

**TOTAL QUALITY MANAGEMENT PRACTICES AND SERVICE DELIVERY
OF SELECTED PUBLIC HOSPITALS IN MACHAKOS COUNTY, KENYA**

ABUOR VICTOR ODHIAMBO

D53/OL/CTY/32099/2016

**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF
BUSINESS,ECONOMICS AND TOURISM IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF
MASTERS OF BUSINESS ADMINISTRATION DEGREE (STRATEGIC
MANAGEMENT), KENYATTA UNIVERSITY**

SEPTEMBER, 2024

DECLARATION

I declare that this research project is my original work and has not been submitted to any university for the award of a degree. No part of this project should be reproduced without the authority of the author and/or Kenyatta University.

Signed: _____

Date: _____

Abuor Victor Odhiambo

D53/OL/CTY/32099/2016

This research project has been submitted for examination with my approval as the University Supervisor.

Signed: _____

Date: _____

Dr. Janet Muthimi

Department of Business Administration

School of Business, Economics and Tourism

Kenyatta University

DEDICATION

I dedicate this scholarly work to my family for their support throughout my time at Kenyatta University.

ACKNOWLEDGEMENT

I take this opportunity to express my gratitude to God for His blessings and grace that has seen me overcome challenges during my academic journey at Kenyatta University as well as enabling the completion of this scholarly paper. Special acknowledgement goes to my Supervisor Dr. Janet Muthimi for her immense professionalism that ensured the development of this work. Her endless guidance, support and input enabled the rigorous and quality development of this research project. I extend my appreciation to the Kenyatta University library staff for their recommendations of relevant materials that contributed to the input in this work. I also acknowledge the role played by the entire Kenyatta University staff in their guidance and advice that enabled positive engagement throughout my academic journey at the university. To all my colleagues at the University as well as my work colleagues, feel appreciated for whatever input, advice and moral support you provided. It re-energized and motivated me to finish my research paper. To all stakeholders within the healthcare fraternity, I say thank you for supporting my data collection thus enabling the completion of this paper. To all who contributed in one way or another, I am grateful to all of you.

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ABBREVIATIONS AND ACRONYMS

AHP	:	Analytic Highway Process
CI	:	Continuous Improvement
FMHP	:	Free Maternity Health Policy
ISO	:	International Organization for Standardization
NACOSTI	:	National Commission of Science, Technology and Innovation
NGOs	:	Non-Governmental Organizations
SAS	:	Software as a Service
SERVQUAL	:	Service Quality
SPSS	:	Statistical Package for Social Sciences
SWOT	:	Strength, Weakness, Opportunities and Threats
TQM	:	Total Quality Management
UAE	:	United Arab Emirates
VIF	:	Variance Inflation Factor
WHO	:	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Continuous Improvement: Continuous improvement consists of initiatives put in place to ensure consistency in organization's processes thereby simplifying operations while reducing time and overheads. The study measured continuous improvement in terms of response time, product evaluation, monitoring and evaluation, professional quality assurance and operations and services.

Customer Focused Strategy: This is the orientation of the organization towards the provision of services and products that meet customer needs. Organizations that are customer-oriented value feedback and opinions of customers that are used in product and service improvements as well as new innovative products and services. This study conceptualized customer focused strategy out of customer feedback opinions, innovative services, fostering trust and assurance, clean and well-prepared beds and customer satisfaction information.

Employee Involvement: These are essential assets to the organization who support day-to-day activities and are in the frontline in service delivery to the patients. The study conceptualized employee involvement in; employee suggestions, information sharing, employee education, participation in decision making and employee training.

Service Delivery: This is the provision of health services that meet patients' needs wholesomely in consideration of efficiency, effectiveness and speed of delivery which entails availing

medical supplies, having quality consultation, diverse medical services, availability of medical equipment and reduced waiting time.

Top Management Support:

These organizational leaders with influence and responsibility of setting vision and mission focused on total quality management, providing resources and giving direction as well as support for service delivery initiatives. Top management support is measured on; management commitment, effective communication between management and employees, resource allocation, team work and quality management adoption.

Total Quality Management:

This consists of management strategies that involve improvements in an ongoing basis that aim at meeting long-term needs and exceeding customer expectations. The study defines total quality management in terms of continuous improvement, customer focused strategies, top management support and employee involvement.

ABSTRACT

The fundamental right for all citizens is to be able to access health care needs in a timely manner that meets the quality standards recommended by World Health Organization. Machakos County has put in place infrastructural needs, resource allocation, and recruitment of competent staff, partnership and collaboration with relevant stakeholders to enhance service delivery within its public hospitals. However, there is inefficiencies and ineffectiveness evidenced in prolonged waiting time, absence of essential medical supplies, overcrowding and shortage of qualified personnel that have reduced service delivery. The study intended to establish total quality management practices and service delivery of selected public hospitals in Machakos County. Specific objectives were; to find out the effect of continuous improvement, to establish the effect of customer focus strategies, to determine the effect of top management support and to find out the effect of employee involvement on service delivery of selected public hospitals in Machakos County, Kenya. Deming theory of quality and SERVEQUAL model guided the study. Descriptive research design was used with a target population of 35 public hospitals and 800 healthcare workers in Machakos County. The sample was 267 healthcare professionals generated using Yamane sample size formula. Stratified random sampling was used to group respondents according to their similarities. Systematic random sampling aided the identification of respondents from their groups. Semi-structured questionnaire enabled the generation of primary data. Pilot study was done in Athi River with all six public hospitals. Content validity, expert opinion and face validity enabled the determination of the instrument's validity. Internal consistency was used to establish reliability of the instrument. Descriptive and inferential statistics were used in primary data analysis with the aid of SPSS version 23. Diagnostic tests such as normality, multicollinearity and autocorrelation were done. All approvals from relevant authorities, compliance to data protection laws, voluntary participation and respect to all research stakeholders guided the conduct of the research study. The findings showed that continuous improvement had a direct and positive relationship with service delivery. Continuous improvement had positive and significant effect on service delivery. The results demonstrated that customer focused strategy had positive relationship and had significant effect on service delivery. The study revealed that even though top management had a positive relationship, it did not have any significant effect on service delivery. The findings showed that employee involvement had positive relationship and had significant effect on service delivery in selected public hospitals of Machakos County. The study concluded that continuous improvement had effect on service delivery while customer focused strategy was effective in improving service delivery. It was concluded that top management support did not have any significant effect on delivery of services. The study concluded that the involvement of employees had significant effect on service delivery. It was recommended that public hospitals should regularly undertake service evaluation in line with total quality management practices, incorporation of customer satisfaction feedback in total quality management practices, commitment from top management on total quality management practices and inclusion of employee suggestions in decision making on total quality management practices to enhance service delivery. Future studies could be done in the county targeting private healthcare to benchmark the study findings and to incorporate moderating and mediating variables to establish any similarity in the findings.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

Public hospitals play a vital role in healthcare systems globally, offering indispensable medical services to the public. However, maintaining high-quality service delivery can be difficult due to constraints such as limited resources and high patient influx (World, Health Organization, 2019). As a result of the large number of patients served by public hospitals, the Agency for Health Research and Quality (2019) report indicates that patient turnover, waiting times, and delays in diagnosis and treatment often negatively impact patient outcomes. Providing quality healthcare services is a critical factor for public hospitals to succeed and operate efficiently in today's competitive global environment. Total quality management practices have been considered as effective strategies that public hospitals may use to enhance service delivery to meet patients' needs (Chege et al., 2020).

Shittu (2020) points out that the implementation of several strategies can help public hospitals overcome challenges and deliver quality service. Collaboration among healthcare providers, government agencies, and community organizations can alleviate resource limitations and enhance care quality. Such partnerships enable the exchange of best practices and expertise where innovative solutions such as telemedicine and mobile health technologies can decrease wait times and increase access to care, thereby boosting patient engagement and empowerment. Regular performance evaluations and monitoring may also pinpoint areas that need improvement and track progress over time. This can guide quality enhancement efforts thereby guarantee efficient service delivery (Shittu, 2020).

An observation by the World Bank (2018) notes how there has been a slow progression in the improvement of service delivery worldwide with uneven provision of services in different aspects; quality coverage, person-centeredness, accessibility, efficiency, comprehension and coordination. High-income countries are also plagued by poor service delivery, with one in ten patients experiencing treatment complications. Healthcare service delivery in these countries still has unwarranted variation where up to 303,000 mothers with 2.7 million babies die yearly during child birth as a result of poor service delivery. In the low- and middle-income countries, about 40% of hospitals do not have improved sanitation which affect quality of service delivery. According to Hussain et al., (2019), there is poor service delivery in Pakistan public hospitals where patients experience frustrations evidenced in long waiting time before being attended to, inadequate cooling systems with uncomfortable seats in the waiting rooms and lack of online appointment platforms that affects registration (Hussain et al., 2019). The same situation is witnessed in Africa where patients experience inadequate service delivery as a result of shortages of medicine, lack of resources and reduced health providers compared to the population (Mayanja & Akunda, 2023).

In South Africa, service delivery is characterized by hi-tech provision of healthcare services in the public and private hospitals. However, in other facilities, there are inequitable distribution of resources which results to low funding, poor infrastructure and management hence reduced service (Mbangwa, 2021). An analysis of service delivery in Uganda by Mayanja and Akunda (2023) demonstrates how healthcare service delivery in public hospitals has deteriorated evidenced in limited medicines and inadequate human resources that has reduced the quality-of-service delivery.

In its report on Kenya's health service delivery indicator survey (2019), the World Bank points out that despite the progress made in enhancing the quality of health care in public hospitals, the healthcare human resource remains lacking in skills and knowledge, reducing the ability of the hospitals to provide quality care to patients. It is also noted that there is high number of staff who abstain from work which reduces service provision during operating hours hence inefficiency in service delivery. The report adds that in most hospitals visited during the survey, only a half of the facilities had basic equipment with inadequacy in essential drugs that are needed in service provision.

Machakos County introduction of Free Maternity Health Policy (FMHP) has resulted to increased service to the mothers evidenced in high number of deliveries from 15 to 30. However, there is inadequate infrastructural resources that have reduced the quality-of-service delivered as a result of high population of mothers in the hospitals. There is also reduced number of staff hence delay in prompt and poor-quality service, there is reduced bed capacities in maternity wards, lack of drugs and essential supplies to meet the needs of patients and lack of equipment in the laboratories hence inability of the health facility in carrying out required tests and delays with no reliability (Gichihi & Lusambili, 2019).

1.1.1 Service Delivery

Service delivery is defined as the extent to which a particular service meets or exceeds the expectations of an individual (Shittu, 2020). In accordance with World Health Organization (WHO), health services are delivered according to certain standards at all levels, including: speed of delivery, harmonization at the service delivery point, effectiveness of services, safety of patients, and professionalism and ethics when providing health care (World Health Organization, 2019).

Service delivery is the provision of needed services to patients which should be people-centered and customized according to family, community and patient needs where service provided should be wholesome incorporating medication experience as well as having the attention of welfare needs of the people (Wandie & Muathe, 2022).

Service delivery has been conceptualized in terms of; registration, service provision, waiting time, doctors and nurses service (Hussain et al., 2019), cleanliness, empathy, adequacy of medical supplies, staff attitude and technical equipment. Service delivery has also been conceptualized in terms of; comprehensiveness, quality of consultation, doctor-patient relationship, cost of care and healthcare resources (Mohamaoud & Mash, 2020), competency of medical practitioners, variety of medical services, quality of healthcare services and availability of medical equipment (Kegoro & Ochieng, 2021).

Service delivery within the healthcare is concerned with treatment services that patients receive in public hospitals which is determined by availability of resources and supplies where services include; outpatient, inpatient and home-based care as well as rehabilitation. Service delivery may also consist of curative and preventive care that is made available by medical practitioners based on the health facility and technical skills (Debela, 2019). Service delivery extends to immediate output of health system such as healthcare staff, different sources of financing and supplies. It ensures that people have access to health care at a minimum standard of quality. This is also extended to the amount of time taken in delivering the service, different services offered, the implications of cost and technical skills (Nzioka et al., 2023). This study measured service delivery using; competency of medical practitioners, variety of medical services, consultation quality, availability of medical equipment

and cost of care and waiting time. The measurements were chosen as they have previously been used in different contexts by Kegoro and Ochieng (2021), Mahamoud and Mash (2020) and Husain et al. (2019). The measurements have also been recommended by World Bank (2018) where comprehension of service has been indicated as one of the quality aspects in service delivery.

1.1.2. Total Quality Management Practices

Due to intense competition and customer demographic shifts, organizations are incorporating customer-focused strategies in their productions, processes, services and products to meet the quality desired by customers thereby enhancing customer satisfaction. Total quality management practices are efforts put in place by the management to enhance customer satisfaction through improvements made and other ongoing efforts aimed at meeting long-term customer needs (Anifowose et al., 2022).

In total quality management practices, organizations strive to achieve quality from the very beginning by using the right tools to meet the expectations of their customers at all times. It is a method of improving quality in the management of an institution, industry or business (Azizi et al., 2023). TQM is the comprehensive improvements that are made by the management to enhance customer satisfaction where internal, external, primary and secondary customer needs are considered in the improvement of quality (Jami & Muharam, 2022). Total quality management was first used by Deming (1900, 1993) to enable organizations trace errors and identify defects in the production process. Customer satisfaction was later added into the TQM by Juran (1904: 2008) hence TQM that fits the purposes according to customer requirements (Saderet al., 2019).

Different concepts have been proposed as elements of total quality management practices; customer focus, scientific approach, team work, obsession with quality, process improvement, scientific approach, empowerment and unity of purpose (Pambreni et al., 2019). Other concepts recommended are; supplier partnership, feedback and measurement, internal communication, supervisory leadership, training and development, continuous improvement, top management commitment and cultural change (Siripipatthanakul et al., 2022) while other researchers have separated TQM elements into two; soft and hard where soft include; top management, customer focus and employee training while hard elements consist of process management, quality information and advance manufacturing technologies (Ali et al., 2022).

Customer focus is the identification of customer needs and requirements to exceed customer expectation where customers is the driving factor in quality determination (Pambreni et al., 2019) while top management principle of total quality management consists of high-ranking officials within the organization who are responsible for organizational strategy, ensuring changes are made according to customer expectation, improving production processes, determining employee skill gaps and recommending training needs for quality improvement. Alshourah (2021) adds that top management commitment is needed in ensuring the creation of value and setting of goals for the improvement of products and services thereby enhancing customer satisfaction (Hussain et al., 2022).

An integral part of TQM practices is continuous improvement, a process that ensures consistency in product and service improvement, whereas employee involvement refers to empowering and participating employees in decision making, enhancing autonomy, and solving problems (Murenga & Njuguna, 2020).

The focus of the study was on customer concerns, senior management support, ongoing improvement and employee empowerment. Top management and customer service have been considered to be the most influential in total quality management hence their incorporation in the study(Siripipatthanakul et al., 2022).

Continuous improvement (CI) is a philosophy of consistency that ensures progress thereby enabling simplification of flow in organizational operations which helps in conserving time and reducing overhead costs. Continuous improvement is also aimed at continuously searching for new ways of doing things to improve customer experience (Medne, 2019). The author adds that CI revolves around organizational values including norms, reward systems, recognition and communication with four faces; plan, do, study and act. The “plan” element is the identification of areas of improvement in quality to determine resource needs and budget, the “do” part of CI is the implementation of the changes identified, the study part shows the changes that have been brought whether they meet service improvement while the acting element is concerned with what is done with the outcome of quality (Njoroge & Nyaga, 2022).

Continuous improvement is a branch of science that involves innovation and iterative cycle testing for generating new knowledge needed in making improvement (Education Development Centre, 2019). CI is the new ways of working and broad focus an organization takes to get better results, innovating, technology investment and new ideas for purposes of improving performance. This may be achieved through reduction of defects, response time, enhancement of delivery, commitment, product evaluation, operations and service, customer involvement in product and increasing productivity (Khan et al., 2018). This study measured CI in; response time, commitment, innovation, reward system, norms and service evaluation.

