima et al., 2019; Upadhyai et al., 2019). The authors argued that the results obtained are highly context-specific, and there is a need to test and validate these models, develop new models, or modify existing models to consider the contextual differences between developed, developing, and underdeveloped countries, as well as across different healthcare organisations. They further recommended that these models and dimensions be tested and validated for different diseases, patient groups, healthcare fields, and demographic and geographic conditions to add to the existing knowledge database (Ali et al., 2023).

Lastly, the authors found that the majority of models and dimensions used to measure healthcare service quality mainly focussed on functional service quality, as defined by Gronroos (1988), with little attention paid to technical quality (Ali et al., 2023; Endeshaw, 2021; Upadhyai et al., 2019). Additionally, the bulk of studies evaluated in these reviews did not incorporate the perspectives of service providers. The authors then recommended that, because healthcare is a credence service where patients are not able to evaluate its technical quality, further research is necessary to either develop new models or modify the existing ones to encompass both functional and technical quality and the perspectives of service providers (Ali et al., 2023; Endeshaw, 2021; Upadhyai et al., 2019).

2.2.2 Application of the SERVQUAL Model to Evaluate Perceptions of Healthcare Service Quality.

This sub-section examines empirical research where SERVQUAL has been applied in healthcare to assess service quality.

As demonstrated above, SERVQUAL and its dimensions remain the most commonly applied model to evaluate the perception of healthcare service quality. Studies done in Singapore, Ghana, Pakistan, Croatia, China, Iran, Greece, Turkey, Saudi Arabia, Jordan, and Albania used either the standard or a modified SERVQUAL scale to determine the expectations versus perceptions gap among patients and measure perceived healthcare service quality as well as the relative importance of SERVQUAL's dimensions to patients (A'aqoulah et al., 2022; Agyei et al., 2020; Al Fraihi & Latif, 2016; Alanazi et al., 2023; Došen et al., 2020; Fatima et al., 2017, 2019; Goula et al., 2021; Li et al., 2015; Lim & Tang, 2000; Myshketa et al., 2022; Pekkaya et al., 2019; Rezaei et al., 2018; Shafiq et al., 2017; Upadhyai et al., 2019). Some researchers above also examined the association between respondents' sociodemographic characteristics and their perception of the quality of the services they received. (A'aqoulah et al., 2022; Al Fraihi & Latif, 2016; Alanazi et al., 2023; Fatima et al., 2017; Goula et al., 2021; Myshketa et al., 2022; Pekkaya et al., 2019).

The studies reviewed included exploratory, descriptive, quantitative, and cross-sectional studies. The research instrument was a SERVQUAL questionnaire, comprising 20-26 paired expectation and perception statements across the five SERVQUAL dimensions, evaluated using a Likert scale with five or seven points, along with a section to capture the socio-demographic profile of respondents. The most common sampling technique was convenience sampling. Data was collected either through exit interviews or mailed questionnaires. The validity of these questionnaires was tested in pilot studies on patients and medical personnel and reviewed by healthcare quality experts and healthcare managers. Reliability and internal consistency were assessed using Cronbach's alpha. Data analysis was carried out through descriptive statistics, including frequencies, percentages, means, standard deviation, and normality tests, and inferential statistics such as factor analysis, one-way ANOVA, and regression analysis, as well as independent sample t-tests to explore the relationship between different variables.

The highest and lowest expectation and perception scores varied considerably across the studies reviewed. The highest expectation scores were in tangibles (A'aqoulah et al., 2022; Agyei et al., 2020; Rezaei et al., 2018), assurance (Fatima et al., 2017; Goula et al., 2021; Lim & Tang, 2000), reliability (Pekkaya et al., 2019) and empathy (Al Fraihi & Latif, 2016). Meanwhile, the highest perception scores were found in tangibles (A'aqoulah et al., 2022; Agyei et al., 2020; Lim & Tang, 2000; Pekkaya et al., 2019), reliability (Goula et al., 2021), responsiveness (Rezaei et al., 2018), and empathy (Al Fraihi & Latif, 2016).

The majority of studies revealed a statistically considerable negative quality gap in expectations versus perceptions across all five dimensions, demonstrating significant unmet patient expectations of service quality in the countries studied (A'aqoulah et al., 2022; Agyei et al., 2020; Al Fraihi & Latif, 2016; Alanazi et al., 2023; Fatima et al., 2017; Goula et al., 2021; Lim & Tang, 2000; Pekkaya et al., 2019; Rezaei et al., 2018; Shafiq et al., 2017). In contrast, there was a positive quality gap across all dimensions in China, indicating that patients perceived service quality as satisfactory (Li et al., 2015), and in Croatia, which had a positive quality gap in the empathy dimension (Došen et al., 2020).

The largest negative quality gap was found in the tangibles dimension (Al Fraihi & Latif, 2016; Fatima et al., 2017; Goula et al., 2021), reliability (Pekkaya et al., 2019; Rezaei et al., 2018), responsibility (Agyei et al., 2020), responsiveness (Došen et al., 2020), and, finally, assurance (Shafiq et al., 2017), while the responsiveness dimension had the lowest negative quality gap (Goula et al., 2021; Rezaei et al., 2018), followed by tangibles (Agyei et al., 2020; Pekkaya et al., 2019), reliability (Shafiq et al., 2017) and empathy, respectively (Al Fraihi & Latif, 2016). These results indicate that in most countries studied, patients perceived the highest service quality in responsiveness and the lowest service quality in tangibles.

There was also significant variability in the results regarding the relative prominence of the different SERVQUAL dimensions to the study respondents. The most important dimensions to the patients were found to be assurance (Došen et al., 2020; Goula et al., 2021; Lim & Tang, 2000), tangibles (Al Fraihi & Latif, 2016; Shafiq et al., 2017), and reliability (Pekkaya et al., 2019). These results contradict the results for the least important dimension, which was found to be tangibles (Goula et al., 2021; Lim & Tang, 2000).

The studies reviewed had several limitations. Most studies were done in specific countries, regions, hospitals, and patient groups (inpatient vs. outpatient). Therefore, the results could not

readily be extrapolated to all patients, all hospitals, an entire country, or the world (Agyei et al., 2020; Fatima et al., 2017; Goula et al., 2021). Further, these studies were mainly quantitative. Qualitative studies would be beneficial for investigating and developing new and additional service quality dimensions (Shafiq et al., 2017). Convenience sampling, applied by many researchers, introduces the risk of systematic sampling errors and limits the generalisability of the results (Al Fraihi & Latif, 2016; Alanazi et al., 2023; Goula et al., 2021; Pekkaya et al., 2019). Finally, most of them were cross-sectional studies, which do not evaluate the cause-and-effect relationships between variables, unlike longitudinal studies conducted over time (Al Fraihi & Latif, 2016; Alanazi et al., 2023).

2.2.3 Patient sociodemographic characteristics and perceptions of healthcare service quality

While the research focus for most authors has been on the application of SERVQUAL in measuring patients' perceptions of healthcare service quality, few have attempted to explore how patients' sociodemographic profiles specifically influence their perceptions of healthcare service quality. In this subsection, the author of this study examines empirical research that has utilized SERVQUAL in the healthcare industry to assess patients' perceptions of the quality of services received, as well as the relationships between patients' sociodemographic characteristics and their perceptions of these services.

Just as with gap scores and the relative significance of SERVQUAL dimensions to patients, there is significant variability in the results of studies reviewed to assess the relationship between PSQ and the sociodemographic profile of patients.

Several authors have reported statistically insignificant correlations or associations between gender and perceptions of service quality. (A'aqoulah et al., 2022; Goula et al., 2021; Myshketa et al., 2022; Pekkaya et al., 2019). Conversely, Al Fraihi and Latif (2016) and Fatima et al. (2017) found a statistically significant relationship between gender and perceived service quality, where females had higher expectations than males.

Some authors have found no relationship between age and the perception of service quality (A'aqoulah et al., 2022; Fatima et al., 2017). However, other authors found a statistically significant correlation between age and perception of service quality (Al Fraihi & Latif, 2016; Alanazi et al., 2023; Goula et al., 2021; Pekkaya et al., 2019). In Greece, for example, older patients had a more positive perception of the services they received (Goula et al., 2021),

whereas elderly Saudi Arabian patients had a less favourable opinion of the quality of the services received (Alanazi et al., 2023).

Higher income was associated with a lower perception of service quality in Albania and Turkey (Myshketa et al., 2022; Pekkaya et al., 2019). Being employed was associated with higher expectations in Saudi Arabia (Alanazi et al., 2023), while higher education levels were associated with higher expectations and lower PSQ in Saudi Arabia, Greece, and Albania (Alanazi et al., 2023; Goula et al., 2021; Myshketa et al., 2022). On the other hand, no relationship was found between education level and employment status and perceived service quality in Pakistan (Fatima et al., 2017).

Being unmarried was associated with higher expectations and lower service quality perceptions (Alanazi et al., 2023; Goula et al., 2021). Finally, an association of statistical significance was identified between PSQ and the type of service received, that is, either outpatient or inpatient services (Pekkaya et al., 2019).

2.2.4 Summary of Empirical Review

Most studies reviewed herein have demonstrated that the SERVQUAL scale possesses reasonable validity and reliability, making it the most popular and widely applied instrument for measuring service quality. However, applying the scale in different contexts requires individualised testing for validity, reliability, and modifications to suit the context.

All studies (in both developed and developing countries), except for a study in China (Li et al., 2015), showed an overall negative quality gap score, indicating that patient expectations are often unmet and exceed their perception of the services received. The relative importance of the service quality dimensions exhibited significant variations across different contexts and between the dimensions with the largest and smallest quality gaps.

Study results also revealed some variability in the relationships between the sociodemographic profile of patients and their perceptions of service quality, further confirming that the results are highly context specific.

2.3 Research Gaps

The review has examined extensive research on service quality models and dimensions, as well as the popularity and applicability of SERVQUAL in assessing healthcare service quality perceptions and their relationships with patients' sociodemographic profiles.

However, the results of the empirical review above show a paucity of studies on these topics in Africa. Because study results are highly context-specific, there is a need to apply SERVQUAL to more studies that investigate the perception of healthcare service quality in Africa. This may be achieved by either applying the original Parasuraman et al. (1985, 1988, 1991, and 1994) scale or modifying and testing a context-specific tool for cogency and consistency. This study aims to address the aforementioned contextual gaps.

Table 2.1 below highlights the research gaps found during the empirical examination of the abovementioned literature.