Total quality management practices may also be based on customer focus where the organizational becomes more oriented towards customers through the provision of products and services according to client needs with an aim of exceeding their expectations. Customers are critical as they generate revenue to the organization hence quality should be focused on increasing customer satisfaction (Kang'ethe, 2015). Customer focus is the recognition of customer opinions and suggestions for more understanding of customers necessary in quality management for existing and future products and services. With increased internet penetration and technological advancement, there is more feedback generated from the digital environment which organizations may use to support quality management. Customer feedback may also be generated from front line employees and customer satisfaction information which may be used proactively in quality improvement (Birch-Jensen, 2020). The study incorporated customer focused strategies, feedback collection and customer opinions to establish their influence on service delivery.

One of the influencers in total quality management practice is the top management which gives support with the responsibility of setting the objectives of service delivery as well as developing customer-focused practices and performance. Top management also develops organizational mission, setting priorities and determining vision that helps in fostering a culture of excellence, quality and exemplary customer service leading to enhance service delivery. This means that top management engagement should be enforced, acknowledged and sustained. Top management is also viewed as critical in determining quality management adoption, establishment quality management activities, inspire organizational team members (Ogben & Daud, 2021).

With management commitment, TQM may be implemented by setting priorities on quality, availing resources, setting goals and inclusion of quality into organizational strategy. Without top management's commitment, there may be reluctance to change systems and process that may have impact on negative quality improvement. Top management support may help in funding programs, providing motivation for innovation, encouraging awareness and improving performance as well as promoting healthy organizations. Top management support has a direct and positive relationship on quality management where training, planning and development are considered (Wijaya et al., 2023). This study sought to incorporate; quality priorities, commitment, vision, mission, resource allocation and awareness creation.

Employees are considered important assets to an organization based on their contribution to day-to-day activities while supporting the realization of the organization's objectives. Employees also act as ambassadors and representing the organizations before its stakeholders. Their involvement is therefore critical in enhancing customer satisfaction through their contribution to quality improvement. Employees therefore need motivation and education that widens their effectiveness and efficiency in service delivery (Akom, 2021). Employee participation through training may also reduce resistance and enhance probability of success to quality improvement. Additionally, training of employees has been linked to customer satisfaction where supportive culture may create a positive environment for team work (Akram& Siraji, 2021).

Employee's participation in quality management may be evidenced through information sharing, providing suggestions and having cross-functional team. Additionally, during service encounter, employees may experience difficulties in dealing with certain situations that may require high level of skills in problem

solving. Training may enable employees to acquire essential skills and expertise needed in problem solving and identifying customer requirements hence positive in the improvement of service delivery (Abukhader & Ombasioglu, 2021). This study focused on employee participation including; decision making, providing suggestions, training and empowerment.

1.1.3 Machakos County Public Hospitals

Health services in Kenya are provided through a network of over 4,700 health facilities nationwide where the public sector accounts for approximately 51 percent of these facilities, while the private sector accounts for the remaining 49 percent. The public health sector is made up of national referral hospitals, county referral hospitals, Sub- County hospitals, health centers, and dispensaries. From the national level down to the county level, health services are consolidated (Ministry of Health, 2019).

According to Ministry of Health (2019) report, Machakos County demonstrated significant advancements in infrastructure, staffing, equipment availability, accessibility, and patient satisfaction as part of the efforts to enhance hospital service delivery with total healthcare facilities reaching 320 and 1,678 healthcare workers. Machakos County Government (2019) reported that Machakos Level 5 Hospital underwent a series of expansion and renovation projects. These improvements included the addition of new wards, an increase in bed capacity and upgrades to facilities such as diagnostic imaging and operating theater departments. Furthermore, several hospitals were equipped with new tools including ultrasound scanners, X-ray machines, laboratory analyzers, and surgical instruments. The hospitals improved in service delivery through infrastructure development, which enhanced the capacity to handle more patients and provide specialized care. Skilled healthcare professionals are crucial for effective service delivery.

To address the staff shortage and improve the quality of healthcare personnel, hospitals in the county have taken proactive measures through recruitment of additional doctors, nurses, and other healthcare workers to mitigate the shortage of healthcare personnel in the hospitals. This initiative is aimed to ensure adequate staffing levels and improve the quality of care provided to patients. The report also indicated that training programs and continuous professional development opportunities were planned for existing healthcare workers to enhance their skills and knowledge (Andore & Nzulwa, 2018).

Mutisya (2019) observe that despite the collaborative efforts of Machakos County's government and the Ministry of Health, public hospitals in Machakos County continue to face challenges that hinder the delivery of quality healthcare services as there is a significant shortage of healthcare facilities such as hospitals, clinics, and dispensaries in the county which leads to overcrowding and extended waiting times for patients seeking medical attention. Furthermore, the existing healthcare facilities often lack necessary medical equipment and supplies, which further impedes the provision of quality care. The author continues that Machakos County's public hospitals experience shortage of qualified healthcare professionals which impacts both the volume and quality of healthcare services due to understaffing and overworking of these professionals. Moreover, the county experiences a maldistribution of healthcare workers, with a high concentration of professionals in urban areas leaving rural areas with limited access to quality healthcare services (Mutisya, 2019).

According to Mwani (2019), the lack of adequate funding in Machakos County hospitals significantly impedes the delivery of quality healthcare services. The current healthcare budget is insufficient to meet the increasing demand for services and effectively address infrastructure and human resource gaps. Limited financial

resources may obstruct investments in facility upgrades, procurement of necessary medical equipment, and continuous training for healthcare professionals (Mwani, 2019).

1.2 Statement of the Problem

All citizens have a fundamental right to access timely and quality health affordably (Ministry of Health, 2019). Quality health should be delivered according to standards that meet patient requirements as well as incorporating efficiency, effectiveness and patient safety (World Health Organization, 2019).

The Kenya health service delivery indicator survey report by the World Bank (2019) noted that despite the government's improvement in promoting service delivery, public hospitals are still experiencing skill shortages which reduce the ability of the institutions to deliver effective and efficient services. The author added that there is high number of staff absenteeism, lack of basic equipment and essential medicines needed to meet patient needs which hinders prompt service delivery. Service delivery in public hospitals of Machakos County have faced challenges evidenced in overcrowding, prolonged waiting time, inadequate medical supplies, absence of medical equipment and shortage of qualified personnel which has deteriorated service delivery within the county (Mutisya, 2019).

Previous studies by Hussain et al. (2019) determined patient satisfaction using service delivery elements in Pakistan public hospitals using registration, waiting time and service, Wandie and Muathe (2022) investigated service delivery with the objective of wholesome attention to medical needs of patients while targeting public hospitals in Kenya.

Kegoro and Ochieng (2021) used a meta-analysis to analyze how automated queue management enabled service delivery improvement in public hospitals in Kenya. These studies used patient satisfaction and queue management in the determination of service delivery in public hospitals. The study by Wandie and Muathe (2022) used total quality management practices on service delivery though there was a different target population as well as geographical location. There was limited research that incorporated total quality management practices and service delivery in Machakos County which was the focus of the current study.

Murenga and Njuguna (2020) studied Horizons Offices Limited in Kenya as an example of total quality management in small and medium enterprises. This study however, had a different population as well as used one organization that limited generalization of the findings into other populations. An examination of Nairobi Bottlers Limited's performance and the effects of continuous improvement practices by Njoroge and Nyaga (2022), targeted large manufacturing organizations and had a different dependent variable- organizational performance as well as used a case study approach involving one organization in Nairobi.

Several studies have been conducted examining the relationship between continuous improvement and organizational performance, in particular those by Khan, Ali, and Hongqi (2018). This study had a different geographical location as well as focused on organizational performance. Previous studies had different geographical locations, targeted other populations, and used different dependent variables while some were case studies that limited generalization into other populations. The current study aimed at investigating total quality management practices and service delivery in selected public hospitals in Machakos County to fill contextual, conceptual, and methodological gaps.

1.3. Objectives of the Study

The study developed the general objectives which was structured in line with the topic of the study. From the general objective, the study identified specific objectives that guided the research in data collection.

1.3.1. General Objective

The general objective of the study was to establish total quality management practices and service delivery at selected public hospital in Machakos County, Kenya.

1.3.2 Specific Objectives

- i. To determine the effect of continuous improvement on service delivery of selected public hospitals in Machakos County, Kenya.
- ii. To establish the effect of customer focus strategies on service delivery of selected public hospitals in Machakos County, Kenya.
- iii. To determine the effect of top management support on service delivery of public hospitals in Machakos County, Kenya.
- iv. To establish the effect of employee involvement on service delivery of public hospitals in Machakos County, Kenya.

1.4 Research Questions

- i. How does continuous improvement affect service delivery of selected public hospitals in Machakos County, Kenya?
- ii. What are the effects of customer focus strategies for providing services to selected public hospitals in Machakos County, Kenya?
- iii. What are the implications for service delivery in selected government hospitals in Machakos County, Kenya of top management support?

- iv. In Machakos County, Kenya, what is the effect of employee involvement on delivery of services at select public hospitals?

1.5 Significance of the Study

Machakos County public hospitals was assessed for their total quality management practices and service delivery. Public hospitals aim to support the realization of government's health goals through the provision of affordable healthcare to the public. The findings may provide recommendation on service delivery challenges experienced by the population in Machakos County thereby prompt the government to formulate policies guiding total quality management practices to enhance service delivery. The findings may also provide recommendations on effective and efficient total quality management practices that may be adopted by the government as part of health policies and strategies thereby enhance service delivery.

The practitioners may benefit from the study out of practical recommendations on total quality management practices improvement such as management support in total quality management practices implementation, provision of resources and recommendation of required training needs for employee necessary in enhancing service delivery in public hospitals. Employee facing customers may find the study fruitful based on the support they will receive from top management as well as involvement in decision making, upgrading of skills and empowerment to boost their morale thus enhance service delivery.

The findings may also benefit the population seeking health services from public hospitals due to adoption of the total quality management practices hence improved service delivery. Future researchers may find the study findings beneficial thereby incorporation in future studies, building study topics, making references and citations as well as identifying areas of improvement for future studies.

1.6 Scope of the Study

The study focused on service delivery in public hospitals owing to the interest the government has in the provision of quality healthcare. Additionally, there are scanty research on service delivery in Machakos County's public hospitals which creates knowledge gap. Although there are different factors that could impact service delivery, this study was confined to total quality management practices to establish its influence on service delivery. The study was also restricted to Machakos County, Machakos sub-County owing to its high population.

Total quality management practices conceptualization provides diverse variables. However, this study identified four areas; continuous improvement, customer-focused strategies, top management support, and employee involvement. Despite multiple theories touching on service delivery and total quality management practices, this was restricted to the Deming theory and SERVQUAL model to analyse their application in the study variables. Descriptive research design served as the basis for the investigation. The study concentrated on 800 employees from 35 public hospitals in Machakos Town Sub-County. Data was collected in the form of a semi structured questionnaire. The study took place in January-February 2024 in Machakos town.

1.7 Limitation of the Study

The study was based in Machakos County targeting public hospitals where the unit of analysis was employees. Data collection was done during working hours which limited the study in collecting more data due to busy schedule of respondents. The study however, distributed questionnaires according to agreed time and schedule with respondents. The study provided more time to allow respondents fill the questionnaires when they were less busy. This allowed more involvement of respondents thus increased response rate.

The study target population was civil servants who may have feared giving information due to victimization hence limit the study from obtaining data. The researcher provided introduction of the study to respondents to inspire confidence and gain trust. This increased rapport thus enabled the respondents to willingly provide responses to the study. The study was also limited to gain entry into the public hospitals. However, all protocols were observed that gave access to the hospitals thereby providing opportunity to the researcher to collect data.

1.8 Organization of the Research

The research was organized in five chapters; Chapter one covered the background of the study according to the study variables. The chapter presented research problem statement, highlighted general and specific objectives, specified the significance of the study, scope and limitations. The second chapter dealt with theoretical and empirical reviews of the study variables, identification of research gaps and development of a conceptual framework that illustrated the relationship between the study variables and guided the operationalization of the variables. The third chapter of the research presented research design, target population, sampling methods, data collection tools, pilot study, validity and reliability of the research instrument, procedure for collecting data, analysis and ethical considerations. Chapter four was based on data analysis, interpretation and discussion while chapter five provided the study summary, conclusions and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presented theories that guided the study variables, conducted an empirical analysis to reveal methodological shortcomings from previous studies and developed a conceptual framework through which the variables were illustrated.

2.2 Theoretical Literature Review

Two theories that guided the study were reviewed; Deming theory of quality and SERVQUAL Model.

2.2.1 Deming's Theory of Quality

Deming's theory of quality was proposed by Deming (1982) as a tool used by the organization to improve quality through increased efforts. The theory assumes the organization as a system where every piece impacts the other and views interdependent parts as comprehensive of a whole. The public health care is a system with multiple factors influencing service delivery. Taking four dimensions into consideration, the theory comprises appreciation for a system, knowledge of variation, theory of knowledge, and psychology knowledge (Murenga & Njuguna, 2020).

The theory includes creating a purpose for improvement, adopting a new philosophy, focusing on quality rather than inspection, working with one supplier to lower costs, continuous improvement, on-site training, leadership, removing fear from the workplace, breaking down silos, removing slogans, quotas or numerical goals, eliminating annual ratings or merit systems, instituting educational programs and engaging all employees (Wong & Headrick, 2020). Deming's theory of quality motivates leaders to work with teams and systems within the organization instead of concentrating on challenges and problems associated with individuals within the

organization. The theory assumes that there is always a solution for every problem in the organizational systems (Connor, 2019).

The theory has been applied by managements of various organizations and sectors to achieve quality evidenced in Adawiyah et al. (2020) who explored the practices of Deming's theory of quality used by small business in rural areas of Indonesia with findings that most small business managers employed the theory into their business by adopting new philosophy of quality to remain relevant hence had positive impact on performance of organizations.

Within the public hospitals, the theory may be used to initiate improvements in the delivery of healthcare to patients, putting in place training and educational programs to employees to enhance their knowledge on total quality management practices for the improvement of service delivery. The current study adopted this theory to analyse total quality management practices in public hospitals having been applied in small businesses. The theory also guided the construction of the conceptual framework where total quality management principles were incorporated. The theory was used in the determination of research instrument where quality aspects consisted of the questions to the respondents. The theory therefore supported the independent variable- total quality management practices through the analysis of continuous improvement, customer focus strategies, and top management support and employee involvement in quality practices.

2.2.2 SERVQUAL Model

The model was proposed by Zeithaml, Parasuraman and Berry (1985) to measure the existing gap in the levels of customer satisfaction in the business environment. The model states that the perception of customers on quality of service are determined by their service expectations and their perceived

experience (Kar, 2018). The conceptualization of SERVQUAL models is provided in five dimensions; reliability, responsiveness, assurance, empathy and tangibility. Reliability is the ability of the service delivered to fulfill the service promised in an accurate and dependable manner. Responsiveness is defined as the willingness of service giver to promptly help customers and offer timely service. Assurance is the service provider building of trust through employee knowledge, confidence and courtesy. Empathy refers to the care and individual attention provided to the customer by the organization while tangibility refers to the physical equipment, facilities and personal appearance (Shabin, 2019).

The model has been applied to assess the quality of service in Moroccan higher education using the 5 dimensions of the model, reliability, assurance, responsiveness, empathy and tangibility with results that engineering students perceived service quality negatively (Goumairi et al., 2020). The model has also been used by Alberto et al. (2019) to evaluate the quality perceived in the public transportation systems in Morelia City in Mexico using tangibility, reliability, responsiveness, empathy, safety and assurance as essential for the achievement of quality for everyone.

The model was also applied by Chang et al. (2022) in their study on indicators for improvement of agricultural products service delivery. The study aimed at analyzing customer needs by exploring the importance of expected product service and the perceived satisfaction of the services and products. The study applied the model based on customer perception of service received and their expected service regarding the exhibitions of agricultural products with findings that customers have different expectations and perceived satisfaction towards the services received. The study revealed an existing gap in the quality service of exhibitions of agricultural exhibitions.

The current study applied the SERVQUAL model to analyze the dependent variable-service delivery where competency of staff, quality consultation, medicine variety and availability of needed equipment and waiting time were analyzed using the 5 dimensions of the SERVQUAL model.

2.3 Empirical Literature Review

This section reviewed previous empirical studies according to the research objectives. The section highlighted the methods that were considered, the objectives, the findings as well as identification of the gaps which informed the current study.

2.3.1 Continuous Improvement and Service Delivery

Mutambi (2022) notes how businesses worldwide have adopted ISO 9001 certification for total quality management where Nairobi City County hospitals provide top notch services. However, the implementation of total quality management practices has delayed as a result of conformance with principles and process thus affecting service delivery. The author analysed total quality management practices and service delivery in ISO certified hospitals in Nairobi City County, Kenya using cross-sectional descriptive design where five ISO certified hospitals with a target population of 7047 employees were considered. The sample size was generated using Yamane (1967) formula where 379 employees were derived. Simple random sampling was used to identify respondents while questionnaire was distributed to obtain responses. Regression analysis aided in primary data analysis. The revelation was that continuous improvement had the highest effect on service delivery. The study used ISO certified hospitals in Nairobi City County that included both private and public hospitals. The current study included public hospitals in Machakos County hence a different target population and geographical region.

Wills-Gallagher et al. (2022) analysed implementation of malnutrition of quality improvement for better nutrition health care delivery for hospitalized patients working with a target population comprising of physicians, nurses and specialists from 32,723 hospitals. Descriptive statistics was used with the aid of SAS version 9.4. The findings showed that there was a significant number of patients who were at risk of malnutrition while some were facing severe malnutrition with patients in ICU experiencing highest risk prior to and after quality improvement. The study made a conclusion that continuous improvement enhanced attendance to patients with nutrition risk. Although the study provided the target population, it failed to indicate the sample that was used in the study as well as did not indicate the sampling design and data collection instruments. The current study highlighted the target population, the sample size and sampling technique that aided in enhancing validity of the study. The study also provided the data collection instrument that was used to generate primary data.

Laboratory errors may affect service delivery to patients due to prolonged time that requires total quality management for efficient and effective laboratory service (Mulleta, et al., 2021). The authors investigated the impact of laboratory quality management system implementation on service delivery in health centre laboratories of Oromia region in Ethiopia. Using cross-sectional study design involving 21 zones in Oromia, the study collected data using questionnaire that included documentation. Descriptive analysis was used to analyse primary data using SPSS software version 20. The findings showed that there was no duty roster, no documentation of job descriptions as well as inadequate employee recognition. The study was conducted in Oromia involving 21 zones while the current study will work with one county in

Kenya. The study also targeted laboratories while this study targeted hospitals with multiple services.

2.3.2 Customer Focus Strategy and Service Delivery

Gathaku and Gitari (2022) did an assessment on customer integration strategy influence on service delivery in public hospitals in Nakuru Town, Kenya using descriptive research that involved 17 public hospitals with 771 doctors, nurses and patients from where a sample of 88 medical practitioners was identified using purposive sampling while 100 patients were selected. Semi-structured questionnaire was used in data collection. Descriptive and inferential statistics aided primary data analysis. The findings showed that hospitals had systems that were used in capturing customer information thereby supporting innovative services. It was found that there was a weak and positive relationship between customer integration strategy and service delivery in public hospitals. This study was based in Nakuru town which is a different geographical location with the current study. The study also used purposive sampling in the identification of patient respondents which may have introduced biased sampling thus affecting results. The current study used probability sampling to give chance to all respondents hence reduce biasness in the study.

Customer satisfaction is important to business as it leads to enhanced performance and long-term survival of firms. For this reason, organizations are currently using customer focused strategies to enhance customer satisfaction in handling of complaints, customer expectation, technology infusion and relationship marketing (Wolok, 2022). An instigation by Wolok (2022) ought to develop a model to assess the influence of service quality on customer satisfaction in Gorontalo Province using observations, interviews and questionnaires. The study worked with local government and community members to generate data using SWOT analysis and Analytic

Highway Process (AHP). The findings showed that the most important customer focused strategy was assurance of hospitals services such as knowledge, fostering trust from patients and courtesy. The study used service delivery as the independent variable while customer satisfaction was the dependent variable. The study did not provide the target population and the sample. The current study had different independent variable, customer focused strategy and service delivery as the dependent variable. The study did not develop a model but used existing theories and models to analyse the findings. The current study deviated from using SWOT analysis but collected secondary and primary data.

There has been a change in business environment in the last decade characterized with high competition and globalization which has prompted the business to re-design their strategies that are more customer centric to meet customer expectation in service delivery (Aburayya, et al., 2020). The authors used survey method to investigate total quality management practices effect on service delivery targeting hospitals in the UAE that involved all senior clinical officers and administration. Convenience sampling was used based on its cost effectiveness while self-administered questionnaire supported primary data collection. The findings showed that customer focus strategy had high relationship with service delivery as well as there was positive and significant relationship between the independent and dependent variable. The study recommended replication of the research in different locations. The study was done in Dubai with different cultural orientation and nationalities based on its location. The current study replicated the study in Kenya therefore fulfilled the study's recommendation.

2.3.3 Top Management Support and Service Delivery

The health sector is dominated by complex challenges where healthcare managers need to be aligned to the improvement of institutional performance for effective and efficiency in healthcare service delivery (Govender *et al.*, 2023). The author used quantitative study to investigate top management influence in the facilitation of service delivery within the healthcare where mid-level managers and employees consisted the unit of analysis. Questionnaires were developed using a five-point Likert scale distributed to 380 respondents. Data was then captured, cleaned and coded before descriptive analysis with SPSS version 23. The findings indicated that management promoted team work that enhanced employee productivity and performance resulting to enhanced service delivery. It was established that there was management commitment in service delivery enhancement, effective communication between management and staff and there was also encouragement for more involvement of staff in process improvement. The study did not indicate the target population and how sample was derived.

The Scotland government recognizes the importance of continuous improvement evidenced in the commissioning of a review of lean systems within the public sector and continuous improvement for enhanced efficiency and effectiveness in service delivery (Rodgers & Antony, 2022). The authors analysed continuous improvement culture in Scotland national ambulance service using semi-structured interviews and questionnaires targeting 694 management executives. Pilot study was done while SPSS version 24 was used in data analysis. The study found that there was lack of positive management behavior across the organization as well as lack of improvement strategy. This study targeted management executives in Scotland. The current study aimed to incorporate other levels of employees for a balanced response. The study was

done in a different geographical location which may have unique business environment hence present different results.

2.3.4 Employee Involvement and Service Delivery

Employees are the blood stream of the organization where their performance determines the success and failure of the organization. Poor training and involvement of employees have been linked to low performance in service delivery (Sendawula & Kimuli, 2019). An investigation on the effect of employee involvement on service delivery in agencies, ministries and departments in Bauchi State used cross-sectional survey targeting 1,367 staff with a sample size that consisted of 302. Simple random sampling was used to identify respondents. Regression enabled the analysis of primary data. The findings showed that employee involvement significantly affected service delivery (Oleabhiele et al., 2023). The study took place in Nigeria while the current study was done in a different geographical location.

Employee attention has significant effect on service delivery, performance development and efficiency. Many patients have lost hope in public health service delivery as some stay in hospital beds for long before they receive attention (Jackson, 2021). The author determined the involvement of employees on service delivery at the University of Cape Coast Hospital. Qualitative method was used targeting 105 nurses, record officers and out-patients where a sample was generated that consisted of eight nurses, five out-patients and three records officers. Purposive sampling was used in the identification of respondents while semi-structured interview with face-to-face method was used in data collection. Thematic analysis assisted in primary data analysis. The findings showed that there was involvement of employees by management where they were given chance to express their opinions. However, some respondents felt that involvement was a formality. The limitation of the study was the

case study approach, small sample and qualitative method. The current study increased the sample size, used multiple hospitals that allowed generalization of the findings and adopted quantitative research method that incorporated open-ended questions for more broad responses.

2.4 Summary of Literature Review and Research Gaps

Different studies have been done on total quality management where continuous improvement, customer focus strategy, top management support and employee involvement were considered as the study's objectives. While Mutambi (2022) identified ISO certified hospitals based in Nairobi City County to determine how continuous improvement influenced service delivery where the findings showed a significant effect, Willis-Gallagher et al. (2022) targeted nurses, specialists and physicians to collect primary data that revealed how total quality management enhanced service delivery for patients with malnutrition. Mulletta et al. (2021) also concentrated their study in Oromia region of Ethiopia to establish how total quality management was implemented in laboratories with results of low quality of service.

Customer focus strategy empirical investigation by Gathaku and Gitari (2022) used purposive sampling in the identification of respondents and reported that customer focus strategy had weak and positive correlation with service delivery. The results were however different from Aburayya et al. (2020) analysis who targeted UAE hospitals to determine how total quality management affected service delivery with findings of positive and strong effect on service delivery. Govender et al. (2023) determined how top management influence delivery of services within healthcare and noted the effectiveness of the management through their commitment in the determination of service delivery. Rodgers and Antony (2022) targeted Scotland National Ambulance Service and established inadequate management support in the

organization while Tanui (2018) considered a case study of Telkom Kenya management with results that there was improved service delivery due to top management support. The findings were also reported by King'oo (2017) who targeted clerks, hawkers, revenue collectors and clients from Nairobi County and recognized the significant contribution from the top management in enhancing service delivery through their support.

Oleabhiele et al. (2023) adopted simple random sampling to analyze how employee's involvement affected service delivery in Bauchi State with revelation that there was a significant effect of employee involvement on service delivery. Jackson (2021) however, targeted employees from Cape Coast Hospital University to establish their contribution to service delivery using purposive sampling. This study reported employee involvement through incorporation of their opinions in decision making. Motieri (2018) also considered staff involvement in the provision of sewer services targeting Nairobi City Water and Sewerage employees and indicated that employee's involvement in goal setting improved service delivery.

These studies produced difference findings due to the unique target population, geographical location and methods that were employed in the studies. Table 2.1 presented the summary of literature review and gaps that were identified.

2.4 Summary of Literature Review and Research Gaps

Table 2.1. Summary of Literature Review and Research Gaps

Author(s)	Study Objective	Key Findings	Research Gaps	Current Study
Govender, Proches and Kadel (2023)	An investigation on the influence of top management in service delivery within the healthcare.	There is management commitment in enhancement of service delivery.	No target population indication.	Present sample and the target population.
Oleabhiele, Uthman and Usman (2023)	Investigation on the effect of involvement of employees in service delivery in government agencies, departments and ministries in Bauchi State.	Employee involvement significantly affect service delivery	Done in Nigeria	was in a different geographical location.
Gathaku and Gitari (2022)	An assessment on customer integration strategy on service delivery of public hospitals in Nakuru Town, Kenya	Weak, positive and significant relationship with service delivery.	Based in Nakuru Used purposive sampling	was based in Machakos County and incorporate random sampling.
Mutambi (2022)	Total quality management practices and service delivery in ISO certified healthcare institutions in Nairobi County, Kenya	Continuous improvement has the highest significant effect on service delivery	Used hospitals with ISO certification consisting of private and public hospitals. Was located in Nairobi City County.	Different target population from Machakos County.
Willis-Gallagher et al., (2022)	The implementation of malnutrition of quality improvement for enhanced nutrition healthcare delivery among hospitalized patients.	Significant number of patients are at high risk of malnutrition.	Failed to highlight the sample size, sampling design and data collection instrument.	Presented the sampling design and data collection instrument.

Rodgers and Antony (2022)	Analysis of continuous improvement culture on Scotland national ambulance service.	There is lack of management support and improvement strategy.	Done in Scotland	Was based in Kenya.
Wolok (2022)	Assessment of service quality on customer satisfaction in Gorontalo Province.	Assurance is one of the most important customer-focused strategy.	Service delivery as the independent variable. No target population and sampling size. Used SWOT analysis.	Service delivery was the dependent variable. Used descriptive analysis.
Jackson (2021)	The involvement of employees in service delivery at the Cape Coast University Hospital	Employees are involved in giving opinions and decision making.	Case study approach. Qualitative method. Small sample	Involved multiple hospitals for generalization in other populations.
Mullea et al., (2021)	Investigation on the laboratory impact on quality management system implementation on service delivery of health care facilities in Oromia, Ethiopia.	No duty roster and job description documentation. 79.8% of laboratories have zero stars (0-105) indicating low service delivery	Involved 21 zones in Oromia. Targeted laboratories.	Targeted hospitals hence broad analysis of service delivery.
Aburayya et al., (2020)	The investigation of total quality management practices and its effect on UAE hospitals service delivery.	Customer focus strategies have positive and significant connection with service delivery.	Recommended future studies in other locations.	Fulfilled the study's recommendation by undertaking study in Kenya.
Motieri (2018)	Employee involvement in service delivery at Nairobi City Water and Sewerage Company.	There is a positive significant effect of employee involvement and service delivery.	Case study design Was done in Nairobi County. Targeted employees of Nairobi City Water and Sewerage	Was done in Machakos, to incorporate different organizations and to work with healthcare employees.

			Company.	
Tanui (2018)	The effect of top management team changes on service delivery at Telkom Kenya	Top management assured routine performance that lowered disruption of services.	Case study research design that limited generalization of the findings.	The current study involved different organizations hence give room for generalizations of the findings into other organizations.
King'oo (2017)	Assessment of top management support and quality service delivery in Nairobi City County Government.	Top management enabled the improvement of work efficiency and reduction in employee complaints.	Different geographical location. Different target population	To target public hospitals in Machakos County.

Source: Research (2023)

2.5 Conceptual Framework

Conceptual framework brings together central ideas, key concepts and summarizes the literature review (Shikalepo, 2020). The study developed a conceptual framework to illustrate the relationship between the variables. For the independent variable, total quality management practice was conceptualized into; continuous improvement, customer focused strategies, top management support and employee involvement. Continuous improved was operationalized through response time, product and service evaluation, professional quality assurance, monitoring and continuous improvement as well as operations and service. Customer focused strategy operation was based on; customer feedback, innovative products and services, customer satisfaction information, fostering trust and assurance and clean and well-prepared beds.

The fourth independent variable was top management support that was operationalized using management commitment, team work, resource allocation, effective communication and coordination of activities. The study also had employee involvement as one of the independent variables where it was operationalized through; information sharing, participation in decision making, employee training, employee suggestion, employee education. The study had dependent variable service delivery that was measured in terms of; competency of medica practitioners, variety of medical services, comprehensiveness of services, quality of consultation and availability of medical equipment. All the independent variables had arrows indicating the direction of relationship as indicated in Figure 2.1.