Table 2.1: Summary of Research Gaps

Authors	Findings	Gaps
Fatima et al. (2017) Upadhyai et al. (2019) Endeshaw (2021) Ali et al. (2023)	The SERVQUAL Model and its dimensions are the most widely utilised and reviewed for measuring quality. This applicability spans both developed economies and their developing counterparts.	There is a need to test and validate existing models, develop new models, or modify existing models to consider the contextual differences between developed, developing, and underdeveloped countries, as well as across different healthcare organisations.
	The existing models and dimensions used to measure healthcare service quality are generic. They have been developed and tested primarily in developed countries and may be insufficient in developing and underdeveloped countries due to inevitable variations in cultural and economic patterns.	The existing models and dimensions can be tested and validated for various diseases or conditions, patient groups, medical fields, and demographic and geographic contexts, thereby expanding the existing knowledge database.
	The models and dimensions used to measure healthcare service quality primarily focus on functional service quality, with limited attention paid to technical quality.	Further research is needed to develop new models or modify existing ones to encompass both technical quality and the perspective of service providers.
	Most studies evaluated in the reviews did not incorporate the perspectives of service providers, instead focusing on patients' perspectives.	

2.4 Conceptual Framework

This research was centred on a conceptual framework drawn from the above theoretical and empirical review findings. The conceptual framework illustrates the correlations between the independent, intermediate, and dependent variables. The sociodemographic characteristics of patients are the independent variables, the service quality dimensions, and their corresponding statements are the intermediate variables, and the dependent variable is perceived service quality (PSQ). Figure 2.5 below illustrates the conceptual framework.

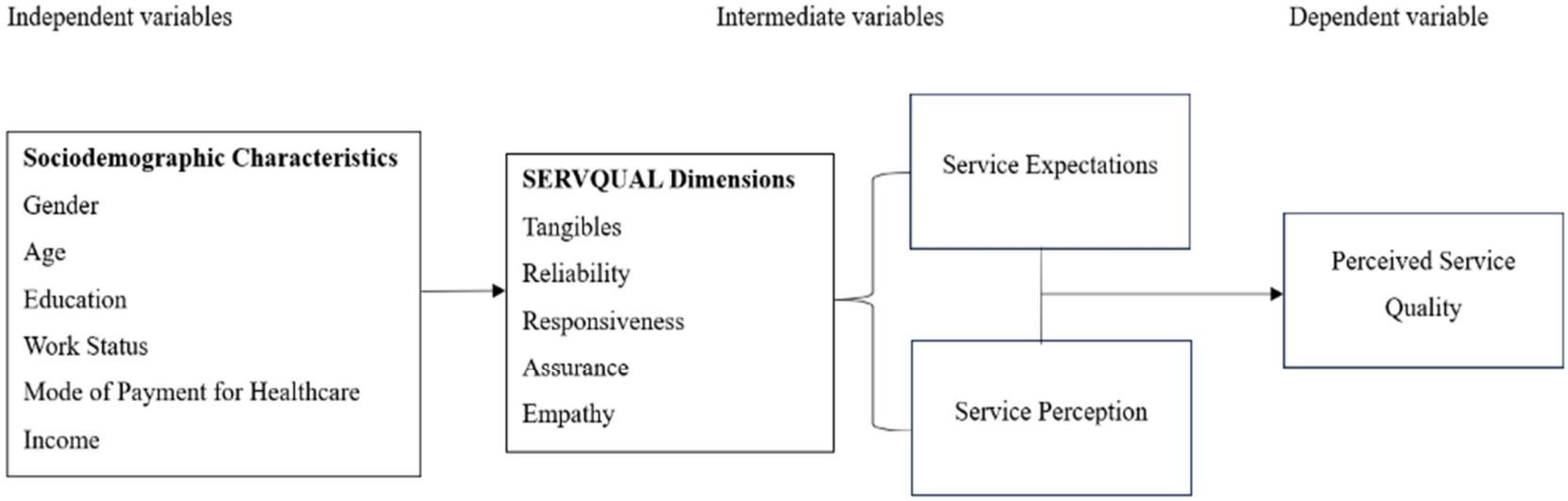

Figure 2.5: Conceptual Framework

2.5 Operationalisation of Variables

Table 2.2 below illustrates how the SERVQUAL dimensions will be operationalized, along with the scales used to measure them.

Table 2.2: Operationalisation of Variables

Variable	Measure	Scale	Source
Tangibles	Modern, up-to-date equipment	5-point Likert Scale	(Agyei et al., 2020; Goula et al., 2021; Parasuraman et al., 1994)
	Clean and visually appealing physical facilities		
	Well-dressed employees with a neat and professional appearance		
	Visually appealing materials associated with the service		
Reliability	Providing services as promised	5-point Likert Scale	(Agyei et al., 2020; Goula et al., 2021; Parasuraman et al., 1994)
	Dependability in solving patients' problems		
	Providing services at the promised time		
	Performing service right the first time		
	Maintaining accurate and error-free records		
Responsiveness	Keeping patients informed about when services will be performed	5-point Likert Scale	(Agyei et al., 2020; Goula et al., 2021; Parasuraman et al., 1994)
	Prompt service to patients		
	Willingness to help patients		
	Readiness to respond to patients' requests		
Assurance	Employees who instil confidence in patients	5-point Likert Scale	(Agyei et al., 2020; Goula et al., 2021; Parasuraman et al., 1994)
	Making patients feel safe in all their dealings with the hospital and its employees		
	Employees who are consistently courteous to patients		
	Employees who are knowledgeable and able to answer patients' questions		
Empathy	Giving each patient individualised attention	5-point Likert Scale	(Agyei et al., 2020; Goula et al., 2021; Parasuraman et al., 1994)
	Employees who express care in their interaction with patients		
	Have the patients' best interests at heart		
	Employees who understand the specific needs of each of their patients		
	Convenient operating hours		

2.6 Chapter Summary

This chapter began by examining theories and models related to quality, including the Expectation-Disconfirmation Theory, the Gronroos Service Quality model, and the SERVQUAL model. It went further and presented a synthesis of studies on service quality, the use of the SERVQUAL model in healthcare to evaluate service quality, and the correlations between patients' sociodemographic characteristics and their perception of healthcare service quality, culminating in the identification of research gaps. A conceptual framework was proposed based on both the theoretical and empirical reviews. The chapter concludes by demonstrating how the various variables will be operationalized in the data collection instrument.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter covers the research's philosophy, design, study site and population, sampling design and technique, sample size computation, data collection method and instrument, selected data analysis techniques, research quality, and concerns regarding ethics.

3.1 Research Philosophy

Post-positivists believe that reality is objective, that there is no absolute truth, and that we can never be entirely positive about our claims of knowledge (Phillips & Burbules, 2000). They are deterministic and believe that causes lead to effects and outcomes. They also believe in reductionism, where ideas are reduced into discrete variables that are subjected to empirical observation and measurement to answer a set of research questions and seek to verify existing theories. The scientific method or empirical science are other terms for post-positivism (Creswell & Creswell, 2018), which tends to apply quantitative research designs. This study espouses a post-positivist view.

3.2 Research Design

The study applied a quantitative cross-sectional survey approach to gauge respondents' perceptions of healthcare service quality and explore the relationships between the sociodemographic characteristics of respondents and their perceptions of healthcare service quality.

A survey research design has several benefits as a study design. It enables the collection of data from a large sample size quickly and efficiently. It is typically less expensive than other research methods, such as experiments, which require more resources and time to conduct. There are several ways to administer surveys: in person, over the phone, via mail, or online, allowing for more flexibility and standardisation in data collection and increasing the results' generalisability (Creswell & Creswell, 2018).

A cross-sectional design gathers information from a representative sample at a point in time (Creswell & Creswell, 2018). One advantage of cross-sectional studies is that they are relatively

quick and inexpensive compared to other study designs, such as longitudinal studies, which involve collecting data from the same sample over an extended period of time.

3.3 Study Site and Target Population

Halisi Family Hospital in Kitengela, Kajiado County, Kenya, was chosen as the study site.

A group of people a researcher is interested in examining is known as a target population (Creswell & Creswell, 2018). They usually exhibit a complete set of specialised characteristics (Banerjee & Chaudhury, 2010). In this study, the target population consisted of clients who visited Halisi Family Hospital for healthcare services between January 1, 2024, and March 31, 2024. The data was retrieved from the hospital's database. The hospital attended to 8,523 clients during that period. The study site and target population were selected because they serve as suitable archetypes for private healthcare providers in Kenya, which allowed for the generalisation of results. They are also accessible to the researcher, being practical in terms of resources and time available, and relevant to the research objectives and questions.

3.4 Sampling Design and Technique

3.4.1 Inclusion and Exclusion Criteria

Inclusion Criteria. Consenting adults (above 18 years) who received healthcare services at Halisi Family Hospital between 1st January 2024 and 31st March 2024.

***Exclusion Criteria*.** Children under 18 years and any adults unable to give informed consent or who decline to provide consent.

In addition, to minimize bias, hospital employees who received services during the study period were excluded. To ensure data accuracy, duplicate entries from multiple visits within the period by the same patient were identified and removed from the dataset. Applying these criteria reduced the target population from 8,523 to 2,328 patients.

3.4.2 Sampling Method

Sampling is the process of choosing a segment of research participants representative of the population under investigation (Cooper & Schindler, 2014). This study employed a stratified random sampling approach, in which, based on an important attribute, the population was divided into strata or subgroups, and each stratum's nth person was chosen for inclusion in the sample (where n is the sampling interval (Creswell & Creswell, 2018)).

3.4.3 Sample Size

The following formula from Krejcie and Morgan (1970) was applied to estimate the sample size.

$$S = \frac{X^2\, NP(1-P)}{d^2\,(N-1)+X^2(1-P)}$$

Where:

S = required sample size

X = Z-value

N = population size (2,328)

P = population proportion (taken as 0.5 to give the maximum sample size)

d = the degree accuracy (5%) expressed as a proportion (0.05)

Therefore: X=1.96 N = 2328 P=0.5 d=0.05

$$S = \frac{1.96^2\ x\ 2328\ x\ 0.5(1-0.5)}{0.05^2\ x\ (2328-\ \ )+1.96^2\ x\ 0.5\ x\ (1-0.5)}$$

S = 329.86

Consequently, the above formula gave a sample size of 330 respondents for this study.

The target population was first divided into two strata: male and female. One hundred sixty-five (165) males were randomly selected from the male stratum, and 165 females were randomly selected from the female stratum.

3.5 Data Collection Methods and Research Instrument

An online, self-administered SERVQUAL questionnaire, drawing from the work of Parasuraman et al. (1985, 1988, 1991, 1994), was used. The questionnaire had three segments. The first segment collected patient sociodemographic information. The second listed twenty-two (22) paired expectations and perception statements, categorised into the five quality dimensions of tangibles (4 paired statements), reliability (5 paired statements), responsiveness (4 paired statements), assurance (4 paired statements), and empathy (5 paired statements). These were scored using a five-point Likert scale based on the following standards: "5: strongly agree, 4: agree, 3: neutral, 2: disagree, and 1: strongly disagree." In the final segment, participants were asked to assign a number between 1 and 5 to rank the five quality dimensions in order of importance to them, where 5 is the most important and 1 is the least important.