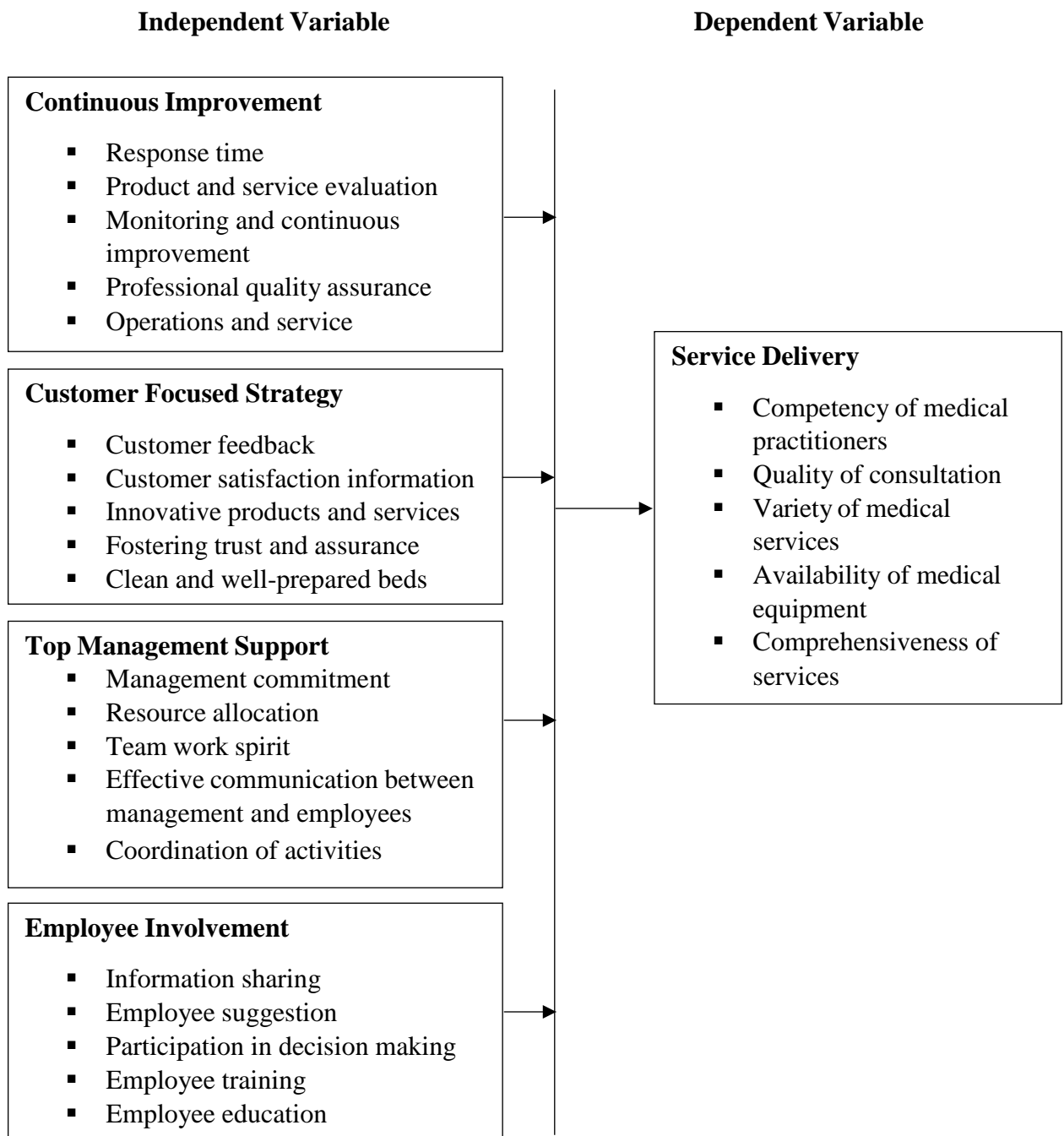


Figure 2.1. Conceptual Framework

Source: Researcher (2024)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

The research methodology used to collect and analyze the data was presented in this chapter. In particular, research design, target population, sampling method and sample size will be highlighted in this chapter. An instrument for the collection of data, an experimental study, validity and reliability, a procedure for collecting data as well as ethical consideration was set out in this chapter.

3.2. Research Design

The study used descriptive research design to describe the phenomenon comprehensively as it is. The design was chosen as it allowed the collection of quantitative data without having influence on the variable as well as enables the incorporation of other research designs. Research design is the process and procedures used by a researcher to provide answers to the research questions, a comprehensive plan that enables the collection of primary data as well as guiding the analysis (Abosedo & Onanuga, 2016). Descriptive research design enabled the researcher to collect primary data to answer the research problem.

Descriptive research design was used in studying respondents' characteristics, measuring trends, conducting comparisons and validating conditions (Manjunatha, 2019) thus its adoption in the current research to study total quality management practices and service delivery in public hospitals of Machakos County, Kenya. The design enabled the description of study variables, making comparisons as well as describing data patterns. Descriptive research design has ~~do~~ been used previously by Gathaku and Gitari (2022) to assess customer integration strategy and service delivery of public hospitals thus its consideration as the best design in the current study based on its previous application.

3.3. Target Population

The target population were all 800 healthcare workers from 35 public hospitals in Machakos Town Sub-County. The population was chosen due to its involvement in the provision of service delivery within the healthcare in Machakos County. The unit of observation comprised of 35 public hospitals indicated in Machakos County Integrated Development Plan (2018-2022) while the unit of analysis was 800 health care officers derived from the 35 public hospitals who were recruited since the inception of devolution government (Machakos County, 2022).

The location of Machakos Town Sub-County was considered one of the most populous coming third after Mavoko and Mwala (Machakos County, 2023). The location was selected based on its high population and high number of public health facilities. The public hospitals are also spread within the locality that is convenient in data collection (Willie, 2022). Table 3.1 presents the target population;

Table 3.1. Target Population

Staff Cadres	Population
Specialists	35
Medical officers	75
Clinical officers	140
Nurses	260
Pharmacists	70
Lab technologists	105
Administrative officers	115
Total	800

Machakos County Integrated Development Plan (2018-2022)

3.4. Sampling Design and Sample Size

The study adopted stratified proportionate random sampling to group respondents according to their similarities. The technique was chosen as it allowed representation of the sample based on its rich diversity. The study used systematic random sampling to identify respondents and thereafter pick every kth respondent consistently till all the desired sample is attained (Sharma, 2017). The study selected an adequate sample that was not too large nor too small (Taherdoost, 2017) where Yamane (1967) sample size was used (Singh & Masuku, 2014); Table 3.2 presents the sample size that was used in the study.

$$n = \frac{N}{1+N(e)^2}$$

Where;

$$n = \text{sample size}$$

$$N = \text{Population,}$$

$$e = \text{Level of precision}$$

$$\text{Employee sample size} = \frac{800}{1+800(0.05)^2} = 267$$

Table 3.2. Study Sample Size

Staff cadres	Population	Sample
Specialists	35	12
Medical officers	75	25
Clinical officers	140	47
Nurses	260	87
Pharmacists	70	23
Lab technologists	105	35
Administrative officers	115	38
Total	800	267

Source: Research (2024)

3.5. Data Collection Instrument

The study used semi-structured questionnaire to collect primary data where close ended allowed the collection of structured data for easy analysis while the open-ended provided opportunity to respondents to give their opinion thus validate closed ended data. The instrument was chosen as it allowed the collection of objective and subjective data and enables mass collection of data within a short time. The instrument was developed using simple and short sentences for easy comprehension of respondents and was made clear to avoid ambiguity (Abawi, 2017).

The study adopted Mutambi (2022) instrument used in determining total quality management and service delivery in Nairobi County. The instrument was amended to suit the current study. The semi-structured questionnaire consisted of three sections; the first section was based on respondent's demographic information such as gender, age, education and experience. Section two included the independent variable such as continuous improvement, customer focused strategy, top management support and employee involvement. The third section included the dependent variable-service delivery.

3.6. Pilot Study

This is a small-scale study conducted prior to the main study where feedback obtained is used in enhancing research instrument. Pilot study gave the researcher advance warning on possible challenges the study may experience therefore was able to make necessary adjustments in cost and recruitment strategies. The pilot study oriented the researcher with the research environment thus prepared adequately for the main study (Ismail et al., 2018). Pilot study was undertaken in Athi River using 10% of the study sample. The participants were randomly identified

from the six public hospitals in Athi River. The location was chosen due to its nearness to Machakos Town Sub-County.

3.7. Validity and Reliability of the Research Instrument

The study used validity to determine the instrument's validity while reliability check was achieved using Cronbach alpha.

3.7.1. Validity of the Research Instrument

Validity is the extent of the instrument in measuring intended purpose (Kubai, 2019). Content validity was used to show how well the questions addressed the behavior of the sample hence represented what the study intended to measure (Rahardja, Aini, Graha, & Lutfiani, 2019). The study undertook literature review that covered all study concepts based on the target population. The study also incorporated expert's opinion to help improve content validity (Taherdoost, 2016). The study used face validity to determine the wordings, removed ambiguity and tailored the instrument in simple format for easy comprehension by respondents (Kubai, 2019).

3.7.2. Reliability of the Research Instrument

Reliability was used to determine the consistency of the study instrument after repeated measurements, having precision and being trustworthy in producing similar measurements. The study used internal consistency to determine reliability where Cronbach alpha coefficient will be used with values ranging between zero and one (0,1). The general rule for reliability will be 0.8 and above. The study increased the number of items per variable being measured to enhance reliability (Haradhan, 2017).

Table 3.3. Reliability of the Instrument

Variable	Alpha Values	No. of Items
Continuous Improvement	0.92	6
Customer Focused Strategy	0.90	6
Top Management Support	0.87	5
Employee Involvement	0.91	6
Service Delivery	0.90	6
Total	0.90	29

Source: Research Data (2024)

From the findings in Table 3.1, continuous improvement had alpha value of 0.92, six items, customer focused strategy recorded 0.90 alpha coefficient with six items, there were five items under the variable top management support with Cronbach alpha value of 0.87, employee involvement had 0.91 alpha value with a total of six items while service delivery recorded 0.90 alpha coefficient value with six items. The aggregate reliability for the instrument was 0.90 with a total of 29 items. Taherdoost (2016) suggest that alpha values that are 0.9 and above may be considered as excellent reliability, values that range from 0.7-0.9 are considered as high, those that are within 0.5-0.7 are moderate while alpha coefficient values that are 0.5 and below may be viewed as low reliability. Heale and Twycross (2015) added that alpha values ranging from 0.7 may be considered acceptable reliability hence suitable for analysis. The findings in Table 3.1 showed that all the variables had acceptable scores while the overall reliability was considered excellent hence used in the analysis.

3.7. Data Collection Procedure

Prior to data collection, the researcher obtained permission from Kenyatta University to collect data. The authorization letter was used to obtain permission to collect public data from National Commission of Science, Technology and Innovation (NACOSTI). The Researcher wrote an introduction letter to

participating institutions where permission will be granted to collect data from the hospitals. All relevant authorities within the health institution were followed. Two Research Assistants were trained to support data collection. The researcher developed a questionnaire tracking book where recording book was kept for questionnaires distributed and returned. A meeting was arranged with all healthcare professionals in the morning to brief the respondents of the intention of the research and to capture high number of participants at once. All the questionnaires were administered face to face to all 35 public hospitals within Machakos Sub-County. The researcher consulted from the administration the possibility of a central place where completed surveys may be dropped to allow respondents drop at any time.

3.8. Data Analysis and Presentation

Primary data was cleaned and coded before data processing. Data entry was made using SPSS version 23. Descriptive statistics enabled the analysis and description of data patterns using frequency distribution tables, maximum, minimum, mean and standard deviation. Data was presented using pie charts and graphs. Inferential statistics allowed the analysis of relationship where Karl Pearson Correlation was used to determine the relationship between total quality management practices and service delivery. Predictive modelling-multiple linear regression was used to explain and predict the outcome of the dependent variable based on the four independent variables (Taherdoost, 2020). The study adopted multiple regression model previously used by Kavutai (2018) to analyze total quality management practices.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where;

Y = Service delivery

e = error term

B₀ = constant

β₁, β₂, β₃, β₄ are regression coefficients

X₁, = Continuous improvement

X₂, = Customer focus strategy

X₃, = Top management

X₄ = Employee involvement

3.9. Diagnostic Tests

Prior to multiple regression analysis, diagnostic tests were done that incorporated normality check, multicollinearity and autocorrelation tests.

3.9.1. Normality Test

Normality test was done to describe normality of data evidenced in data properties with similar mean, median and mode. The study used graphical representation such as histogram to determine if data is normal. It is also recommended that the use of other methods may be considered (Orcan, 2020) for broad and rich analysis. Shapiro Wilk and Kolmogorov test have been previously used in determination of normality where Shapiro-Wilk is widely used based on its popularity and good properties (Gerald & Patson, 2021). The study used Shapiro-Wilk to test normality of data where the null hypothesis indicated normal distribution of data.

3.9.2 Multicollinearity Test

The diagnostic test is used to determine the correlation between the independent variables. This is evidenced when the coefficient of independent variables standard error increase which also raises the variances of the predictor coefficients. The study used variance inflation factor (VIF) to analyze multicollinearity where the rule of thumb is $VIF=1$, indicated no correlation, $1 < VIF \leq 5$ moderate correlation while $VIF > 5$ high correlation. Multicollinearity may present problems in the analysis of relationship between the independent and dependent variable as there is distortion based on strong relationship between independent variables hence leading to wrong interpretations (Daoud, 2017).

3.9.3 Autocorrelation

Test is determined whether there is no independent of the residuals to each other. Durbin-Watson test was used to test the null hypothesis that there is no autocorrelation in the residuals with values between 0-4 with 2 showing no autocorrelation. The rule of thumb is $1.5 < d < 2.5$, indicating no autocorrelation (Schreiber-Gregory & Bader, 2019).

3.10 Ethical Consideration

The study abided by professionalism, standards, honesty, fairness, dissemination, legality and responsibility. The researcher used appropriate research methods and procedures to collect secondary and primary data from topic identification, literature review, research methodology, data analysis to making recommendations. The study recognized materials from other researchers by providing citations and references in the entire work. The study respected all research stakeholders and respondents, follow the legal procedures

in obtaining approvals as well as abiding with data protection laws to collect data from respondents. The study respected respondent's time and their voluntary support where questionnaire will be distributed to only those who willingly volunteer to participate in the study. Respondents who desired to fill the questionnaire in their own convenient time were given opportunity and agreement made on when to collect completed questionnaires. The researcher did not disclose personal details of respondents where the instrument was designed generally without indicating options of providing names and contacts. The researcher shared the findings by publishing, presenting in conferences and workshops to disseminate knowledge (European University Institute, 2019).

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1. Introduction

This chapter provided an analysis of primary data that was collected according to the study variables. The chapter is divided into; objective section, demographic, descriptive and regression section. Specifically, the study sought to investigate the effect of total quality management practices on service delivery of public hospitals in Machakos County, Kenya.

4.2. Response Rate

The study distributed questionnaires to a total of 267 healthcare professionals where 228 were dully filled and returned while 39 questionnaires were not received. This resulted to 85% response rate as indicated in Table 4.1.

Table 4.1. Response Rate.

Category	Questionnaires Distributed	Questionnaires Returned	Questionnaire Return Rate
Specialists	12	10	83
Medical Officers	25	21	84
Clinical Officers	47	40	85
Nurses	87	77	89
Pharmacists	23	18	78
Lab technologists	35	29	83
Administrative Officers	38	33	87
Total	267	228	85

Source: Research Data (2024)

From Table 4.1, all the different cadres of the target population sampled showed response rate above 75% with overall response rate of the study being 85%. Mugenda and Mugenda (2004) noted that response rate of 50% is good in analysis. Babbie (2004) added that response rate of 60% is considered good while 70% is seen as very good for analysis. The study’s response rate of 85% was therefore very good in supporting the analysis (Patrick *et al.*, 2022). An observation by Archer (2019) indicates the significance of response rate in generating the findings. Response rate was therefore important in determining the findings of the study.

4.3. Demographic Characteristics of Respondents

The study analyzed demographic variables considering; gender, age, highest level of education and experience in the health sector.

4.3.1. Gender of Respondents

Gender is the difference existing between men and women (Kaur & Arora, 2020). The study analyzed gender of respondents to establish existing patterns contributing to service delivery. The results were presented in Table 4.2.

Table 4.2. Gender of Respondents.

Gender	Frequency	Percent
Male	87	38
Female	141	62
Total	228	100

Source: Research Data (2024)

From Table 4.2, it was revealed that male consisted of 38% while the female gender was 62%. From the findings, the female gender was more than the male. However, the presence of the male gender enabled the balancing of responses that enriched the findings. Salis (2019) notes how gender diversity is critical as it brings more value to

organizations. Dwivedi (2017) adds that gender diversity is not only good for economy but is essential for meeting social and moral obligations which is significant in economic development. Additionally, gender brings more holistic thinking and creativity in decision making (Madsen & Tanja, 2016). The findings demonstrated that public hospitals in Machakos County have incorporated diverse gender that helps in creativity development necessary in enhancing service delivery. The combination of the gender enabled holistic approach in thinking on the improvement of quality management for enhancement of service delivery. Additionally, the contribution of both genders was essential in providing valuable and different holistic views in the survey thereby enriching the findings.

4.3.2. Age of Respondents

The study analyzed respondent's age with an aim of generating insight on how different age dynamics contributed to service delivery with findings provided in Table 4.3.

Table 4.3. Age of respondents

Age	Frequency	Percent
Below 25 Years	81	36
26-30 Years	59	26
31-35 Years	53	23
36-40 Years	19	8
41 and Above Years	16	7
Total	228	100

Source: Research Data (2024)

From Table 4.3, respondents below 25 years of age were 36%, respondents aged 26-30 years were 26%, there were 23% of respondents who were in the age category of 31-35 years, and there were 8% of respondents aged between 36-40 years while 7% consisted of respondents who were 41 years and above. Shrestha and Parajuli (2021) note that a heterogenous group brings in innovation at the work place while the older workers are more experienced. From the results, the diverse age group shows how public hospitals in Machakos have opportunity to innovate incorporating different views that come with diversity in age sets. The hospitals may also take advantage of the experienced professionals to develop strategies of total quality management needed in improving service delivery. The findings demonstrated that differences in age group among respondents brought in experience that was needed in providing diverse responses for broad answers that added value in the findings.

4.3.3. Highest Level of Education

The study analyzed the highest education of respondents to establish the critical role education plays in the improvement of service delivery as revealed in Table 4.4.

Table 4.4. Education of Respondents

Highest Education	Frequency	Percent
Certificate	13	6
Diploma	110	48
Bachelor	77	34
Masters	28	12
Total	228	100

Source: Research Data (2024)

The results in Table 4.4, showed that respondents with highest education in the certificate category were 6%, respondents with diploma level were 48%, there were 34% of respondents who had attained bachelor level of education and there were 12% of respondents who had achieved master’s level of education. This showed that all the respondents had high skills that was needed to comprehend the questionnaire as well as good understanding of the research variables hence enabled the collection of accurate data.

Sohail et al. (2019) observed how education demonstrates an individual’s cognitive ability which is reflected in their performance. Education indicates one’s skills, knowledge and effectiveness and efficiency at work. From the revelation of the study in Table 4.4, all the respondents had cognitive strengths that was needed in providing responses. It also showed that Machakos County public hospitals have the opportunity to utilize the skills, knowledge and intellectual strength exhibited by its workforce to reinforce quality management needed in fostering service delivery in the public hospitals.

4.3.4. Work Experience of Respondents

The study analyzed experience of respondents to determine its contribution in the enhancement of service delivery as indicated in Table 4.5.

Table 4.5. Experience of Respondents

Experience	Frequency	Percent
Below 5 Years	120	53
6-10 Years	84	37
11-15 Years	18	8
Over 15 Years	6	3
Total	228	100

Source: Research Data (2024)

From the results displayed in Table 4.5, the study established that a total of 53% of respondents had experience below 5 years, there were 37% of respondents who had worked in public hospitals for 6-10 years, 8% had been working for 11-15 years while 3% had worked in their hospitals for more than 15 years. From the analysis, the study worked with experienced respondents who demonstrated knowledge in healthcare hence reliably provided responses that validated the findings.

Kowo et al. (2020) noted how experienced professionals are more dedicated to their work, exhibit loyalty and dependability and demonstrate strong work ethics. Experienced workers are capable in making decision faster and have high problem-solving skills, have attained emotional intelligence and demonstrated high performance. The findings shown in Table 4.5, indicated that health care workers in Machakos County public hospitals were dependable in the provision of quality services. The findings also showed that healthcare workers have experience needed in gaining emotional intelligence to support their work as well as capable in making decisions related with quality management for more service delivery in public hospitals of Machakos County.

4.4. Descriptive Statistics

The study analyzed descriptive statistics to determine data pattern existing between total quality management and service delivery. Four independent variables were analyzed; continuous improvement, customer focused strategy, top management support and employee involvement.

4.4.1 Continuous Improvement

The researcher provided a Likert scale questionnaire to respondents where a rating scale was used to establish respondent's opinion; 1= strongly disagree, 2= agree, 3= neutral, 4= agree, 5= strongly agree. The findings were presented in Table 4.6.

Table 4.6. Continuous Improvement

Statements on Continuous improvement	Mean	S. D
Due to improvements made in my hospital, there is speed in response time to patient issues.	3.69	1.03
My hospital regularly undertakes products and service evaluation.	3.91	0.96
There is continuous monitoring and improvement of products, services and processes.	3.84	1.01
The hospital has high professional quality assurance based on employee expertise.	3.96	1.05
All the hospital's operations and services have been improved.	3.61	1.15
there is consistency in feedback to employees for improvement purposes.	3.61	1.15
Aggregate Scores	3.77	1.06

Source: Research Data (2024)

The results in Table 4.6, showed that respondents rated the statement “as a result to improvements made in the hospital, there is speed in response time to patient's issues with a mean score of 3.69, standard deviation of 1.03. There was agreement among respondents that the hospital was regularly undertaking products and service evaluation (mean score= 3.91, standard deviation = 0.96). It was revealed that there was continuous monitoring and improvement of products, services and processes in public hospitals with a mean score to the statement being 3.84, standard deviation of 1.01. The findings indicated that the hospital had high professional quality assurance based on employee expertise evidenced in the high means score of 3.96, standard deviation of 1.04. It was found that all the hospitals' operations and services had been

improved with a mean score of 3.61, standard deviation of 1.14. The study found that there is consistency in feedback to employees for improvement purposes where the mean score was 3.61, standard deviation of 1.15. The aggregate mean score for continuous improvement was 3.77, standard deviation of 1.06 which showed that respondents agreed that continuous improvement influenced service delivery in public hospitals of Machakos County, Kenya.

Agency for Health Research & Quality (2019) revealed how the high number of patients in public health institutions experienced long waiting time resulting to delays in provision of services. The current findings demonstrate that when public hospitals adopt continuous improvement, there is the possibility of managing high number of patients by reducing waiting time thereby meeting customer satisfaction. The findings disagree with Hussain et al (2019) study who found that there was delayed service in Pakistani public hospitals which also had uncomfortable waiting environment.

The findings agree with the study by Shittu (2020) who advised the adoption of strategies such as monitoring and evaluation to improve quality in service delivery as the results showed that hospitals regularly undertake evaluation of products and services with continuous monitoring that was improving service delivery. Mutambi (2022) also reported that ISO certified hospitals in Nairobi City County were engaged in monitoring and product evaluation that helped in reducing defects hence enhanced service delivery. The findings in the study demonstrates that public hospitals undertake consistent product evaluation that helps in the identification of gaps and defects thereby making adjustments for purposes of enhancing service delivery hence agreeing with Mutambi (2022).

The findings showed that continuous improvement was done in public hospitals through replacement of equipment that were outdated, incorporating checklists and safety devices and using methods that were reducing time taken to serve patients. Mulleta et al (2021) indicated that hospital facilities had attained 60% turnaround time where they updated their quality manual, systems and laboratories to enhance service delivery in Ethiopian laboratories. The current findings demonstrate improvement in total quality management through continuous improvement through the application of different techniques and employee expertise to enhance service delivery.

The results showed how communication between employees and patient was important in supporting feedback collection that was essential in the improvement of quality. The findings also show that public hospitals are focused in implementation continuous improvement techniques to enhance service delivery. Deming (1982) theory encouraged the management to put in place systems that are aimed at moving the organization towards a common objective. The current findings demonstrate how public hospitals have put measures, updating systems with modern technologies, incorporating professional expertise, adopting checklists to reduce waiting, collect feedback and monitor and evaluate products and service for purposes of enhancing service delivery in public hospitals of Machakos County, Kenya.

4.4.2. Customer Focused Strategy

The study analyzed respondents' opinion using a Likert scale questionnaire that was rated; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree. The findings were indicated in Table 4.7.

Table 4.7. Customer Focused Strategy

Statements on Customer focused-strategy	Mean	S. D
My hospital values customer feedback	3.83	0.95
My hospital uses customer satisfaction information to improve quality	3.71	0.98
There is innovative products and services that meet patient needs.	3.74	0.88
My organization is fostering trust and assurance in providing patient needs	3.83	0.81
The hospital has clean and well-prepared furniture.	3.73	0.97
My organization has different customer support tools	3.66	0.96
Aggregate Scores	3.75	0.93

Source: Research Data (2024)

From Table 4.7, there was agreement among respondents that public hospitals value customer feedback with a mean score rating of 3.83, standard deviation of 0.95. The findings showed that public hospitals use customer satisfaction information to improve quality with a mean score of 3.71, standard deviation of 0.97, which demonstrated the level of agreement by respondents. On the statement of public hospitals innovative products and services, respondents agreed that these products and services were meeting patient needs with a mean score of 3.74, standard deviation of 0.87. In regards to public hospitals fostering of trust and assurance in provision of patient needs, there was agreement among respondents evidenced in the mean score of 3.83, standard deviation of 0.81.

The study revealed that public hospitals have clean and well-prepared furniture where the mean score rating was 3.73, standard deviation of 0.97, signifying respondents' agreement. It was found that public hospitals have different customer support tools

with a mean score of 3.66, standard deviation of 0.96. The aggregate mean score for customer focused strategy was 3.75, standard deviation of 0.93 which demonstrated that public hospitals consider customer feedback as a strategy in the improvement of quality for enhanced service delivery where patients are given opportunity to make suggestions, register their complaints and compliments.

Gathaku and Gitaru (2022) indicated how public hospitals have put in place systems that allow the collection of patient feedback hence acquisition of high knowledge in patient needs. The findings of the current study show how public hospitals in Machakos County have gained knowledge from patient feedback received that has resulted to improvement in quality management for better service delivery. The authors also noted that through diagnosis of customer expectations, management may improve quality services, innovate new products and service design for customer satisfaction. The authors also advised hospitals to view patients as customers and co-producers as well as adopt innovative technologies that transfers part of the operations to customer to enhance service delivery. The current results indicated how public hospitals are incorporating customer satisfaction where they are also allowing patients to get involved on matters that affect their health which results to more understanding and insight of customer expectations. This leads to the development of innovative products and new service design thereby improve service delivery in public hospitals in Machakos County.

An investigation by Wolok (2022) reported how establishment of assurance was one of the effective strategies that hospitals adopted to build trust and guarantee effective service delivery. The study findings indicate that public hospitals are meeting patient needs by building assurance in their quality management. However, a significant number of respondents chose to remain neutral which shows that despite the effort the

public hospitals have put in place to foster assurance and trust, more needs to be done to enable the improvement in service delivery.

Alshurideh (2022) observed how hospitals are adopting customer relationship management tools to support identification of customer needs, build strong relationship with customers, manage the flow of information, improvement of service quality and provision of more value to the customers. The findings in the current study show that equipment and tools adopted in quality management in public hospitals have enhanced service quality thereby providing value to patients hence confirming previous study findings.

Zeithaml et al (1985) proposed SERVQUAL model to be used by hospital management in the identification of service quality gaps existing in customer expectation and actual delivery of services. The model shows that public hospitals have adopted the tangibility aspect of the model where the focus has been seen in clean furniture and health technologies hospitals are using to enhance service delivery. The theory application has also been evidenced in the use of assurance and the building of trust in service encounter as well as being responsive to patient needs evidenced in the development of innovative products and services.

4.4.3. Top Management Support

The study analyzed opinion of respondents where a Likert scale questionnaire was distributed to respondents to choose their preferred answer from the options; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree. The findings were presented in Table 4.8.

Table 4.8. Top Management Support

Statements on Top Management Support	Mean	S.D.
The hospital's top management supports quality management adoption	3.74	0.80
There is full management commitment in my hospital	3.79	0.96
The management allocates resources to the hospital to support quality management.	3.75	0.90
The management values and encourages team work.	4.04	0.83
There is effective communication between management and staff.	3.83	0.94
Aggregate Scores	3.83	0.89

Source: Research Data (2024)

From the results indicated in Table 4.8, respondents registered their agreement that public hospital's top management supported quality management adoption with a mean score of 3.74, standard deviation of 0.79. Additionally, respondents agreed that there was full management commitment in the hospital with a mean score of 3.79% and standard deviation of 0.92. The study established that there was agreement among respondents that management allocated resources to the hospital to support quality management with a mean score of 3.75 and 0.90 standard deviation. The findings demonstrated that management values and encourages team work with a mean score of 4.04, standard deviation of 0.83, an indication that most of the respondents agreed to the statement. It was established that there was effective communication between management and the staff with a mean score rating of 3.83, standard deviation of 0.94. The aggregate mean score for top management support was 3.83 with a standard deviation of 0.89 indicating that respondents agreed that top management support enhances service delivery in public hospitals in Machakos County, Kenya.

The results agree with the findings by Govender et al (2023) who noted how top management were in support of total quality management evidenced in their commitment, creation of environment that enhanced positive and effective

communication among team members, provided encouragement to the staff and made allocation to resources that were needed to support service delivery initiatives. Rodgers and Antony (2022) reported how top management lacked positive behaviour and strategies that was needed to support the improvement of quality in public hospitals which the current study has disconfirmed that Machakos County public hospitals demonstrate commitment to service delivery.

Chepkonga and Nyaga (2019) added that top management had high commitment in organizational values as well as demonstrated high values that provided encouragement to the staff to support the vision of realizing service delivery. Full commitment by the management in public hospitals in Machakos County indicate their intention to support the vision and promote good values that inspires employees to achieve their best thereby support quality management and service delivery.

Having a meeting with staff to get their views and give feedback is important in quality improvement and hence service delivery. Muli (2021) study on quality improvement at Kenyatta National Hospital established that top management provided encouragement to employees that resulted to motivation towards quality management. The current findings indicate management meetings with staff, team encouragement and discussion of emerging trends in the delivery of service. This creates an environment and a positive culture that encourages the staff to put more effort in the implementation of quality management practices for the enhancement of service delivery in public hospitals. Omore (2022) reported that top management developed effective communication institutions in Nairobi City County. The current study findings showed that management engaged in resource mobilization, team work encouragement and employee recognition that enhanced quality management thereby improved service delivery.

According to Deming (1982), management should focus on working with teams to improve the systems, identify gaps and enhance quality. The findings showed how leadership at the public hospitals in Machakos county have embraced team work where there is open forum that allows employees to discuss their opinion, learn and make contribution for quality improvement. The findings have also demonstrated that top management values effective communication that enhances smooth flow of information and hence fulfilling service delivery objective.

4.4.4. Employee Involvement

The study analyzed how employees were involved in service delivery in public hospitals of Machakos County, Kenya where a rating scale from 1 to 5 was provided; 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree. The results were shown in Table 4.9.

Table 4.9. Employee Involvement and Service Delivery

Statements on Employee Involvement	Mean	S. D
The hospital shares with employee's information related with quality improvement.	3.71	1.04
Employee suggestion is valued for improvement purposes.	3.65	0.92
Employees are given opportunity to participate in decision making regarding hospital quality management.	3.65	1.01
There is allocation of resources for employee education in the hospital.	3.72	1.00
There are training programs in the hospital aimed to improve employee skills.	3.96	0.85
The management highly involves all employees.	3.54	1.17
Aggregate Scores	3.71	1.00

Source: Research Data (2024)

From the results in Table 4.9, respondents agreed that public hospitals shared with employee's information related to quality improvement evidenced in a mean score rating of 3.71, standard deviation of 1.04.

Respondents agreed that the hospital valued employee's suggestion for improvement purposes as was demonstrated in the mean score of 3.65, standard deviation of 0.92. on the statement of employees opportunity to participate in decision making for total quality management, respondents agreed with a mean score of 3.65, standard deviation of 1.01. It was established that there is allocation of resources for employee education in the hospital with mean score rating of 3.72, standard deviation of 1.00. The findings indicated that there were training programs aimed at improving employee skills in public hospitals, mean score of 3.96, standard deviation of 0.852. The findings indicated that the management involved all employees, with a mean score of 3.54, standard deviation of 1.17. The aggregate mean score for employee involvement was 3.71, standard deviation of 1.00 which indicated that respondents agreed that employee involvement influenced service delivery in public hospitals of Machakos County, Kenya.