Study participants were contacted by research assistants and requested to participate. A link to the questionnaire was sent electronically via a text message (SMS) or WhatsApp message to consenting participants. Each participant received a polite reminder three times to encourage them to complete and submit the questionnaire.

3.6 Data Analysis

The data was analysed using descriptive statistics, including frequencies, means, and percentages, as well as standard deviation and normality tests, specifically the Kolmogorov-Smirnov and the Shapiro–Wilk tests. Summary statistics were presented in tables and graphs. Additionally, inferential statistics, including paired-sample t-tests, ANOVA, correlation analysis, and regression, were used to explore the connections between the variables. Data analysis was done using the Statistical Package for Social Sciences (SPSS v26).

3.7 Research Quality

3.7.1 Reliability

Reliability describes a research tool's ability to yield accurate and consistent results. According to Bland and Altman (1997) Cronbach's alpha test measures the internal consistency across variables. It indicates whether a scale is dependable and how strongly its items are positively associated with

one another. A higher reliability coefficient indicates a more reliable scale (Hair et al., 1995). A reliability coefficient greater than 0.7 is considered reliable. This study examined and evaluated the reliability of the questionnaire using Cronbach's alpha test.

3.7.2 Validity

Validity refers to the ability of a research tool to accurately measure what the researcher intended in relation to the study's objectives. The questionnaire's validity has been assessed through an extensive literature review, the adoption of an already validated tool (Babakus & Mangold, 1992), and consultation with academic and professional experts, as well as the hospital's management team and staff, to ensure relevance. Input from patients was also considered to ensure that all items in the questionnaire were relevant, appropriate, unambiguous, and understandable.

The questionnaire was piloted with a convenient sample of 36 participants: three academic and professional experts, three senior managers, ten middle-level managers, ten employees, and ten patients. Modifications were made to the research instrument based on their input and responses to enhance its validity and reliability.

3.8 Ethical Issues in Research

Ethical approval was sought from the Institutional Review Board of Strathmore University (SU-IREC) and the National Commission for Science, Technology and Innovation (NACOSTI) prior to the start of the research. In addition, the researcher sought approval from the hospital's Board of Directors to use Halisi Family Hospital as a study site.

The researcher obtained informed consent from all participants in the study. The researcher did not capture uniquely identifiable personal information such as names or national identity card numbers to ensure participants' anonymity and confidentiality. The study's objectives were explained to participants, and they had the option to decline or discontinue participation at any moment.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

This chapter presents findings following data collection and analysis. It begins with an examination of the reliability and validity aspects, followed by an overview of the sociodemographic characteristics of clients who visited the Halisi Family Hospital between January 1, 2024, and March 31, 2024. The chapter then discusses client perceptions of healthcare service quality and relationships between sociodemographic characteristics and perceptions of healthcare service quality.

4.1 Reliability and Validity

A pilot study was conducted prior to the main study. The convenient sample in the pilot study comprised 36 individuals: three academic and professional experts, three senior managers, ten middle-level managers, ten employees, and ten patients. Before conducting the main study, the questionnaire's reliability was assessed using Cronbach's alpha. Table 4.1 presents the results.

Table 4.1: Reliability Statistics

Reliability Statistics		
	Cronbach's Alpha	**No. of items**
Patient expectations of service quality	0.916	22
Patient perceptions of service quality	0.952	22

Primary data (2024)

The range for Cronbach's alpha is r = 0 to 1. The data collection instrument is considered sufficiently reliable when r = 0.7 or higher (Hair et al., 1995). The questionnaire designed for this study was considered reliable because Cronbach's alpha for the statements on clients' expectations of service quality and clients' perceptions of service quality exceeded 0.7. Feedback from academic and professional experts, as well as senior managers at Halisi Family Hospital, confirmed that the questionnaire was valid and accurately measured what it intended.

4.2 Response Rate

Three hundred thirty (330) online questionnaires were sent to 330 clients via WhatsApp. Thirty-four (34) respondents were not on WhatsApp, and 14 did not consent to participate in the survey. This reduced the study's sample size to 282 clients. The number of questionnaires completed was 174, representing a 61% overall response rate. Figure 4.1 below illustrates the rate of response.

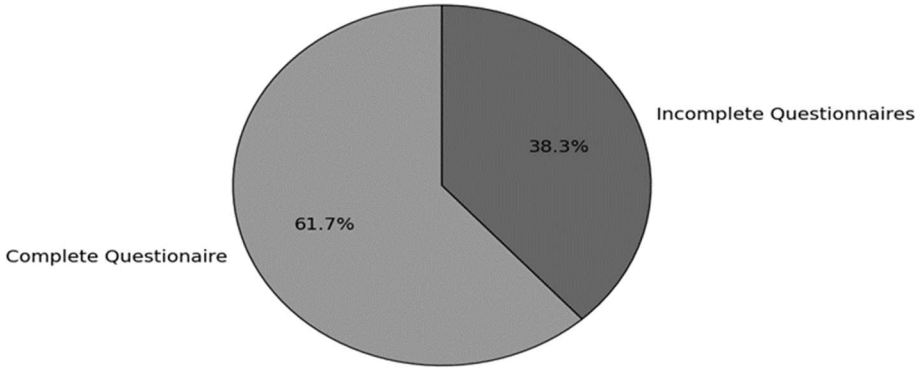

Figure 4.1: Response Rate: Primary data (2024)

4.3 Clients' Sociodemographic Characteristics

This subsection presents the respondents' sociodemographic characteristics. It covers their gender, age, education level, work status, mode of payment for healthcare services, and income.

4.3.1 Gender

48.9% of those surveyed were male, 48.3% were female, 2.3% preferred not to reveal their gender, and 0.5% identified themselves as "other." The number of males and females is relatively equal, indicating that the results will not be biased by gender. Table 4.2 provides a summary of the findings.

Table 4.2: Gender

Gender	Frequency	Percentage (%)
Male	85	48.9
Female	84	48.3
Prefer not to say	4	2.3
Other	1	0.5
Total	**174**	**100.0**

Primary data (2024)

4.3.2 Age

63.8% of study respondents were aged between 18 and 44, 29.9% were aged between 45 and 59, 1.1% were older than 60, and 5.2% chose not to reveal their age. Table 4.3 provides a summary of the findings.

Table 4.3: Age

Age	Frequency	Percentage (%)
18 – 44 years	111	63.8
45-59 years	52	29.9
>60 years	2	1.1
Prefer not to say	9	5.2
Total	**174**	**100.0**

Primary data (2024)

4.3.3 Education Level

The research findings showed that 48.9% of the respondents held a bachelor's degree, 17.2% preferred not to disclose their education level, 16.7% held a Certificate or Diploma, 12.1% held a Postgraduate Degree, and 5.2% had attained a secondary level of education. Almost 50% of all respondents held a bachelor's degree or higher. The results are summarized in Table 4.4 below.

Table 4.4: Education Level

Education Level	Frequency	Percentage (%)
Bachelor's Degree	85	48.9
Prefer not to say	30	17.2
Certificate or Diploma	29	16.7
Postgraduate Degree	21	12.1
Secondary Education	9	5.2
Total	**174**	**100.0**

Primary data (2024)

4.3.4 Work Status

The research findings showed that 58.6% of the respondents were employed, 20.7% were self-employed, 9.2% were unemployed, 2.3% were retired, and 9.2 % opted not to disclose their work status. Most respondents were either employed or self-employed. Table 4.5 provides a summary of these results.

Table 4.5: Work Status

Work Status	Frequency	Percentage (%)
Employed	102	58.6
Self-Employed	36	20.7
Unemployed	16	9.2
Retired	4	2.3
Prefer not to say	16	9.2
Total	**174**	**100.0**

Primary data (2024)

4.3.5 Mode of Payment for Healthcare Services

The results showed that the most common mode of payment for health services was private insurance provided by the employer, covering 40.2% of the respondents. 12.1% used both NHIF and private health insurance purchased by themselves, 9.2% relied solely on NHIF, 8.1% paid for

services out of pocket using cash, Mpesa, credit, or debit cards, 6.9% chose not to disclose their mode of payment, 5.7% use both NHIF and private health insurance provided by their employer and 5.2% use private insurance purchased by self. Table 4.6 gives an overview of the results.

Table 4.6: Mode of Payment for Healthcare Services

Mode of Payment	Frequency	Percentage (%)
Private Health Insurance provided by my employer	70	40.2
NHIF Only, Private Health Insurance purchased by self	21	12.1
NHIF Only	16	9.2
Out of Pocket - Cash, Mpesa, Credit or Debit Card	14	8.1
Prefer not to say	12	6.9
NHIF Only, Private Health Insurance provided by my employer	10	5.7
Private Health Insurance purchased by self	9	5.2
Out of Pocket – Cash, Mpesa, Credit or Debit Card, NHIF Only	5	2.9
NHIF Only, Private Health Insurance provided by my employer, Private Health Insurance purchased by self	5	2.9
Out of Pocket - Cash, Mpesa, Credit or Debit Card, Private Health Insurance purchased by self	4	2.3
Out of Pocket - Cash, Mpesa, Credit or Debit Card, Private Health Insurance provided by my employer	3	1.7
Private Health Insurance provided by my employer, Private Health Insurance purchased by self	3	1.7
Private Health Insurance provided by my employer, NHIF Only	2	1.1
Total	**174**	**100.0**

Primary data (2024)

4.3.6 Average Monthly Household Income

Nearly half (45%) of respondents chose not to disclose their average monthly household income, while 21.3% stated that they earned Ksh. 50,000 – 99,999, 13.2% reported earning Ksh. 49,999

and below, 10.9% reported earning Ksh. 100,000 – 149,000, and 9.2% of the respondents reported earning Ksh. 150,000 and above. Of the respondents who chose to answer this part of the questionnaire, the majority had an average monthly household income of above Ksh. 50,000. The results are summarised in Table 4.7 below.