Akom (2021) reported that employee education was essential in the enhancement of productivity, efficiency and effectiveness in service delivery. The current study has found that public hospitals allocate resources to support employee training which equips them with skills and expertise needed to enhance their productivity and efficiency thus more service delivery. An observation by Akram and Siraj (2021) noted that hospitals that focus on employee training promote positive culture and team work needed in enhancing customer satisfaction. The results in the current study show that employees are involved in training on quality management issues that has potential on building a positive culture thereby enhancing customer satisfaction. The

findings confirmed that public hospitals include employees in seminars to promote fair representation. Jackson (2021) indicated how employees in the University of Cape Town hospital were being involved in decision making. The current study confirms that public hospitals in Machakos County incorporate employees in matters related with total quality management that has enhanced delivery of services in the county.

4.4.5 Service Delivery in Public Hospitals of Machakos County

The study analyzed the service delivery in public hospitals with ratings sales ranging from 1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree. The findings were as indicated in Table 4.10.

Table 4.10. Service Delivery

Statements on Service Delivery	Mean	SD
The hospital has competent workers that enhances assurance in service delivery	4.01	0.91
The quality of consultation provided in my hospital is excellent	3.95	0.91
My hospital has variety of medical services	4.08	0.83
There is medical equipment that allows for more services to patients.	3.77	0.95
The waiting time by patients to be serviced is as per the standard.	3.63	1.11
There is person-centred service to patients	3.80	1.02
Aggregate Scores	3.87	0.96

Source: Research Data (2024)

From the results indicated in Table 4.10, it was established that public hospitals have competent workers that has enhanced assurance in service delivery, with a mean score of 4.01, standard deviation of 0.91. The study findings demonstrated that the quality of consultation provided in the hospital was excellent evidenced in their agreement through mean score of 3.95, standard deviation of 0.91. The revelation from the study findings showed that public hospitals have variety of medical services with a mean score rating of 4.08, standard deviation of 0.83 which demonstrated that respondents

agreed to the statement. It was found that public hospitals had medical equipment that allowed for more services to patients where the mean score was 3.77, standard deviation of 0.94. The findings indicated that patients were able to wait according to the recommended service standard with a mean score of 3.63, standard deviation of 1.11. It was found that there was person-centered service to patients with a mean score of 3.80, standard deviation of 1.02. The aggregate mean score for service delivery was 3.87, standard deviation of 0.96.

Teshome et al (2020) noted how service delivery in public organizations was rated high by employees. However, customers noted a moderate perception of service delivery as well as indicating that empathy was important in delivery of services in public institutions with identified challenges in skilled personnel and inappropriate referral system. The current study established that employees agreed that there is high quality consultation with variety of medical services where the facilities were providing person-centred services thereby confirming the findings by Teshome et al (2020). On the challenge indicated in the previous finding of skilled manpower, the current findings showed that public hospitals have competent workers that has resulted to high service delivery hence did not agree with the previous study challenge.

Juma and Kihara (2023) study on public hospitals in Makueni found that the facilities had commitment in meeting customer needs hence increased patient satisfaction. The findings also showed that procedures and policies were implemented to enhance quality management. However, respondents rated low on customer feedback, staff motivation and inadequate infrastructure leading to delay in service delivery. This study found that public hospitals have medical equipment that has enhanced service

delivery in Machakos County hence failed to agree with Juma and Kihara study in Makueni County.

SERVQUAL model (Zeithaml et al., 1985) helps in analysis of customer expectation and service delivered by public hospitals in Machakos County. The findings showed that the assurance aspect of the model was demonstrated in the competency of the workers who provided quality consultation. The hospitals are also reliable due to different variety of medical services and equipment availability. The tangibility aspect of the SERVQUAL model was demonstrated in presentation of the workers, the medical products and services and equipment while empathy was evidenced in the person-centred approach in the provision of services to the patients. Teshombe et al study noted that patients were more concerned with empathy in the determination of service as compared to reliability. The current study established that public hospitals are utilizing empathy by customizing services according to patient needs as well as making considerations to waiting time which is within acceptable standards.

4.5. Qualitative Analysis

The study provided semi-structured questionnaire where respondents were asked to provide their opinion according to the guided questions in line with the study objectives.

4.5.1. Continuous Improvement and Service Delivery

The study inquired from respondents to give their opinion on how continuous improvement was contributing to service delivery in their public hospitals. The findings were as indicated in the quotation from Respondent 1:

“It creates clarity in patient protocols and timely response to patient needs... helping patients to get better care and increase patient satisfaction, providing flexibility and proper organization for patient’s management as well as safe

and comfortable working environment to take good care of clients /patients....” (**Respondent 1, Nurse**).

The findings showed that continuous improvement provided clarity in work procedures that enabled better understanding for employees. This helped enhance the speed of responding to patient needs and hence improved service delivery in public hospitals in Machakos County, Kenya. The findings was also confirmed by Respondent 5;

“Changes are done to problems identified. Continuous improvement enhances checking of services and improving patient’s outcome... Replacing outdated equipment and mentality with modern tools and technique to support frontline workers.... Has enabled utilization of tools like checklists, standardized protocols and safety huddles which minimizes risk and ensure consistent quality care... It has led to implementation of methods and techniques that reduce unnecessary steps which shorten wait times, improve appointment scheduling and overall patient flow” (**Respondent 5, Clinical Officer**).

From the findings, it is clear that continuous improvement lead to improvement in protocols, standardization of work and application of modern technology that helped in minimizing wastes and allocating more time to serve the patients hence improving outcome in patient care. Continuous improvement was also found to enhance communication between staff as indicated by Respondent 30;

“It has encouraged open communication between staff and patients and actively gathered patient feedback for better understanding of needs and concerns...the hospital is ranked third best in service provision in the country”. (**Respondent 30, Pharmacist**)

The findings showed that through continuous improvement, communication channel is enhanced and there is more feedback gathered from patients that improves understanding of their needs and hence customization of services for more satisfaction. Kusumayati (2023) study on continuous improvement in outpatient unit of Indonesian hospitals revealed that there were more non-value activities as compared to value activities. The study also found that there were bottlenecks in work requests that

caused interruption and service delivery delay. The current study showed that public hospitals have updated equipment with modern technology, there are standardized protocols and clear communication of work processes and procedures hence minimized unnecessary steps and reduced waiting time thereby disconfirming Kusumayati (2023) study.

4.5.2. Customer Focus Strategies and Service Delivery

The study sought for respondents' opinion on how customer focus strategy enabled the public hospitals to enhance service delivery. The findings from qualitative data were as indicated by Respondent 90;

“Use of suggestion box in specific areas in the facility for everyone to lay their complains...It provides customers with the general hospital phone number which clients can drop their commands, complains, suggestions and gratitude, by allowing client to raise concerns about services provided by health workers and the gaps in the service provided. **(Respondent 90, Administrative Officer)**

The findings showed that public hospitals were concerned in collecting customer feedback for improvement purposes where they were using suggestion boxes, providing hospital contact for easy reach by customers as well as giving the patients opportunity to raise any complain or compliment they had concerning public hospitals. This helped hospital management to identify customer needs as well as existing gaps in quality management thereby recommend improvements to enhance service delivery. One of the respondents noted how patients were given opportunity to participate on issues that were related with their health as indicated by Respondent 201;

“There is active patient participation in matters affecting their health...It has created awareness of the services provided in the hospital and also enhances good personal relations of the hospital...” **(Respondent 201, Nurse)**

This demonstrated that public hospitals involve patients on matters touching on their health as well as create awareness on services delivered in the public hospitals.

Al-Shameri (2023) study on Yemeni public hospitals total quality management found that public hospitals cared about customer feedback, there was clear and adequate information on client needs. It was found that public hospitals cared about patient concerns and issues as well as cleanliness was meeting customer expectations. The current study indicated how public hospitals are involving patients on matters affecting their health and there was consideration for customer feedback hence agreeing with Al-Shameri (2023) study.

4.5.3. Top Management Support and Service Delivery

The researcher inquired from respondents on how top management support enhanced service delivery in public hospitals with findings indicated in the comments from Respondent 68:

“The management ensures equipment required are available for proper service delivery.... availing resources on time” **(Respondent No. 68, Specialist).**

From the findings, public hospitals’ management ensures that all equipment needed to support quality management are in place through allocation of resources. This enhanced service delivery to patients. Team work focus by the management was also reported by Respondent No. 45:

“Having regular meetings with health workers to discuss the latest trends in service delivery...engaging with medical staff on matters relating to improved service delivery” **(Respondent No. 45, Nurse).**

The findings showed that top management was having regular meetings with medical staff to provide update on current trends. This helped in identifying areas for quality

improvement thereby enhance service delivery. This was also confirmed by Respondent 220 who indicated;

“The top management have an effective communication with the staff, encourages good teamwork among the employees... They also ensure secure working environment for the stuffs” (**Respondent 220, Medical Officer**).

This demonstrated that the input by the management in creating a culture that supports effective communication. However, not all the respondents agreed as evidenced in the comments made by Respondent 17;

“Relatively there is no support in service delivery unless urgent issue subjects” (**Respondent 17, Lab Technologists**).

This showed that not all public hospitals top management are giving adequate support needed for quality management hence reducing service delivery. Anampiu and Kinyamu (2020) investigation of top management practices in Meru County reported that top management offered various rewards to staff, there was adequate supervision of staff on issues related with quality management and there was sound relationship between top management and the staff. However, there was inadequate provision of resources and there was limited adherence to staff motivation. The current study has demonstrated improved communication between top management and staff that enhances relationship building and good team work. The current findings also showed that management are providing resources on time hence agreeing with Anampiu and Kinyamu (2020) study. However, the current study showed that management does not offer adequate support unless there are urgent issues which also agreed with the previous study where management was found to show inadequate support in employee motivation and adequate budget.

4.5.4. Employee Involvement and Service Delivery

The fourth objective was based on respondents' opinion on how employees were getting involved in public hospitals to increase service delivery. The findings from Respondent 66 as follows;

“Through continuous consultations with employees...the hospital has clear communication channels... having employee barazas to obtain feedback on change” (**Respondent 66, Nurse**).

The findings indicated that public hospitals had provided avenues where that allowed the involvement of employees on quality management where they gave their feedback during meetings and other communication channels put in place by public hospitals. Qualitative results also showed that public hospitals were engaged in employee training as indicated by Respondent No. 57;

By providing training programs and suggestions option... putting up learning aids to help the workers in their daily service delivery providing them with education programs which equips them with skills that they use in providing healthcare services. ensuring employees work in areas where they have competent skills in best performing employees are given trips and vacations over their leave season /periods... ...offering exchange programs where employees get to work with health care workers from other facilities for the purpose of comparison and service improvement” (**Respondent No. 57, Administration Officer**).

This indicated that employees got training opportunities that helped in equipping them with new skills that was needed in the improvement of quality hence providing better health care services. The findings also showed that top performing employees were rewarded with vacation trips and there were exchange programs to enable benchmarking and learning that helped in the enhancement of quality thereby improvement in service delivery. Further feedback from Respondent 39 indicated;

“The hospital involves employees in service delivery programs by allowing the employees to go for seminars, participate in CMES, providing suggestion boxes and even allowing employees to via for different hospital political sits

that enables the employees to be represented fairly by rewarding good job performance by employees”. **(Respondent No. 39, Clinical Officer)**.

The findings indicated that hospitals had different strategies that were used in employee training; learning aids, providing work according to employee competency, trips and exchange programs that enhanced learning and skills development needed in quality management. However, some respondents indicated that top management were not involving all employees as reported by Respondent No. 9

“Some of top management employees are only considered and no allocation for employee education allocated”. **(Respondent No. 9, Pharmacist)**

This showed inadequacy in employee training which could have negative effect on quality management hence affect service delivery in public hospitals of Machakos County, Kenya.

Sendawula and Kimuli (2019) found that employees were not involved with inadequacy in training that lead to poor service delivery. The current study revealed that there is inadequacy in allocation of resources in employee education as not all employees get opportunity to be involved in decision making and training.

4.5.6. Service Delivery

The study inquired from respondents on how total quality management has enhanced service delivery in public hospitals of Machakos County. Qualitative findings from Respondent 211 showed;

“It has helped the patient to receive different services in the hospital...Improvement in the general service delivery and active participation of all medical staff and patients in health care...Patient health has been improved, mobility and mortality rates has decreased There is enough medical equipment, the waiting time is limited and the quality of consultation has improved...more focus on quality patient/clients care management. reduced cost and hospitalization time for patients”. **(Respondent 211, Medical Officer)**.

The findings showed that public hospitals in Machakos County have made improvements in their service delivery evidenced in variety of services, decreased mortality and mobility, adequate medical supplies and reduced waiting time as well as provision of quality care. Asamrew et al. (2020) study on public hospitals in Ethiopia reported that there was enhanced satisfaction of services where waiting time was reduced, there was faster admission processes and communication was made on official visiting hours as well as signboards within the hospitals. The findings also showed that respondents were happy with physician's service delivery. However, there was high dissatisfaction with toilet cleanliness. The current study showed that public hospitals in Machakos County have made improvements in general service delivery, less waiting time to receive service, enhanced quality care to the patients with more focus on client care management hence agreeing with Asamrew et al., (2020).

4.6. Diagnostic Tests

Prior to regression analysis, the study performed diagnostic tests particular to establish the normality of data, determine multicollinearity and autocorrelation.

4.6.1. Normality Test

The study used Shapiro-Wilk test to determine normality of data. A pre-determined level of significance was obtained that helped in making conclusions. Shapiro Wilk test was chosen as it is one of the best in analyzing normality of data (Hernandez, 2021). The findings were presented in Table 4.11.

Table 4.11. Normality Test

Variable	Shapiro-Wilk		
	Statistic	df	Sig.
Continuous Improvement	0.941	228	0.000
Customer focused strategy	0.960	228	0.000
Top management support	0.962	228	0.000
Employee involvement	0.956	228	0.000
Service delivery	0.950	228	0.000

a. Lilliefors Significance Correction

Source: Research Data (2024)

From the results displayed in Table 4.11, Continuous improvement variable had statistics of 0.941, p value<0.05, customer focused strategy was 0.960, p value<0.00, top management support recorded 0.962, p value<0.05, employee involvement achieved 0.956, p value<0.05 while service delivery recorded Shapiro Wilk statistics of 0.950, p value <0.05. Shapiro & Wilk (1965) test has been used with sample size of 50. However, Royston (1982) modified the sample to a maximum of 2000. The study's sample size was 267 hence was within the required sample size needed when using the technique to test for normality. Shapiro Wilk values lie between 0-1 where low values of W are rejected while high values indicate normality of data (Razali & Wah, 2011). From the results, all the variables had high values of W which indicated normality of data hence was used in regression analysis.

4.6.2. Multicollinearity Test

The study analysed the independent variable to determine if there is any perfect relationship between the predictor variables using variance inflation factors and tolerance. The results were indicated in Table 4.12.

Table 4.12. Multicollinearity Test

Variable	Collinearity Statistics	
	Tolerance	VIF
Continuous Improvement	0.254	3.934
Customer Focused Strategy	0.275	3.642
Top Management Support	0.325	3.081
Employee Involvement	0.338	2.960

Source: Research Data (2024)

The findings demonstrated in Table 4.12 showed that customer improvement variance inflation factor was 3.934, customer focused strategy had VIF of 3.642, top management support recorded 3.081 while employee involvement VIF was 2.960. Senaviratha and Cooray (2019) noted that VIF with more than 10 values show presence of multi-collinearity while Jamal (2017) added that tests that have variance inflation factor exceeding 5 or 10 are associated with multicollinearity. From the findings all the variables had VIF of below 5 hence indicated absence of multicollinearity.