Table 4.7: Average Monthly Household Income

Average Monthly Household Income	Frequency	Percentage (%)
Prefer not to say	79	45.4
50,000 – 99,000	37	21.3
< 49,999	23	13.2
100,000 – 149,000	19	10.9
>150,000	16	9.2
Total	**174**	**100.0**

Primary data (2024)

4.4 Expectations

The mean expectations score for all five dimensions is 4.52. The results show that the assurance dimension has the highest mean score and highest expectations (Mean = 4.55; SD= 0.73), followed by the empathy dimension (Mean = 4.54; SD= 0.75), then the responsiveness dimension (Mean = 4.53; SD= 0.79), reliability dimension (Mean = 4.50; SD= 0.77) and lastly the tangibles dimension (Mean = 4.48; SD= 0.78). In terms of individual items in the tangibles dimension, the item "Modern, up-to-date equipment" (Mean = 4.56) is ranked highest, and the item "Visually appealing materials associated with the service" (Mean = 4.41) is ranked lowest. In the reliability dimension, the items "Dependability in solving clients' problems" and "Maintaining accurate and error-free record" (Mean = 4.53) are ranked highest, and the item "Providing service as promised" (Mean = 4.43) is ranked lowest. In the responsiveness dimension, the item "Provide prompt services" (Mean = 4.63) is ranked highest, and the item "Employees are never too busy to respond to patients' requests" (Mean = 4.48) is ranked lowest. In the assurance dimension, the item "Patients feel safe in all their dealings with the hospital and its employees" (Mean = 4.60) is ranked highest, and the item "Courteous employees" (Mean = 4.51) is ranked lowest. Finally, in the empathy dimension,

the item "Hospital employees have the patients' best interests at heart" (Mean = 4.62) is ranked highest, while the item "Operating hours are convenient" (Mean = 4.50) is ranked lowest.

The mean expectations of Halisi Family Hospital's clients are summarized in Table 4.8 below.

Table 4.8: Means, Standard Deviations, and Rank for Clients' Expectations by Dimension

Dimension	Mean	SD	Rank
Tangibles			
Modern, up-to-date equipment	4.56	0.88	**1**
Clean and visually appealing physical facilities	4.53	0.75	**2**
Well-dressed employees with a neat and professional appearance	4.45	0.73	**3**
Visually appealing materials associated with the service	4.41	0.77	**4**
Mean of Dimension	**4.48**	**0.78**	**-**
Reliability			
Providing service as promised	4.43	0.76	**5**
Dependability in solving patients' problems	4.53	0.74	**1**
Providing services at the promised time	4.51	0.77	**3**
Providing services right the first time	4.49	0.86	**4**
Maintaining accurate and error-free records	4.53	0.69	**2**
Mean of Dimension	**4.50**	**0.77**	**-**
Responsiveness			
Employees tell the patients exactly when services will be performed	4.50	0.77	**3**
Provide prompt services	4.63	0.78	**1**
Employees are always willing to help patients	4.52	0.80	**2**
Employees are never too busy to respond to patients' request	4.48	0.82	**4**
Mean of Dimension	**4.53**	**0.79**	**-**
Assurance			
Behaviour and attitudes of hospital employees instil confidence in patients	4.54	0.71	**3**
Patients feel safe in all their dealings with the hospital and its employees	4.60	0.70	**1**
Courteous employees	4.51	0.78	**4**
Knowledgeable employees able to answer patient's questions	4.57	0.72	**2**
Mean of Dimension	**4.55**	**0.73**	**-**
Empathy			
Individualised attention for patients	4.54	0.75	**2**
Care expressed by employees to patients	4.53	0.69	**3**
Employees have the patients' best interests at heart	4.62	0.69	**1**
Employees understand the specific needs of each patient	4.53	0.73	**4**
Operating hours are convenient	4.50	0.87	**5**
Mean of Dimension	**4.54**	**0.75**	**-**
Mean of all Dimensions	**4.52**	**0.67**	**-**

Primary data (2024)

Table 4.9 shows the statements with the highest and lowest expectation scores.

Table 4.9: Statements with the Highest and Lowest Scores on Expectations

Expectations - Highest Scores	
Provide prompt services - Responsiveness	4.63
Employees have the patients' best interest at heart - Empathy	4.62
Patients feel safe in all their dealings with the hospital and its employees - Assurance	4.60
Knowledgeable employees able to answer patient's questions - Assurance	4.57
Modern, up-to-date equipment - Tangibles	4.56
Expectations - Lowest Scores	
Providing services right the first time - Reliability	4.49
Employees are never too busy to respond to patients' requests - Responsive	4.48
Well-dressed employees with a neat and professional appearance - Tangibles	4.45
Providing service as promised - Reliability	4.43
Visually appealing materials associated with the service - Tangibles	4.41

Primary data (2024)

Clients have the highest expectations for prompt service, employees who have their best interests at heart, safety, knowledgeable staff who can answer questions, and modern equipment. These areas are crucial for enhancing client perception of healthcare service quality and therefore should be prioritised by the hospital. While still important, expectations are relatively lower for aspects like getting the services right the first time, responsiveness, professional appearance, keeping promises, and visually appealing materials. These areas should be addressed but may be considered secondary to the top-priority areas.

4.5 Perceptions

The mean perceptions of Halisi Family Hospital's clients are summarised in Table 4.10.

The mean perception score for all five dimensions is 4.21. The results in Table 4.10 show that the responsiveness dimension has the highest mean score (Mean = 4.32; SD= 0.72), followed by the assurance dimension (Mean = 4.21; SD= 0.59), then the empathy dimension with (Mean = 4.18;

SD= 0.65), the reliability dimension (Mean = 4.18; SD= 0.77) and finally the tangibles dimension (Mean = 4.16; SD= 0.69).

In terms of individual items in the tangibles dimension, the item "Clean and visually appealing physical facilities" (Mean = 4.30) is ranked highest, and the item "Modern, up-to-date equipment" (Mean = 4.03) is ranked lowest. In the reliability dimension, the item "Providing services right the first time" (Mean = 4,37) is ranked highest, and the item "Providing services at the promised time" (Mean = 3.93) is ranked lowest. In the responsiveness dimension, the item "Employees are never too busy to respond to patients' requests" (Mean = 4.35) is ranked highest, and the item "Employees tell the patients exactly when services will be performed" (Mean = 4.30) is ranked lowest. In the assurance dimension, the item "Behaviour and attitudes of hospital employees instill confidence in patients" (Mean = 4.37) is ranked highest, and the item "Courteous employees" (Mean = 4.10) is ranked lowest. Finally, in the empathy dimension, the item "Operating hours are convenient" (Mean = 4.27) is ranked highest, and the item "Employees understand specific needs for each patient" (Mean = 4.04) is ranked lowest.

Table 4.10: Means, Standard Deviations and Rank for Clients' Perception by Dimension

Dimension	Mean	SD	Rank
Tangibles			
Modern, up-to-date equipment	4.03	0.79	**4**
Clean and visually appealing physical facilities	4.30	0.60	**1**
Well-dressed employees with a neat and professional appearance	4.21	0.63	**2**
Visually appealing materials associated with the service	4.13	0.66	**3**
Mean of Dimension	**4.16**	**0.69**	**-**
Reliability			
Providing service as promised	4.02	0.77	**4**
Dependability in solving patients' problems	4.33	0.69	**2**
Providing services at the promised time	3.93	0.81	**5**
Providing services right the first time	4.37	0.72	**1**
Maintaining accurate and error-free record	4.25	0.65	**3**
Mean of Dimension	**4.18**	**0.73**	**-**
Responsiveness			
Employees tell the patients exactly when services will be performed	4.30	0.65	**4**
Provide prompt services	4.34	0.80	**2**
Employees are always willing to help patients	4.32	0.68	**3**
Employees are never too busy to respond to patients' request	4.35	0.72	**1**
Mean of Dimension	**4.32**	**0.72**	**-**
Assurance			
Behaviour and attitudes of hospital employees instil confidence in patients	4.37	0.60	**1**
Patients feel safe in all their dealings with the hospital and its employees	4.26	0.62	**2**
Courteous employees	4.10	0.57	**4**
Knowledgeable employees able to answer patient's questions	4.12	0.57	**3**
Mean of Dimension	**4.21**	**0.59**	**-**
Empathy			
Individualised attention for patients	4.23	0.62	**3**
Care expressed by employees to patients	4.11	0.64	**4**
Employees have the patients' best interest at heart	4.25	0.60	**1**
Employees understand the specific needs of each patient	4.04	0.65	**5**
Operating hours are convenient	4.27	0.70	**2**
Mean of Dimension	**4.18**	**0.65**	**-**
Mean of all Dimensions	**4.21**	**0.76**	**-**

Primary data (2024)

Table 4.11 below shows the statements with the highest and lowest perception scores.

Table 4.11: Statements with the Highest and Lowest Scores on Perceptions

Perceptions - Highest Scores	
Behaviour and attitudes of hospital employees instil confidence in patients - Assurance	4.37
Providing services right the first time - Reliability	4.37
Employees are never too busy to respond to patients' request - Responsiveness	4.35
Dependability in solving patients' problems - Reliability	4.33
Clean and visually appealing physical facilities - Tangibles	4.30
Perceptions - Lowest Scores	
Courteous employees - Assurance	4.10
Employees understand the specific needs of each patient - Empathy	4.04
Modern, up-to-date equipment - Tangibles	4.03
Providing service as promised - Reliability	4.02
Providing services at the promised time - Reliability	3.93

Primary data (2024)

The results in Table 4.11 show that clients had the highest perceptions regarding employee behaviour and attitude, correctness of services, responsiveness, dependability, and cleanliness of facilities. These areas are the hospital's strengths. The lower scores in courteousness, understanding specific client needs, having modern equipment, keeping promises, and punctuality indicate areas where the hospital can improve to enhance overall client satisfaction.

4.6 Perceived Service Quality (Gap Analysis)

Perceived service quality (PSQ), also known as the gap score (G), was calculated by subtracting expectations from perceptions PSQ (G) = PS – ES. A negative gap score indicates that the service quality is lower than expected. In contrast, a positive gap score suggests that the services offered are of higher quality than expected.

The Kolmogorov-Smirnov test was used to evaluate the normality of the gap distribution. This test indicates that the data follows a normal distribution, with a p-value greater than 0.05, as shown in

Table 4.12. A histogram was also used to confirm the normality of the continuous data. As a result, all statistical tests used were parametric.

Table 4.12: Kolmogorov- Smirnov Normality Test Results

Kolmogorov- Smirnov Normality Test		
Dimensions	**Statistic**	**Sig.**
Tangibles	0.374	0.524
Reliability	0.278	0.745
Responsiveness	0.209	0.980
Assurance	0.195	0.990
Empathy	0.158	0.998

Primary data (2024)

With the assumption of normality being met, a paired t-test was calculated to determine whether there were statistically significant differences between the client's expectations and perceptions regarding the five service quality dimensions. The results are shown in Table 4.13 below.

Table 4.133: Perceived Service Quality by SERVQUAL Dimensions

Quality Dimensions	Mean Perception	Mean Expectation	Mean Gap	Rank	P value
Tangibles	4.16 ± 0.69	4.48 ± 0.78	-0.32	3	0.0281
Reliability	4.18 ± 0.73	4.50 ± 0.77	-0.31	4	0.0007
Responsiveness	4.32 ± 0.72	4.53 ± 0.79	-0.21	5	0.0021
Assurance	4.21 ± 0.59	4.55 ± 0.73	-0.34	2	0.0002
Empathy	4.18 ± 0.65	4.54 ± 0.75	-0.36	1	0.0018
Overall Mean	**4.21± 0.76**	**4.52 ± 0.67**	**-0.31**	**-**	**0.0000**

Primary data (2024)

All five service quality dimensions had negative gap scores, indicating that the quality of the healthcare service provided was lower than expected for all dimensions. The empathy dimension had the highest gap score (-0.36), followed by assurance (-0.34), tangibles (-0.32), and reliability (-0.31). The responsiveness dimension had the lowest gap score, with a value of (-0.21), indicating

that the difference between perceptions and expectations was the smallest. The overall gap score was also negative (-0.31).

The paired t-test results showed that in all five dimensions, the differences between expectations and perceptions were statistically significant (p-value < 0.05). The overall gap score (-0.31) was also statistically significant.

Table 4.14: Statements with the Highest and Lowest Gaps

Highest Gap Scores	
Providing services at the promised time - Reliability	-0.58
Modern, up-to-date equipment - Tangibles	-0.53
Employees understand the specific needs of each patient - Empathy	-0.49
Care expressed by employees to patients - Empathy	-0.42
Courteous employees - Assurance	-0.41
Lowest Gap Scores	
Employees are always willing to help patients - Responsiveness	-0.20
Employees tell the patients exactly when services will be performed - Responsiveness	-0.20
Behaviour and attitudes of hospital employees instil confidence in patients - Assurance	-0.17
Employees are never too busy to respond to patients' requests - Responsiveness	-0.13
Providing services right the first time - Reliability	-0.12

Primary data (2024)

As shown in Table 4.14 above, clients reported the lowest perceived service quality (highest gap score) for the statements related to providing services at the promised time, having modern and up-to-date equipment, employees understanding the specific needs of each patient, employees expressing care to patients, and courteous interactions with employees. The lowest gap scores suggest that, while still important, expectations are relatively better met in areas such as employees' willingness to help patients, clear communication by employees regarding when services will be performed, employees not being too busy to respond to patients' requests and providing services correctly the first time.

Addressing the highest gap areas will help significantly improve clients' perceptions of service quality. Meanwhile, maintaining good service performance in areas with the lowest gaps will help sustain the hospital's strengths.

4.7 Influence of Sociodemographic Factors on Perceived Healthcare Service Quality

In this subsection, one-way ANOVA was applied to examine the relationships between sociodemographic characteristics (gender, age, work status, education level, mode of payment for healthcare services, and income) and perceptions of healthcare service quality.

4.7.1 Gender

The results in Table 4.15 demonstrate that gender significantly influences clients' perceptions of service quality across all five dimensions (p-value < 0.05). For each dimension, males generally have more negative gap scores than females, indicating that males perceive a larger gap between expected and actual service quality. In the reliability dimension, the "Other" category in the gender variable has a mean gap score of (1±1.26), suggesting that this group perceived a positive gap. They perceived that the services offered exceeded their expectations. However, this group had a very negative score for the empathy dimension (-1.4 ± 1.0).

Table 4.15: Gender and Gap Scores

Gender	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall
Male	-0.47 ± 0.94	-0.63 ± 0.97	-0.65 ± 0.97	-0.59 ± 0.78	-0.52 ± 0.86	-0.57 ± 0.91
Female	-0.27 ± 1.1	-0.34 ±1.12	-0.33 ± 1.16	-0.34 ±1.08	-0.28 ±1.1	-0.29 ± 1.13
Prefer not to say	-0.38 ± 0.68	-0.6 ± 0.80	-0.56 ± 0.9	-0.12 ± 0.63	-0.3 ± 0.82	-0.4 ± 0.78
Other	-0.5 ± 0.71	1 ± 1.26	-0.25 ±1.38	-0.5 ± 1	-1.4 ± 1.0	-0.32 ± 1.27
F- value	4.900	7.280	5.650	5.417	7.474	24.455
P- value	0.002	0.000	0.001	0.001	0.000	0.000

Primary data (2024)

A high F-value indicates a greater degree of variance between the groups compared to within the groups. The highest F-value is observed in the 'Empathy' dimension (F-value = 7.474). This suggests that gender differences significantly influence perceptions of empathy in hospital service quality.

Overall, males had a more negative perception of the overall service quality compared to females.

The overall p-value of < 0.05 confirms that gender significantly influences clients' perceptions of service quality across all five dimensions.

The findings suggest that hospital administrators should consider gender-specific strategies to improve clients' perception of healthcare service quality.

4.7.2 Age

Statistical analysis using one-way ANOVA revealed that there were statistically significant differences in gap scores for the responsiveness dimension based on age (p-value < 0.05), while for the tangibles, reliability, assurance, and empathy dimensions, the p-value > 0.05, implying that there are no statistically significant differences in gap scores for these dimensions based on age and that these aspects of service quality are perceived similarly across different age groups. This is illustrated in Table 4.16 below.

Within the responsiveness dimension, clients in the 45-59 age group had the most negative gap score (-0.69 ± 1.04), demonstrating that they perceived a greater deviation of actual service from their expectations compared to younger (18-44) and older (>60) age groups.

Overall service quality was perceived negatively across all age groups, with the 45-59 age group reporting the larger negative gap. The >60 groups reported no overall gap, suggesting their expectations were met.

The overall p-value is < 0.05, indicating that age significantly influences clients' perceptions of service quality across all five dimensions.

Table 4.16: Age and Gap Scores

Age	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall
18-44	-0.27 ± 1.07	-0.43 ± 1.1	-0.4 ± 1.09	-0.42 ± 0.96	-0.37 ± 0.98	-0.38 ± 1.04
45-59	-0.44 ± 1.03	-0.53 ± 0.98	-0.69 ± 1.04	-0.58 ± 0.89	-0.47 ± 0.98	-0.54 ± 0.99
>60	0 ± 0.76	0 ± 1.41	0 ± 0.76	-0.12 ± 0.88	0.1 ± 1.37	0.0 ± 1.1
Prefer not to say	-0.56 ± 0.84	-0.78 ± 0.94	-0.58 ± 0.93	-0.31 ± 0.78	-0.51 ± 0.92	-0.43 ± 1.0
F- value	2.504	0.84	4.431	2.244	2.054	8.362
P-value	0.058	0.472	0.004	0.081	0.104	0

Primary data (2024)

Therefore, Halisi Family Hospital should pay particular attention to improving responsiveness, especially for clients in the 45-59 age group.

4.7.3 Education Level

Based on the analysis done using one-way ANOVA, there are statistically significant differences in the gap scores for the reliability dimension based on education (p-value < 0.05), while for the tangibles, responsiveness, assurance, and empathy dimensions, the p-value exceeded 0.05, implying that there are no statistically significant differences in gap scores for these dimensions based on education. This is demonstrated in Table 4.17 below.

Within the reliability dimension, postgraduate individuals reported the highest negative gap scores, indicating that they perceived a greater deviation between the actual service and their expectations compared to those with secondary, certificate/diploma, or bachelor's education.

Overall service quality was perceived negatively across all education levels, with the postgraduate respondents reporting the largest negative gap.

The overall p-value is < 0.05, indicating significant differences in overall service quality perceptions based on educational level.

Table 4.17: Education Level and Gap Scores

Education	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall
Secondary	-0.19 ± 1.01	-0.31 ± 1.24	-0.36±1.23	-0.36 ±1.05	-0.38±1.09	-0.32 ± 1.12
Certificate/Diploma	-0.28 ± 1.03	-0.53 ± 0.89	-0.43 ± 0.96	-0.41± 0.79	-0.3 ± 1.0	-0.39 ± 0.94
Bachelors	0.39 ± 1.05	-0.44 ± 1.09	-0.55 ± 1.11	-0.56 ± 0.97	-0.44 ±1.01	-0.47 ± 1.05
Postgraduate	-0.46 ± 1.31	-0.82 ± 1.32	-0.71±1.23	-0.61±1.09	-0.53 ± 1.13	-0.63 ± 1.22
Prefer not to say	-0.17 ± 0.77	-0.32 ± 0.81	-0.26±0.86	-0.12±0.72	-0.32 ± 0.72	-0.43 ± 1.0
F-value	1.015	4.123	1.56	1.432	1.526	6.932
P-value	0.386	0.007	0.198	0.232	0.206	0

Primary data (2024)

Based on these results, Halisi Family Hospital should, therefore, pay particular attention to improving the perceived reliability of its services, especially for higher-educated clients, to enhance overall service quality.

4.7.4 Work Status

For the dimensions of tangibles, reliability, and responsiveness, the differences in gap scores across work status groups were not statistically significant (p-value > 0.05), as shown in Table 4.18 below. This implies that work status does not influence the perception of healthcare service quality across these dimensions. For the assurance and empathy dimensions, the differences are statistically significant (p-value < 0.05), indicating that work status has a significant influence on the perceived quality of service.

Overall, service quality was perceived negatively across all work status categories, with unemployed individuals reporting the largest negative gap and retired individuals having the smallest negative gap.

The overall p-value is < 0.05, indicating significant differences in overall service quality perceptions based on work status.

Table 4.18: Work Status and Gap Scores

Work Status	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall
Employed	-0.34 ± 1.06	-0.47±1.08	-0.52 ± 1.08	-0.45±0.93	-0.42 ± 0.99	-0.44 ± 1.03
Self-Employed	-0.31±1.12	-0.45±1.02	-0.39 ± 1.14	-0.46±1.01	-0.28 ± 1.1	-0.38 ± 1.08
Unemployed	-0.41±1.07	-0.57±1.18	-0.69 ± 1.14	-0.73±0.81	-0.71±0.86	-0.62 ± 1.03
Retired	-0.12 ± 0.92	-0.25±1.2	-0.06 ± 0.96	-0.12±0.79	0.0 ± 1.1	-0.11 ± 1.0
Prefer not to say	-0.36 ± 0.74	-0.46±0.78	-0.47±0.76	-0.3±0.84	-0.35±0.71	-0.43 ± 1.0
F-value	0.328	0.315	1.711	2.673	4.497	7.503
P-value	0.859	0.868	0.146	0.031	0.001	0

Primary data (2024)

Based on these results, Halisi Family Hospital should prioritise improving the perceived assurance and empathy of its services, particularly for unemployed clients.