Harshada (2012) pointed that where there is strong relationship between the predictor variables, there is difficulty in coming up with reliable estimation as the coefficients are incorrect leading to wrong conclusions on the dependent variable. Oke et al (2019) also advised on the need to determine multicollinearity prior to testing for regression as its presence may cause serious problems in the beta values, interpretation and poor estimation. The findings indicated that the data had no multicollinearity which made it possible for application in regression analysis. Additionally, the results provided reliable coefficient values that was essential in making conclusions on the outcome variable.

4.6.3. Autocorrelation Test

The study used Durbin Watson test to determine if residual values had autocorrelation with results presented in Table 4.13.

Table 4.13. Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.825 ^a	0.680	0.674	0.44897	1.873

Source: Research Data (2024)

From the displayed findings in Table 4.13, Durbin Watson was 1.873. Wirant and Lubi (2020) observed that Durbin Watson values lie between 0-4 where values that are closer to 2 indicate signals of no autocorrelation while values that lean towards zero are indications of autocorrelation and those that are closer to four are considered as negative autocorrelation. The null hypothesis usually made is that there is zero autocorrelation while the alternate hypothesis is that there is positive autocorrelation with a level of significance of 0.05. From the findings Durbin Watson value was 1.873 which was closer to 2 hence accepting the null hypothesis that there is zero autocorrelation. Ashoor et al (2021) indicated that autocorrelation is usually done to find out if there is any error. From the results, it was found that the data had no error hence was used in further analysis.

4.7. Correlation Analysis

The study analyzed the relationship between total quality management and service delivery where Karl Pearson correlation was used as indicated in Table 4.14.

Table 4.14 Relationship between Total Quality Management and Service Delivery

		Continuous Improvement	Customer Focused Strategy	Top Management Support	Employee Involvement	Service Delivery
Continuous Improvement	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	228				
Customer Focused strategy	Pearson Correlation	.820**	1			
	Sig. (2-tailed)	0.000				
	N	228	228			
Top Management Support	Pearson Correlation	.776**	.735**	1		
	Sig. (2-tailed)	0.000	0.000			
	N	228	228	228		
Employee Involvement	Pearson Correlation	.744**	.755**	.749**	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
	N	228	228	228	228	
Service Ddelivery	Pearson Correlation	.777**	.759**	.691**	.740**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	228	228	228	228	228

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

Source: Research Data (2024)

From the results in Table 4.14, it was found that continuous improvement had positive and significant relationship with service delivery where correlation value was 0.777, p value 0.000. A study on total quality management influence on the performance of organization established that there was a positive relationship between total quality management and organizational performance (Pambreni et al., 2019). The study established that customer focused strategy had positive and significant relationship with service delivery where $r=0.759$, p value of 0.000. Aburayya et al (2020) study targeting hospitals in UAE reported high relationship between customer focused strategy and service delivery.

The findings showed that top management support had a positive and significant correlation with r value of 0.691, p value=0.000. Wijaya et al. (2023) reported that top management had direct and positive relationship with total quality management where training, planning and development were used as independent variables for total quality management. This study however, established that when top management is considered as a variable in total quality management and predicting service delivery, there is a positive relationship with service delivery.

The findings revealed that employee involvement had positive and significant relationship with service delivery where correlation values was 0.740, p value 0.000. An analysis of employee involvement in government ministries in Nigeria revealed a strong and positive relation where correlation value was 0.732, p value<0.05 (Oleabhiele et al., 2023).

Schober and Boer (2022) note that correlation helps in determining the direction and strength of relationship between two variables where change in one variable leads to a change in another either in a similar direction or opposite. The authors also give a benchmark in the interpretation of correlation coefficient which lies between -1 to +1;

where values that are between 0.10 to 0.39 are considered weak correlations, those that have 0.40 -0.69 have moderate relationship, correlations with 0.70-0.89 are seen as strong while values that fall within 0.90 -1 are viewed as very strong correlations. From the findings in Table 4.14, contentious improvement had $r=0.0777$ signifying strong relationship, customer focused strategy achieved $r=0.759$, an indication of strong correlation, top management recorded $r=0.691$, demonstrating moderate relationship while employee involvement had $r=0.740$ which also showed strong relationship with service delivery.

4.8. Regression Analysis

The study used multiple regression analysis to find out the association of top-quality management and service delivery. Model summary, analysis of variance and regression coefficient were used in the analysis.

4.8.1. Model Summary

The study used R, R Square, and adjusted R Square to determine the model summary as indicated in Table 4.15.

Table 4.15. Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.825 ^a	0.680	0.674		0.44897
a. Predictors: (Constant), Employee involvement, Continuous Improvement, Top management, support, Customer focused strategy					

Source: Research Data (2024)

The findings in Table 4.15, showed that R was 0.825 which showed the model quality in predicting the outcome. R Square was 0.68 indicating that upto 68% of total quality

management practices accounted for the variation in service delivery of public hospitals in Machakos County, Kenya. The other 32% factors were however, not within the study scope. The Adjusted R Square of 0.674 showed that 67.4% of the true factors were due to the changes in the service delivery after adjustment is made in the model.

4.8.2. Analysis of Variance

The study used F statistic to analyze the difference in the mean with findings indicated in Table 4.16.

Table 4.16. Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.487	4	23.872	118.429	.000 ^b
	Residual	44.950	223	0.202		
	Total	140.437	227			

Source: Research Data (2024)

From the results in Table 4.16, $F(4,223) = 118.429$, $p = 0.000$ which showed the model significance in predicting service delivery. This demonstrated that total quality management predicts service delivery in public hospitals in Machakos County, Kenya.

4.8.3. Regression Coefficient

The study used t statistics to analyse the contribution of individual variables where p value was used in determining the level of significance of all the variables. The results were shown in Table 4.17.

Table 4.17. Coefficient of Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.667	0.170		3.930	0.000
	Continuous Improvement	0.302	0.066	0.344	4.582	0.000
	Customer focused strategy	0.252	0.075	0.242	3.343	0.001
	Top management support	0.049	0.072	0.045	0.683	0.495
	Employee involvement	0.252	0.061	0.267	4.100	0.000

Source: Research Data (2024)

From the findings in Table 4.17, the study demonstrated that having all factors constant, service delivery will increase by 0.667, p value of 0.000. However, an introduction of continuous improvement would lead to the rise in service delivery by 0.302, p value 0.000. The findings of Obisanya et al (2019) found that continuous improvement had $\beta=0.047$, p value=0.317 hence showed that there was no significant effect on service delivery. The current study however, noted that $\beta=0.302$, $p<0.05$ which signified that continuous improvement had significant effect on service delivery in public hospitals of Machakos County, Kenya.

When customer focused strategy was included in the model, service delivery rose by 0.252, p value of 0.001. The study done by Hussain et al (2023) found that customer focus strategy had T statistic of 5.363, p value =0.000 which showed a significant effect. The current study findings indicated that customer focus strategy had $\beta=0.252$, $p=0.001$ which also proved significant effect thereby confirmed previous findings by Hussain et al (2023).

It was established that when top management is added in the model, there will be an increase in service delivery by 0.049, p value of 0.495 indicating that top management has a positive effect which is not significant to service delivery. Alshourah (2021) established that leadership had significant effect on total quality management leading to service quality where $\beta=0.160$, p value=0.009. The current findings indicated no significant effect of top management thereby does not agree with previous findings of Alshourah (2021).

The study also found that inclusion of employee involvement in the model resulted to rise in service delivery by 0.252, p value of 0.000, which demonstrated that involvement of employees had a positive and significant effect on service delivery in public hospitals of Machakos County. The study by Maina et al (2021) discovered that employee involvement had significant effect on service delivery where $\beta=0.365$, p value=0.000. Additionally, Ontiri and Minja (2019) also established that direct involvement of employees was significant to service delivery where coefficient was $\beta=0.721$, p value of 0.000. The current study established that employee involvement was $\beta=0.252$, p value=0.000 which also showed that there was significant effect on service delivery thereby confirming previous two studies.

From the findings, continuous improvement, employee involvement and customer focused strategy had significant effect on service delivery as all the p values were less than 0.05. However, top management support did not have sufficient evidence to prove its effect on service delivery. The revised model was thus excluded top management;

$$Y = 0.66 + 0.302 \text{ Continuous Improvement} + 0.252 \text{ Customer Focused Strategy} + 0.252 \text{ Employee Involvement} + e$$

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter presented the summary of the study according to the study objectives. The chapter provided the conclusion and recommendation for policy and practice as well as for future studies. The study's aim was to investigate total quality management practices and service delivery of public hospitals in Machakos County, Kenya. The study had four specific objectives that guided in data collection; continuous improvement, customer focused strategies, top management support and employee involvement on service delivery of public hospitals in Machakos County, Kenya. The study utilized descriptive research design where a total of 267 healthcare professionals in Machakos County were provided with semi structured questionnaires to provide responses. Descriptive and inferential statistics aided data analysis. The findings were presented in tables, percentages, mean and standard deviation.

5.2. Summary of the Study

The first objective was based on continuous improvement on service delivery of public hospitals in Machakos County. The results demonstrated that due to improvements made in the public hospitals, there was speed in response time to patient issues. Machakos County public hospitals were also undertaking regular products and service evaluation for improvement purposes. The study found that public hospitals had high expertise that helped in the provision of quality assurance evidenced in the improvement of service operations. The findings demonstrated that there was consistency in providing feedback to employees that helped in improving services in public hospitals in Machakos County. However, there were some disagreements among respondents who observed inadequacy in the provision of

feedback, service operations as well as provision of quality assurance. Correlation results showed a positive moderate relationship with service delivery. The findings indicated that continuous improvement had significant effect on service delivery in public hospitals in Machakos County, Kenya.

The second aim of the study was centered on customer focused strategy and how it affected service delivery in public hospitals based in Machakos County. From the results, public hospitals valued customer feedback evidenced on the agreement among respondents. However, there were some who had a divided opinion, indicating that not all hospitals took consideration of customer feedback. Public hospitals were also found to incorporate customer satisfaction information for improvement of quality, there were innovations in products and services to meet patient needs, and public hospitals also demonstrated how they were building trust and assurance whenever they were meeting the needs of the patients. The findings showed that public hospitals in Machakos County had well prepared, clean furniture and there were customer support tools that supported service delivery to the patients. The correlation revealed a positive and strong relationship with service delivery. It was found that customer focused strategy had significant effect on service delivery of public hospitals in Machakos County.

The third intention of the study was concerning top management support and service delivery in public hospitals of Machakos County. The results showed that the adoption of total quality management practice received the support of top management, the management were also committed in the hospitals total quality management initiatives evidenced in resource allocation to support quality improvement. The findings indicated that top management had regard for team work where they provided encouragement and there was effective communication between the employees and

the management that enhanced service delivery. The relationship between top management and service delivery was found to be positive and moderate while regression results indicated that top management support did not have significant effect on service delivery in Machakos County.

The study's fourth objective was on employee involvement and how it affected service delivery in public hospital of Machakos County where the revelation of the study was that the management was sharing with its employees information that was used in the improvement of quality at the hospital. The findings demonstrated that the hospital valued suggestions presented by employees that was aiding the improvement of service, all employees were provided with opportunity to participate in decision making aimed at enhancing total quality management, there was allocation of resources to aid employee education. The findings showed that the hospital had training programs that were aimed at equipping employees with skills they needed and there was involvement of all employees in the hospital. However, the findings noted inadequacy in the involvement of all employees, limited resource allocation to support employee education and not all felt that employees were given opportunity to engage in decision making. The correlation analysis showed a positive and strong relationship with service delivery while regression findings indicated a significant effect on service delivery in public hospitals in Machakos County, Kenya.

5.3. Conclusion

The main objective of the research was on finding out how continuous improvement affected service delivery in public hospitals in Machakos County. The conclusion of the study was that improvements that were made in public hospitals resulted to speed in service delivery evidenced in response time. The conclusion was made that there was regular evaluation of products and services in public hospitals that enhanced

service delivery. Conclusion was made that public hospitals had high expertise that enabled the provision of professional quality services, there was improvement in the public hospital's operations as well as enhancement of feedback collection that had improved service delivery. The study concluded that continuous improvement was directly related with service delivery.

Conclusion was made in the second objective that public hospitals valued customer feedback and satisfaction information that was being used by the hospitals to improve quality. The study made conclusion that public hospitals had developed innovative products and service to meet patient needs. It was concluded that public hospitals had been able to build assurance and trust in the process of service delivery to the patients. Conclusion was made that public hospitals in Machakos County had clean environment and furniture as well as there were different customer support tools that enhanced delivery of service in public hospitals. It was concluded that customer focused strategy was associated with service delivery.

The third objective was based on how top management support affected delivery of service in public hospitals in Machakos County. The conclusion made was that public hospitals have been able to adopt total quality management practices due to support from top management, the hospital leadership were also committed in the improvement of quality in public hospitals as they allocated resources towards quality improvement. It was concluded that top management in public hospitals valued and encouraged team work. Conclusion was made that top management encouraged communication with employees. It was concluded that even though top management had a positive relationship with service quality, there was no significant effect on the outcome.

The fourth aim of the study was on the involvement of employees and how it affected service delivery in Machakos County public hospitals. The research made conclusion that employees were able to receive information that was related to total quality management practices improvement. It was concluded that even though employee's suggestion was valued, there was inadequacy in using the suggestion for improvement in service delivery. The study concluded that despite the opportunity given to employees to participate in decision making, not all got the chance to be involved in quality management decisions. The study concluded that resource allocation did not cover all employee's education and training and there was inadequacy in the involvement of all employees. It was concluded that employee involvement had direct relationship with service delivery.

5.4. Recommendations for Policy and Practice

The following were the recommendations that the study provided according to the findings in each objective; On the first objective of continuous improvement and service delivery in Machakos County's public hospital, the study recommended policy formulation to provide guidance on total quality management practices within the public hospitals for purposes of enhancing service delivery. There should be training of employees based on knowledge gaps to equip staff with current skills needed in solving patient problems. The hospital should also build on automated feedback collection system to obtain more feedback from the patients. The hospital will need to escalate feedback to different channels of employee engagement to build capacities of healthcare staff with customer information for more service improvement.

In regards to the second objective of customer focused strategy, recommendation was made that public hospitals should incorporate customer satisfaction feedback in the improvement of service. This will help address customer needs thereby enhance

service delivery. It was recommended that with feedback obtained from customers, public hospitals should innovate new services that meet customer needs, the hospitals should reinforce the building of trust through employee training, coaching and mentoring. This will add more skills to healthcare professionals when dealing with patients thus improve service delivery. The hospital management should allocate resources for the improvement of the hospital's physical environment to communicate quality as well as provide ample environment to the patients. Adequate investments should be made in the development and improvement of customer support tools while also empowering patients on issues related with their health thus improve service delivery.

The third objective recommendations were based on top management support on service delivery in public hospitals of Machakos County. The study recommended that top management should show their commitment in the improvement of service delivery in public hospital to motivate employees to support total quality management practices thereby improve delivery of service.

There should be encouragement by the top management to employees, supporting them through feedback, giving them a listening ear and fostering effective communication to improve employee motivation and enthusiasm in participating in total quality management practices hence improve service delivery. Employees will also be more willing to give feedback on possible improvement areas in total quality management practices for enhanced service delivery.

Employees play critical role in quality management as they are in the front line with patients hence re able to collect feedback on customer opinions related with total quality management practices. The study recommends that hospitals should give

employees opportunity to give their views on total quality management practices for enhanced service delivery in public hospitals of Machakos County.

5.5. Recommendations for Further Research

This study focused on total quality management and service delivery in public hospitals of Machakos County, Kenya. The study makes recommendations that other studies be done incorporating the third variable as a mediator or moderator. For instance, addition of resource allocation, regulatory policies and employee training. Further the study targeted health care workers, future study may consider the inclusion of patients to determine their opinion on total quality management and service delivery in public hospitals. Further studies may also be done targeting private hospitals in Machakos County or having a similar comparison of public hospitals outside the county to establish if there is any difference in the findings.