4.7.5 Mode of Payment for Healthcare Services

The results displayed in Table 4.19 below show that there were statistically significant differences in gap scores across different modes of payment for the dimensions of tangibles (p-value = 0.000), responsiveness (p-value = 0.003), assurance (p-value = 0.000), and empathy (p-value = 0.000) where p-value was < 0.05. This indicates that clients' perceptions of service quality vary significantly depending on their payment method. However, in the reliability dimension, there was no statistically significant difference across different payment modes (p-value = 0.176); the p-value was greater than 0.05, implying that clients' perceptions of reliability are relatively consistent regardless of the payment method used.

Regarding mean gap scores, clients using only NHIF reported the most negative scores across all dimensions, with particularly low responsiveness (-1.75 ± 0.5) and tangibles (-1.5 ± 1.0) scores. This suggests that they perceived a greater deviation between the actual service and their expectations compared to other payment methods. Conversely, clients paying out of pocket exhibited the least dissatisfaction with the tangibles (-0.14 ± 1.35) and empathy (-0.13 ± 1.26) dimensions.

Table 4.19: Mode of Payment and Gap Scores

Mode of Payment	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall
Private Health Insurance provided by my employer	-0.24 ± 0.96	-0.43 ± 1.02	-0.38 ± 1.03	-0.36 ± 0.9	-0.38 ± 0.93	-0.36 ± 0.97
NHIF Only	-1.5 ± 1.0	-1.4 ± 0.55	-1.75 ± 0.5	-1.5 ± 0.58	-1 ± 0.0	-1.41 ± 0.59
Private Health Insurance purchased by self	-0.36 ± 0.67	-0.49 ±1.04	-0.31 ± 0.79	-0.39 ± 0.80	-0.29 ± 1.06	-0.37 ± 0.9
Out of Pocket	-0.14 ± 1.35	-0.31 ± 1.32	-0.29 ±1.2	-0.38 ± 1.21	-0.13 ± 1.26	-0.25 ± 1.29
Prefer not to say	-0.65 ± 0.83	-0.58 ± 1.13	-0.75 ± 0.93	-0.9 ± 0.90	-0.65 ± 0.87	-0.7 ± 0.94
NHIF + Private Health Insurance purchased by self	-0.53 ± 0.69	-0.56 ± 0.85	-0.70 ± 0.83	-0.9 ± 0.90	-0.54 ± 0.67	-0.58 ± 0.74
NHIF + Private Health Insurance purchased by employer	-0.53 ± 0.69	-0.56 ± 0.85	-0.70 ± 0.83	-0.58 ± 0.59	-0.54 ± 0.67	-0.58 ± 0.74
F-value	3.870	1.369	2.489	4.541	4.403	11.569
P-value	0.000	0.176	0.003	0.000	0.000	0.000

Primary data (2024)

Overall service quality was perceived negatively across all payment modes, with the NHIF-only group reporting the largest negative gap (-1.41 ± 0.59). The out-of-pocket group had the smallest negative gap (-0.25 ± 1.29), indicating higher overall satisfaction compared to other payment modes.

The overall p-value is < 0.05, indicating significant differences in overall service quality perceptions based on the mode of payment.

These results suggest that Halisi Family Hospital administrators should prioritise improving service quality for NHIF users to reduce the gap between expectations and perceptions, especially in the responsiveness and tangible dimensions.

4.7.6 Income

The results displayed in Table 4.20 below show no statistically significant differences across income levels for the dimensions of reliability (p-value = 0.864), responsiveness (p-value = 0.672), assurance (p-value = 0.701), and empathy (p-value = 0.301). This implies that clients' perceptions of these aspects of service quality are relatively consistent regardless of income level. However, in the tangibles dimension, there was a statistically significant difference in gap scores across different income levels (p-value = 0.004).

Table 4.20: Income and Gap Scores

Income	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall
49,999and below	-0.25 ± 1.02	-0.47 ± 0.95	-0.53 ± 1.02	-0.49 ± 0.83	-0.53 ± 0.69	-0.46 ± 0.91
50,000-99,999	-0.22 ± 0.95	-0.39 ± 0.96	-0.47 ± 0.99	-0.41 ± 0.84	-0.35 ± 0.89	-0.37 ± 0.93
100,000-149,999	-0.71 ± 1.32	-0.60 ±1.27	-0.62 ± 1.21	-0.57 ± 1.04	-0.45 ± 1.12	-0.58 ± 1.19
>150,000	-0.28 ± 1.27	-0.49 ± 1.33	-0.56 ±1.31	-0.38 ± 1.21	-0.29 ±1.27	-0.4 ± 1.28
Prefer not to say	-0.34 ± 0.96	-0.48 ± 1.03	-0.44 ± 1.04	-0.46 ± 0.92	-0.41 ± 1.01	-0.43 ± 1.0
F-value	3.821	0.321	0.588	0.548	1.202	3.957
P-value	0.004	0.864	0.672	0.701	0.301	0.003

Primary data (2024)

Within the tangibles dimension, individuals earning an average monthly income of between Ksh. 100,000 and Ksh. 149,999 reported the highest negative gap scores, indicating that they perceived a greater deviation between the actual service and their expectations compared to those earning below Ksh. 100,000 and above Ksh. 149,999.

Overall service quality was perceived negatively across all income categories, with the Ksh. 100,000 - 149,999 group reporting the largest negative gap (-0.58 ± 1.19). The Ksh. 50,000 - 99,999 group had the smallest negative gap (-0.37 ± 0.93), indicating higher overall satisfaction.

The overall p-value is < 0.05, indicating significant differences in overall service quality perceptions based on income.

As a result, Halisi Family Hospital administrators should focus on improving the tangible aspects of their services to bridge the gap between expectations and perceptions, particularly for clients with higher incomes.

4.8 Relative Importance of SERVQUAL Dimensions

The respondents were asked to state the most important dimension to them. The results are displayed in Table 4.21 below.

Table 4.21: Relative Importance of SERVQUAL Dimensions

Relative Importance	Frequency	Percentage (%)
Reliability	68	39.1
Responsiveness	56	32.2
Assurance	24	13.8
Empathy	24	13.8
Tangibles	2	1.1
Total	**174**	**100.0**

Primary data (2024)

Most respondents (68 respondents, 39.1%) chose reliability as the most important dimension. This suggests that a significant portion of clients prioritise the hospital's ability to perform services dependably and accurately. Only two respondents (1.1%) chose tangibles, which include the physical facilities, equipment, and appearance of personnel, as the most important dimension. Physical aspects of the service are less critical to clients compared to other dimensions.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter presents the results and findings for each objective, draws conclusions from these findings, and provides recommendations derived from the study.

5.1 Discussion

The discussion is guided by the study objectives, namely, describing the sociodemographic characteristics of clients who visited the Halisi Family Hospital between 1 January 2024 and 31 March 2024, assessing client perceptions of healthcare service quality at the Hospital using modified SERVQUAL dimensions, and assessing patterns of association between sociodemographic characteristics of clients and perceptions of healthcare service quality.

5.1.1 Sociodemographic Characteristics of Clients Visiting Halisi Family Hospital

The study results showed that the number of males and females visiting Halisi Family Hospital was roughly equal (1:1). Most of the clients were between 18 and 44 years old, indicating that most clients are within the reproductive age bracket, with young families that are still dependent on the primary breadwinners. Additionally, most clients hold a bachelor's degree, indicating that they are highly educated and likely to be discerning consumers. Most clients were also employed and paid for healthcare using private health insurance provided by their employers. Most clients were uncomfortable disclosing their average monthly household income. Most of the clients who disclosed their earnings were earning between Ksh. 50,000 and 99,000 per month.

Just as described by other authors, the sociodemographic characteristics of different populations are diverse, and the results of any study measuring healthcare service quality will also be diverse and context-specific (Ali et al., 2023; Endeshaw, 2021; Fatima et al., 2019; Upadhyai et al., 2019).

5.1.2 Application of the SERVQUAL Model to Evaluate Perceptions of Healthcare Service Quality.

A modified SERVQUAL questionnaire was applied in this study to evaluate healthcare service quality at Halisi Family Hospital. This approach mirrors studies conducted in Singapore, Ghana, Pakistan, Croatia, China, Iran, Greece, Turkey, Saudi Arabia, Jordan, and Albania, which employed either the standard or a modified SERVQUAL scale to evaluate the expectations versus

perceptions gap among patients and measure perceived healthcare service quality, as well as the relative importance of SERVQUAL's dimensions to patients (A'aqoulah et al., 2022; Agyei et al., 2020; Al Fraihi & Latif, 2016; Alanazi et al., 2023; Došen et al., 2020; Fatima et al., 2017, 2019; Goula et al., 2021; Li et al., 2015; Lim & Tang, 2000; Myshketa et al., 2022; Pekkaya et al., 2019; Rezaei et al., 2018; Shafiq et al., 2017; Upadhyai et al., 2019).

The questionnaire comprised 22 expectation and perception statements, evaluated using a 5-point Likert scale alongside a section to capture the socio-demographic profile of the respondents. Similar research instruments have been used in the above-quoted studies, featuring 20 to 26 paired expectation and perception statements across the five SERVQUAL dimensions, evaluated with either a five-point or seven-point Likert scale. The above-quoted studies, just like this study, employed descriptive, quantitative, cross-sectional survey research designs.

This study employed stratified random sampling, which differs from the most commonly used sampling technique in the above-quoted studies: convenience sampling. Data was collected by sending the questionnaire to the respondents via WhatsApp and making follow-up calls to increase the response rate. In contrast, the aforementioned works employed data collection methods such as exit interviews or mailed questionnaires.

Before performing the actual study, a pilot study was conducted to test the validity and reliability of the questionnaire. The pilot study was conducted with a convenience sample of 36 participants: three academic and professional experts, three senior managers, ten middle-level managers, ten employees, and ten patients, all of whom confirmed the validity of the questionnaire. The Cronbach alpha test was then conducted to evaluate the tool's reliability. The tool scored 0.916 and 0.952 for the expectation and perception sections of the questionnaire, respectively. This was similar to the studies quoted above, which assessed the validity of their questionnaires using pilot studies and Cronbach's alpha test to evaluate the reliability and internal consistency of their questionnaires.

Like the studies above, this study employed descriptive statistics, including frequencies, percentages, means, standard deviations, and normality tests. Inferential statistics, using one-way ANOVA, were implemented in the study to assess the relationship between variables.

Just like other studies, this study revealed statistically significant negative quality gaps in expectations versus perceptions across all five dimensions, indicating unmet patient expectations for service quality at Halisi Family Hospital (Agyei et al., 2020; Al Fraihi & Latif, 2016; Alanazi et al., 2023; Fatima et al., 2017; Goula et al., 2021; Lim & Tang, 2000; Pekkaya et al., 2019; Rezaei et al., 2018; Shafiq et al., 2017). These results contrast with a study conducted in China, which found a positive quality gap across all dimensions (Li et al., 2015). The highest negative quality gap score was found in empathy, while the lowest negative quality gap score was found in responsiveness. These results are similar to those reported in studies conducted in Greece (Goula et al., 2021) and Iran (Rezaei et al., 2018).

The relative importance of the SERVQUAL dimensions was also analysed based on the respondents' responses. The most critical dimension for patients at Halisi Family Hospital was reliability, aligning with findings from the study by Pekkaya et al. (2019). Conversely, the least significant dimension was tangibles, mirroring the results of studies conducted by Goula et al. (2021) and Lim & Tang (2000).

5.1.3 Patient sociodemographic characteristics and perceptions of healthcare service quality

The sociodemographic characteristics considered in this study include gender, age, educational level, employment status, method of payment for healthcare services, and income.

In this study, gender was found to be a significant factor influencing patients' perceptions of service quality across all five dimensions. Similar findings were found in Saudi Arabia (Al Fraihi & Latif, 2016) and Pakistan (Fatima et al., 2017), where a statistically significant relationship was found between age and perception of service quality. In contrast, studies done in Jordan (A'aqoulah et al., 2022), Greece (Goula et al., 2021), Albania (Myshketa et al., 2022) and Turkey (Pekkaya et al., 2019) found a statistically insignificant relationship between gender and perception of service quality. Whereas in this study, males consistently exhibited more negative gap scores compared to females, indicating higher expectations and a larger perceived gap between expected and actual service quality, females in Saudi Arabia (Al Fraihi & Latif, 2016) and Pakistan (Fatima et al., 2017), had higher expectations than males.

This study revealed a statistically significant relationship between age and perceived healthcare service quality, particularly in the responsiveness dimension. Overall, service quality was

perceived negatively across all age groups, with clients in the 45-59 age group exhibiting the most negative quality gap scores, indicating higher expectations and a lower perception of service quality compared with other age groups. These findings align with previous research, which also identified a statistically significant relationship between age and service quality perception (Al Fraihi & Latif, 2016; Alanazi et al., 2023; Goula et al., 2021; Pekkaya et al., 2019). Conversely, no relationship was found between age and perceived healthcare service quality in Jordan (A'aqoulah et al., 2022) and Pakistan (Fatima et al., 2017).

This study revealed significant differences in gap scores, primarily for the reliability dimension, based on educational background. Interestingly, patients with postgraduate education had a lower perception of healthcare service quality (PSQ) than those with secondary school or undergraduate education. Overall, service quality was viewed negatively across all education levels, with postgraduates reporting the largest negative quality gap. This agrees with previous studies conducted in Saudi Arabia, Greece, and Albania, where higher education levels were associated with higher expectations and lower perceptions of service quality (Alanazi et al., 2023; Goula et al., 2021; Myshketa et al., 2022).

A strong relationship was found between work status and perceived healthcare service quality, mainly in the empathy dimension. Overall, service quality was perceived negatively across all work status categories, with unemployed individuals reporting the largest negative quality gap and a lower PSQ compared to employed, self-employed, retired individuals, and those who preferred not to disclose their work status. These findings contrast with previous studies where being employed was associated with higher expectations and a lower PSQ (Alanazi et al., 2023).

Additionally, a statistically significant relationship was also found between the mode of payment for healthcare services and the perception of service quality across all five dimensions. Overall, service quality was perceived negatively across all payment categories, with clients utilising NHIF only to pay for healthcare reporting the most negative quality gap scores across all dimensions, indicating a lower perception of service quality and unmet expectations compared to clients with other payment methods. This aspect of the study was unique as no prior studies examined the influence of the mode of payment for healthcare services on perceived healthcare service quality, thereby highlighting a potential area for further research.

Finally, in terms of income, this study identified a statistically significant difference in gap scores, specifically in the tangibles dimension, where clients earning between Ksh. 100,000 and Ksh. 149,999 reported the most negative quality gap scores, indicating higher expectations and a lower perception of service quality compared to other income brackets. Overall, service quality was perceived negatively across all income categories, with clients earning between Ksh. 100,000 and 149,999, reporting the largest negative gap and the lowest PSQ. This is similar to studies in Albania and Turkey, where higher income was also associated with higher expectations and a lower perception of service quality (Myshketa et al., 2022; Pekkaya et al., 2019).

5.2 Conclusion

The primary purpose of this study was to examine the relationship between the sociodemographic characteristics of clients visiting Halisi Family Hospital in Kajiado, Kenya, and their perception of healthcare service quality. A modified SERVQUAL instrument was used to evaluate the client's expectations and perceptions regarding the quality of healthcare services offered at Halisi Family Hospital and their perceived service quality (PSQ) or gap score.

The findings indicate that client expectations at Halisi Family Hospital were not met across all dimensions, as evidenced by the overall negative quality gaps between client expectations and perceptions. The highest service quality gap and lowest PSQ were found in the empathy dimension, while the lowest service quality gap was found in responsiveness. These gaps present opportunities for quality improvement for hospital managers and information to use in prioritising time and resources in the service quality improvement journey.

Overall, the study results showed that the sociodemographic characteristics of clients influence their perception of healthcare service quality. Male clients had higher expectations and lower PSQ than female clients. Clients between the ages of 45 and 59 had higher expectations and lower PSQ than other age groups, particularly in the responsiveness dimension. Clients with higher education levels, including those holding both bachelor's degrees and postgraduate degrees, had higher expectations and lower PSQ scores than other groups, especially in the reliability dimension. Unemployed clients had lower PSQ than other work status categories, especially in the assurance and empathy dimensions. Clients paying with NHIF only had the lowest PSQ compared to other

payment groups. Finally, clients earning between Ksh. 100,000 and 149,999 had the highest expectations and the lowest PSQ, particularly in the tangibles dimension.

These findings suggest opportunities for targeted and specific interventions for service quality improvement at Halisi Family Hospital.

5.3 Recommendations

Based on the study's findings at Halisi Family Hospital, several recommendations can be made to enhance clients' perception of healthcare service quality.

5.3.1 Recommendations for Practice

Halisi Family Hospital should improve its service provision across all five dimensions, particularly in the level of care and individualised attention it offers to patients, the knowledge and courtesy of its employees, and their ability to convey trust and confidence to clients.

Specific and targeted strategies should be employed to better meet the expectations of male clients, to improve the hospital's willingness to help clients and provide prompt service, especially for clients between the ages of 45 and 59, and its ability to perform the promised service dependably and accurately, especially for clients with higher education levels (bachelor's and postgraduate degrees). Additionally, the hospital should enhance the knowledge and courtesy of its employees, as well as their ability to convey trust and confidence, and improve the level of care and individualised attention they provide to clients, with a particular focus on serving unemployed clients. Regarding modes of payment for healthcare services, hospital administrators should pay particular attention to the expectations and perceptions of clients who pay with NHIF only. Finally, to attract patients from higher-income groups (clients earning above Ksh. 100,000), the hospital should improve the appearance of its facilities, equipment, personnel, and communication materials.

By implementing the above recommendations, the hospital will improve its perceived service quality, develop a sustainable competitive advantage in the increasingly competitive healthcare industry and ensure its profitability and sustainability.

Other healthcare managers and investors, especially in the private healthcare sector, can replicate this study in their organisations and utilise the results to measure the perception of healthcare service quality, to diagnose service areas within their organisation that do not meet their patients' expectations (gaps), and to identify service quality elements that are the most important to their patients, and then apply this information to prioritise and optimise resource allocation and implement quality improvement initiatives while monitoring progress over time.

5.3.2 Recommendations for Policy

As the World Health Organization (WHO), in the World Health Report 2000, stated, one of the primary purposes of a health system is to respond to the people's expectations (World Health Organization, 2000). Tromp and Baltussen also outlined "patient-perceived quality of care" as one of the criteria for prioritising improvements in health system responsiveness (Tromp & Baltussen, 2012)Therefore, by scaling this study to encompass national or regional populations, governments and policymakers can understand the sociodemographic characteristics of their population and infer what they perceive as high-quality healthcare. They can then tailor service delivery to meet the needs of local communities and design national, regional, and local strategies to enhance the quality of care.

5.4 Limitations of the Study

A notable limitation of the study was the challenge of including individuals who did not have smartphones, which restricted their access to the online questionnaire. Future research should consider alternative data collection methods to ensure a more inclusive and comprehensive understanding of patient expectations and perceptions of service quality. The study was also limited to Halisi Family Hospital, which may restrict the generalisation of the findings.

5.5 Areas of Further Research

Further research is needed to either develop new models for measuring healthcare service quality or modify existing ones to incorporate both technical service quality and the service provider's perspective. Further research should also be done to determine the relationship between clients' modes of payment for healthcare services and their sociodemographic characteristics in other countries.

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APPENDICES

Appendix 1: SU-IERC Ethics Approval

Strathmore UNIVERSITY

21st May 2024

Dr Okello Njoroge Sarah,
njeri.okello@strathmore.edu

Dear Dr Okello,

RE: Examining the Influence of Client Sociodemographic Characteristics on Perceptions of Healthcare Service Quality

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2246/24.** The approval period is from **21st May 2024 to 20th May 2025.**
This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research- portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

Mr. Ambrose Rachier,
Chairperson; SU-ISERC

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

Appendix 2: NACOSTI Research License

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **181681**

Date of Issue: **29/May/2024**

RESEARCH LICENSE

This is to Certify that Dr.. Njeri Okello of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kajiado on the topic: Examining the Influence of Client Sociodemographic Characteristics on Perceptions of Healthcare Service Quality for the period ending : 29/May/2025.

License No: **NACOSTI/P/24/36301**

181681

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix 3: Introduction Letter

Ole Sangale Rd, Madaraka Estate,
P.O Box 59857 00200, Nairobi, Kenya.
Cell: +254 703 414/6/7, Twitter: @SBSKenya
Email: info@sbs.ac.ke or vist **www.sbs.strathmore.edu**

Strathmore UNIVERSITY
BUSINESS SCHOOL

Wednesday, 22nd May 2024.

To Whom It May Concern,

RE: FACILITATION OF RESEARCH – SARAH NJERI OKELLO

This is to introduce Sarah Njeri Okello, a Master of Business Management in Healthcare Management (MBA-HCM) student at Strathmore University Business School, admission number MBA HCM/148093/22.

As part of our MBA-HCM Program, Sarah is expected to do applied research and undertake a project. This partially fulfills the requirements of the MBA-HCM course; to this effect, she would like to request appropriate data from your organization.

Sarah is undertaking a research paper on "***Examining the Influence of Client Sociodemographic Characteristics on Perceptions of Healthcare Service Quality***" The information obtained shall be treated confidentially and used for academic purposes only.

Our MBA-HCM Programme seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to the industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and practical value to your organization.

We appreciate your support and will be willing to provide further information if required.

Yours sincerely,

Alois Njenga.
Manager – Graduate Programme.

Appendix 4: Participant Information and Consent Form

Examining the Influence of Client Sociodemographic Characteristics on Perceptions of Healthcare Service Quality

SECTION 1: INFORMATION SHEET

Investigator: Dr. Sarah Njeri Njoroge Okello

Institutional Affiliation: Strathmore University Business School (SBS)

SECTION 2: INFORMATION SHEET - THE STUDY

1. **Why is this study being carried out?**

This study is being carried out to examine the influence of a patient's sociodemographic characteristics on their perception of healthcare service quality. The study's results will assist healthcare managers in improving service quality.

2. **Do I have to take part?**

No. Taking part in this study is optional, and the decision is yours. If you decide to participate, you will be asked to complete a questionnaire to get information on your personal details, expectations, and perceptions of the quality of healthcare services offered at Halisi Family Hospital. If you are not able to answer all the questions successfully the first time, you may go through another informational session, after which you may be requested to answer the questions a second time. You are free to decline to take part in the study at any time without giving any reasons.

3. **Who is eligible to take part in this study?**

Any person over the age of 18 who has received healthcare services at Halisi Family Hospital between January 1, 2024, and March 31, 2024.

4. **Who is not eligible to take part in this study?**

Children under 18 years and adults over 18 years who are unable to give informed consent or who decline to provide consent will be excluded from the study.

5. **What will taking part in this study involve for me?**

You will receive a call from the primary investigator, who will explain the purpose of the study and request that you take part in the study. If you are satisfied that you fully understand the goals of this study, you will be asked to sign the informed consent form (this form), and then you will complete a questionnaire.

6. **Are there any risks or dangers in taking part in this study?**

There are no risks in taking part in this study. All the information you provide will be treated as confidential and will not be used in any way without your express permission.

7. **Are there any benefits of taking part in this study?**

The information will be used to improve healthcare service quality in Halisi Family Hospital and any other hospital that will use the results of this study.

8. **What will happen to me if I refuse to participate in this study?**

Participation in this study is entirely voluntary. Even if you decide to take part at first but later change your mind, you can withdraw anytime without explanation.

9. Who will have access to my information during this research?

All research records will be stored securely. Although that information may be transcribed into our database, it will be sufficiently encrypted and password-protected. Only those closely concerned with this study will have access to your information, which will be kept confidential.

10. How can I get information about the progress and outcome of the research?

To ensure complete confidentiality and anonymity in the study, the questionnaire will not capture your name, telephone number or e-mail address. If you would like to receive information about the progress and outcome of the research, please get in touch with me, Dr. Sarah Njeri Njoroge Okello, at SBS or by e-mail at njeri.okello@strathmore.edu or +254 707 638622.

11. What if I am not able to read and/or write? Can I still take part in this study?

The principal investigator will call each participant at the start of the study. If you are not able to read and/or write but consent to participate in the study, the principal investigator will make provision for you to sign the informed consent form (this form) with your thumbprint and then read the questionnaire and mark your responses on your behalf.

12. Who can I contact if I have further questions?

You can contact me, Dr. Sarah Njeri Njoroge Okello, at SBS or, by e-mail at njeri.okello@strathmore.edu or by phone at +254 707 638622. You can also contact my supervisor, Prof. Francis Wafula, at the Strathmore Business School, Nairobi, or by e-mail at fwafula@strathmore.edu or by phone at +254 722 679467.

If you want to ask someone independent anything about this research, please contact:
The Secretary - Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, e-mail ethicsreview@strathmore.edu Tel number: +254 703 034 375

I, _____, have had the study explained to me. I have understood all that I have read and that has been explained to me, and I have had my questions answered satisfactorily. I understand that I can change my mind at any stage.

Please tick the boxes that apply to you:
Participation in the research study

☐ I AGREE to take part in this research.

☐ I DO NOT AGREE to take part in this research.

☐ I AGREE to have my completed questionnaire stored for future data analysis.

☐ I DO NOT AGREE to have my completed questionnaire stored for future data analysis.

Participant's Signature: **Date: _/___ __/_____**

_____ ***DD / MM / YEAR***

Participant's Name: **Time: _/_____**

_____

(Please print name) ***HR / MN***

I, _____(Name of person taking consent), certify that I have followed the SOP for this study and have explained the study information to the study participant named above and that s/he has understood the nature and the purpose of the study

and consents to participate in the study. S/he has been given the opportunity to ask questions which have been answered satisfactorily.

Investigator's Signature: **Date: _/_____/_____**

_____ ***DD / MM / YEAR***

Investigator's Name: **Time: _/_____**

_____ ***HR / MN***

(Please print name)

Appendix 5: Research Questionnaire

A: Personal Information

1. Gender What gender do you identify as? Male ☐ Female ☐ Other ☐ Prefer not to say ☐
2. Age What is your age? 18-44 (Young Adults) ☐ 45-59 (Middle-Aged Adults) ☐ >60 (Older Adults) ☐ Prefer not to say ☐
3. Education What is the highest level of education you have completed? Primary education ☐ Secondary education ☐ Certificate or Diploma ☐ Bachelor's Degree ☐ Postgraduate Degree (master's degree or higher) ☐ Prefer not to say ☐
4. Work Status What is your current work status?

Unemployed	☐
Employed	☐
Self-Employed	☐
Retired	☐
Disabled - Not able to work	☐
Prefer not to say	☐

5. Mode of Payment for Healthcare Services

How do you pay for the majority of your medical expenses?

Out of Pocket – Cash, Mpesa, Credit or Debit Card	☐
NHIF (specify more)	☐
Private Health Insurance provided by my employer	☐
Private Health Insurance purchased by self	☐
Prefer not to say	☐

6. Income

What is your average monthly household income?

49,999 and below	☐
50,000-99,999	☐
100,000-149,999	☐
150,000 and above	☐
Prefer not to say	☐

B: Expectations

This section contains questions aimed at understanding your expectations of the hospital. Please rate your response on the scale provided, ranging from strongly disagree to strongly agree.

Tangibles	
The hospital should have modern, up-to-date equipment.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's physical facilities should be clean and visually appealing (reception, waiting area, consultation rooms, toilets, wards)	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees should be well-dressed and have a neat and professional appearance.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Materials associated with the service should be visually appealing.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Reliability	
When a hospital employee promises to do something by a particular time, they should do it.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

When a patient has a problem, the hospital's employees should show sincere interest in solving it.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital should provide its services at the time it promises to do.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital should always get things right the first time.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital should maintain accurate and error-free records.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Responsiveness	
The hospital's employees should tell the patient exactly when services will be performed.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees should provide prompt service to patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees should always be willing to help patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

The hospital's employees should never be too busy to respond to patients' requests.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Assurance	
The behaviour and attitudes of hospital employees should instil confidence in patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Patients should feel safe in all their dealings with the hospital and its employees.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Hospital employees should be consistently courteous to patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Hospital employees should be knowledgeable and able to answer patients' questions.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Empathy	

The hospital should give each patient individualised attention.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees should express care in their interactions with patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital and its employees should have the patients' best interests at heart.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees should understand the specific needs of each of their patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The operating hours of the hospital should be convenient for all its patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

C: Perceptions

This section contains questions that seek to understand your experience with the hospital. Please rate your response on the scale provided, ranging from strongly disagree to strongly agree.

Tangibles The hospital has modern, up-to-date equipment.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

The hospital's physical facilities are clean and visually appealing (reception, waiting area, consultation rooms, toilets, wards)	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees are well-dressed and have a neat and professional appearance.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Materials associated with the service are visually appealing.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Reliability	
When a hospital employee promises to do something by a particular time, they do it.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
When a patient has a problem, the hospital's employees are sincerely interested in solving it.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital provides its services at the time it promises to do.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

The hospital always gets things right the first time.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital maintains accurate and error-free records.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Responsiveness	
The hospital's employees tell the patients exactly when services will be performed.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees provide prompt service to patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees are always willing to help patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees are never too busy to respond to patients' requests.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

Assurance The behaviour and attitudes of hospital employees instil confidence in patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Patients feel safe in all their dealings with the hospital and its employees.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees are consistently courteous to patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees are knowledgeable and able to answer patients' questions.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
Empathy The hospital gives each patient individualised attention.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital's employees express care in their interactions with patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The hospital and its employees have the patients' best interests at heart.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

The hospital's employees understand the specific needs of each of their patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree
The operating hours of the hospital are convenient for all its patients.	1 ☐- strongly disagree, 2 ☐– disagree, 3☐ – neutral, 4☐ – agree and 5☐ – strongly agree

D: Relative Importance

Which feature is the most important to you?

☐ Tangibles: The appearance of the hospital's facilities, equipment, personnel, and communication materials.

☐ Reliability: The hospital's ability to perform the promised service dependably and accurately.

☐ Responsiveness: The hospital's willingness to help patients and provide prompt service.

☐ Assurance: The knowledge and courtesy of the hospital's employees and their ability to convey trust and confidence.

☐ Empathy: The level of caring and individualised attention the hospital provides its patients.

Which feature is the least important to you?

☐ Tangibles: The appearance of the hospital's facilities, equipment, personnel, and communication materials.

☐ Reliability: The hospital's ability to perform the promised service dependably and accurately.

☐ Responsiveness: The hospital's willingness to help patients and provide prompt service.

☐ Assurance: The knowledge and courtesy of the hospital's employees and their ability to convey trust and confidence.

☐ Empathy: The level of caring and individualised attention the hospital provides its patients.

Appendix 6: Timeline of Activities

Activity	Jan-24	Feb-24	Mar-24	Apr-24	May-24
Develop Study Topic					
Draft Dissertation Proposal					
Dissertation Proposal Defence					
Ethics Approval					
Data Collection					
Data Analysis and Report Writing					
Final Dissertation Défense					

Appendix 7: Research Budget

Item	Description	Amount
Research Assistants	Assistants to assist in administering questionnaires, following up for responses, data cleaning and data analysis	60,000.00
Statistician and Data Analysis Tools	Acquisition of data analysis tools (SPSS) and the statistician fee	30,000.00
Communication	Cost of internet, call and messages throughout the project	60,000.00
Printing and Binding	Priniting and binding the proposal and final thesis	10,000.00
Publication	Fee for the publication of the study project with in a peer reviewed journal	30,000.00
Contingency	Approximately 10% of the budget for contingency	20,000.00
Total		**210,000.00**