REFERENCES

- Abawi, K. (2017). Data collection methods (Questionnaire & interviews). Training in sexual and reproductive health research. Geneva: *Training in Sexual and Reproductive Health Research*.
- Abosedo, A. J., & Onanuga, A. T. (2016). Research design: A review of features and emerging developments. *European Journal of Business and Management*, 8(1).
- Abukhader, K. M., & Ombasioglu, D. C. (2021). The effects of total quality management practices on employee performance and the effect of training as a moderating variable. *Uncertain Supply Chain Management*, 9, 521-528.
- Aburayya, A., Alshurideh, M., Al Marzouqi, A., Al Diabat, O., Alfarsi, A., Suson, R., . . . Salloum, S. A. (2020). An empirical examination of the effect of total quality management practices on hospital service delivery: *An assessment study in UAE hospitals. Systematic Reviews in Pharmacy*, 11(9).
- Adawiyia, K. R., & Pramuka, B. A. (2020). Deming's quality management practices by small businesses in rural areas.
- Agrawal, N. M. (2019). Modelling Deming's quality principle to improve performance using interpretive structural modelling and min-max analysis. *Journal of quality and reliability management*.
- Akom, F. A. (2021). Total quality management practices and organizational performance.
- Akram, A. M., & Siraji, M. (2021). The effectiveness of total quality management (TQM) training special reference with selected manufacturing companies in

- Ampara district, Sri Lanka. *International Journal on Integrated Education*, 4(6).
- Alberto, M., Adan, D., & Apolinar, J. (2019, March). Application of the SERVQUAL model to evaluate the quality of the transportation service in Morelia, Mexico.
- Ali, K., Johl, S. K., Muneer, A., Alwadain, A., & Ali, R. F. (2022). Soft and hard total quality management practices promote industry 4.0 readiness: A *SEM-Neural network approach*. *Sustainability*, 14(11917).
- AL-Shameri, N. A. (2023). Total Quality Management in Yemeni Public Hospitals: Enhancing Customer Satisfaction and Patient-Centered Care.
- Alshourah, S. (2021). Total quality management practices and their effects on the quality performance of Jordanian private hospitals. *Management Science Letters*, 11(1), 67-76.
- Alshurideh, M. (2022). Does electronic customer relationship management (E-CRM) affect service quality at private hospitals in Jordan? *Uncertain Supply Chain Management*, 10(2), 325–332.
- Anampiu, J. M., & Kinyamu, R. (2020). Influence of Management Practices on Service Delivery in Public Sub County Hospitals in Meru County.
- Anifowose, O. N., Ghasemi, M., & Olaleye, B. R. (2022). Total quality management and small and medium-sized enterprises (SMEs) performance: *Mediating role of innovation speed*. *Sustainability*, 14(8719). From <https://doi.org/10.3390/su14148719>
- Archer, T. (2019). Characteristics associated with increasing the response rates of web-based surveys. *Practical Assessment, Research, and Evaluation*, 12(1), 12.

- Asamrew, N., Endris, A. A., & Tadesse, M. (2020). Level of patient satisfaction with inpatient services and its determinants: a study of a specialized hospital in Ethiopia. *Journal of environmental and public health*, 2020.
- Ashoor, A. S., Kazem, A. A. K., & Gore, S. (2021, February). Interactive network security for evaluating linear regression models in cancer mortality analysis and Self-Correlation of errors using Durbin-Watson tests in Babylon/Iraq. *In Journal of Physics: Conference Series* (Vol. 1804, No. 1, p. 012127). IOP Publishing.
- Azizi, M. H., Bakri, S., & Choiriyah, S. (2023). Implementation of total quality management in the ministry of religion-based education. *Nidhomul Haq*, 8(1), 125-136.
- Birch-Jensen, A. (2020). The evolving role of customer focus in quality management: Using customer feedback to mobilize quality improvements in the age of digitalization and increased service delivery. Gothenburg, Sweden: Chalmers University of Technology.
- Chang, W.-C., Ardiyanto, A.-N., & Lin, C.-N. (2022, June). The application of a servqual model is used to construct indicators for improvements in agricultural products exhibition service delivery.
- Chege, A. K., Mwenja, D., Kiambati, K., & Mbugua, L. (2020). Human capital development and service delivery of public health facilities. *International journal of commerce and finance*.
- Chepkonga, P., & Nyaga, J. (2019). Staff competence, management support and service delivery in the public health sector: A case study of Mbagathi District Hospital, Nairobi City County. *Journal of Public Policy & Administration*, 3(1), 1-18.

- Connor, T. (2019). Understanding how work is done. Deming's theory of profound knowledge.
- Daoud, J. I. (2017). Multicollinearity and regression analysis. IOP Conference Series: Journal of Physics: Conference Series. doi:10.1088/1742-6596/949/1//012009
- Debela, G. Y. (2019). Critical success factors (CSFs) of Ethiopia's public-private partnership (PPP) road projects. *International Journal of Construction Management*, 1-12.
- Dwivedi, V. (2017). India needs its women in the workplace. Retrieved from: <https://www.livemint.com/>
- Education Development Centre. (2019). Building a culture of continuous improvement:
- European University Institute. (2019). Code of ethics in academic research. European University Institute.
- Gathaku, M., & Gitari, J. (2022). An assessment of customer integration strategy influences service delivery in public hospitals in Nakuru town, Kenya—*the International Journal of Business Management and Technology*, 6(5).
- Gerald, B., & Patson, T. F. (2021). Parametric and non-parametric tests: A brief review. *International Journal of Statistical Distributions and Publications*, 7(3), 78–82.
- Gichihi, E., & Lusambili, A. (2019). Efficacy of free maternity health policy at Machakos level 5 county hospital (Kenya): An exploratory qualitative study. *Health Systems and Policy Research*, 6(1).

- Goumairi, O., Aoula, E.-S., & Souad, S. B. (2020, July). Applying the SERVQUAL model for evaluating the service quality in Moroccan Higher Education is a case study of a public engineering school.
- Govender, S., Proches, C. G., & Kadel, A. (2023). A quantitative study on the role of leadership in facilitating healthcare service delivery. ResearchGate.
- Haradhan, M. (2017). Two criteria for good measurements in research: Validity and reliability.
- Harshada, J. (2012). Multicollinearity diagnostics in statistical modelling and remedies to deal with it using SAS. www.cytel.com
- Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-based nursing, 18*(3), 66–67.
- Hernandez, H. (2021). Testing for normality: What is the best method? *ForsChem Research Reports, 6*, 2021-05.
- Hussain, A., Asif, M., Jameel, A., & Hwang, J. (2019). Measuring OPD patient satisfaction with different service delivery aspects at public hospitals in Pakistan. *International Journal of Environmental Research and Public Health*, p. 16. doi:2340; doi:10.3390/ijerph1.6132340
- Hussain, S., Alsmairat, M. A., Al-Ma'aitah, N., & Almrayat, S. (2022). Assessing quality performance through seven total quality management practices. *Uncertain Supply Chain Management, 11*, 41-52.
- Ismail, N., Kinchin, G., & Edwards, J.-A. (2018). Pilot study: Does it really matter? Learning lessons from conducting a pilot study for a qualitative PhD. *International Journal of Social Science Research, 6*(1).

- Jackson, S. (2021). Effect of employee engagement on service delivery at University of Cape Coast Hospital. University of Cape Coast.
- Jamal, I. D. (2017). Multicollinearity and regression analysis, *Journal of Physics, conf. Ser.* 949 012009.
- Jami, D. Z., & Muharam, A. (2022). Strategy for improving the quality of Islamic religious education study programs with total quality management. *Nidhomul Haq*, 7(2), 267- 283.
- Juma, P. M., & Kihara, A. (2023). Determinants of efficient healthcare service delivery among public hospitals in Kenya: A case of Makueni County Referral Hospital. *Journal of Business and Strategic Management*, 8(6), 83-107.
- Kang'ethe, M. G. (2015). Customer quality focus and operational performance of Kenyan government-owned entities. University of Nairobi.
- Kar, B. (2018). Service quality and servqual model: A reappraisal.
- Kaur, N., & Arora, P. (2020). Acknowledging gender diversity and inclusion as key to organizational growth: *A review and trends. Journal of Critical Reviews*, 7(6), 125-131.
- Kegoro, H. O., & Ochieng, J. (2021). Automated queue management system on service delivery in public hospitals in Kenya during the Covid-19 era: A meta-analysis. Kiriri Women's University of Science and Technology.
- Khan, F., Sohail, A., Sufyan, M., Uddin, M., & Basit, A. (2019). The effect of workforce diversity on employee performance in the Higher Education Sector. *Journal of Management Info*, 6(3), 1-8.

- Khan, H. U., Ali, S., & Hongqi, L. (2018). Impact of continuous improvement on organizational performance insight from Pakistan: An empirical study. *International Journal of Innovation, Management and Technology*, 9(1).
- King'oo, P. M. (2017). Top management support and quality service delivery by the Nairobi City County Government, Kenya. Nairobi: Kenyatta University.
- Kowo, S. A., Kadiri, B. I., & Zekeri, A. (2020). Correlate of workforce diversity and organizational performance of multinational food producing industry in Nigeria.
- Kubai, E. (2019). Reliability and validity of research instruments. Zambia: UNICAF University.
- Kusumayati, A. (2023, September). Effect of Lean Hospital on Waiting Time at Outpatient Unit in Indonesia. In *The International Conference on Public Health Proceeding* (Vol. 4, No. 02, pp. 361-367).
- Machakos County. (2022). Machakos County integrated development plan 2018-2022.
- Machakos County. (2023). Machakos County integrated development plan (2023-2027).
- Madsen, S.R., & Tanja, S. (2016). Why do we need more women leaders in Central and Eastern Europe? Retrieved from: https://www.researchgate.net/publication/324994618_Why_Do_We_Need_More_Women_Leaders_in_Central_and_Eastern_Europe
- Maina, P., Kiiru, D., & Makhamara, F. (2021). Influence of employee involvement as a workforce agility practice on service delivery of police officers in Nairobi City County, Kenya. *IOSR Journal of Business and Management (IOSR-JBM)*, 23(9), 51-59.

- Manjunatha, N. (2019). Descriptive research. *Journal of Emerging Technology and Innovative Research (JETIR)*, 6(6).
- Mayanja, H. H., & Akunda, D. (2023). Administrative decentralization and health service delivery in Ibanda District local government, Uganda. *East African Journal of Health and Science*, 6(1).
- Mbangua, R. K. (2021). Factors influencing the delivery of quality healthcare in Kasarani Sub-County, Kenya. Kenya Methodist University.
- Mohamaoud, G., & Mash, R. (2020). Evaluation of the quality-of-service delivery in private sector, primary care clinics in Kenya: A descriptive patient survey. *South African Family Practice*, 62(1). doi: a5148. <https://doi.org/10.4102/safp.v62il.5148>
- Motieri, S. O. (2018). Employee participation in service delivery: A case of Nairobi City Water and Sewerage Company, Nairobi City County, Kenya. Nairobi: Kenyatta University.
- Motieri, S. O., & Minja, D. (2019). Influence of employee participation on service delivery: a case of Nairobi City water and sewerage company, Nairobi City County, Kenya. *American Journal of Public Policy and Administration*, 4(2).
- Muli, T. D. (2021). Application of quality management principles and service delivery at Kenyatta National Hospital (Doctoral dissertation, University of Nairobi).
- Mulleta, D., Jaleta, F., Banti, H., Bekele, B., Abebe, W., Tadesse, H., . . . Debelo, T. (2021). The impact of laboratory quality management system implementation on quality laboratory service delivery in health centre laboratories of Oromia region, Ethiopia. *Pathology and Laboratory Medicine International*.

- Murenga, Y. A., & Njuguna, R. (2020). Total quality management practices and service delivery of small and medium enterprises: Case of Horizons Offices Limited in Kenya. *International Academic Journal of Human Resource and Business Administration*, 3(8), 207-226.
- Mutambi, V. K. (2022). Total quality management practices and services delivery in ISO-certified hospitals in Nairobi County, Kenya. University of Nairobi.
- Njoroge, N. G., & Nyaga, J. (2022). Continuous improvement practices and organizational performance of large manufacturing companies in Kenya: A case study of Nairobi Bottlers Limited. *International Academic Journal of Innovation, Leadership and Entrepreneurship*, 2(3), 411-469.
- Nzioka, W. M., Njoroge, K., & Kyalo, C. K. (2023). Influence of public-private partnership on healthcare service delivery in Nairobi County, Kenya. *International Academic Journal of Health, Medicine & Nursing.*, 2(1), 341-362.
- Obisanya, A. R., Bolaji, S. A., & Hassan, K. I. (2019). Total quality management and service delivery in selected local governments In Nigeria. From The Editor's Desk.
- Ogben, F., & Daud, N. M. (2021). Top management commitment: A strategy for enhancing operations of quality assurance system of the association of professional secretarial staff of Nigeria. *Empirical Economics Letters*, 20(2).
- Oke, J., Akinkunmi, W. B., & Etebefia, S. O. (2019). Use of correlation, tolerance and variance inflation factor for multicollinearity test. *GSSJ*, 7(5), 652-659.

- Oleabhiele, E. P., Uthman, A. A., & Usman, A. I. (2023). Effect of staff involvement on service delivery in ministries, departments and agencies in Bauchi State. *International Academic Journal of Management and Marketing*, 7(3), 88-97. doi:6732425661736
- Omore, J. A. (2022). The effect of total quality management (TQM) practices on service delivery in the health sector in Nairobi County, Kenya (Doctoral dissertation, KCA University).
- Orcan, F. (2020). Parametric or non-parametric: Skewness to test normality for mean comparison. *International Journal of Assessment Tools in Education*, 7(2), 256–265. Retrieved from <https://doi.org/10.2.449/ijate.656077>
- P. (2022). Total quality management for modern organizations in the digital era. *Advance Knowledge for Executive*, 1(1).
- Pambreni, Y., Khatibi, A., Azam, S., & Tham, J. J. M. S. L. (2019). The influence of total quality management toward organization performance. *Management Science Letters*, 9(9), 1397-1406.
- Patrick, W. M., Anselmo, P. I., Ronoh, R., & Mbugua, S. (2022). Impact of predictive analytics of big data in supply chain management on decision-making. *Int. J. Sci. Res. Comput. Sci. Eng. Inf. Technol*, 3307, 225-238.
- Rahardja, S. U., Aini, Q., Graha, Y. I., & Lutfiani, N. (2019). Validity of test instrument. *Journal of Physics: Conference Series*. doi:10.1088/1742-659/1364/1/012050

- Rodgers, B., & Antony, J. (2022). In pursuit of a culture of continuous improvement: Scotland National Ambulance Service. *International Journal of Public Administration*, 46(9), 636–646. doi:10.1080/01900692.2021.2009857
- Sader, S., Husti, I., & Daroczi, M. (2019). Industry 4.0 is a crucial enabler toward the successful implementation of total quality management practices. *Periodica Polytechnica Social and Management Sciences*, 27(2), 131-140.
- Salis, S. (2019). Diversity and inclusion: Are employers doing enough? Retrieved from: <https://yourstory.com/2019/10/diversity-inclusionemployers-organisations>
- Schober, P. M., PhD, M., & Boer, C. P. (2022). MSc; Schwarte, Lothar A. MD, PhD, MBA Correlation Coefficients: Appropriate Use and Interpretation.
- Schreiber-Gregory, D., & Bader, K. (2019). Logistic and linear regression assumptions: Violation recognition and control. PharmaSUG.
- Senaviratna, N. A. M. R., & A Cooray, T. M. J. (2019). Diagnosing multicollinearity of logistic regression model. *Asian Journal of Probability and Statistics*, 5(2), 1-9.
- Sendawula, K., & Kimuli, S. N. (2019). Training, employee engagement and employee performance: Evidence from Makerere University, Kampala, Uganda, Uganda's health sector. *International Journal of Social Sciences Management and Entrepreneurship*, 3(1), 183-196.
- Shabin, A. (2019). Servqual and model of service quality gaps.
- Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, 3(7), 749–752.

- Shikalepo, E. E. (2020). Defining a conceptual framework in educational research. *Namibia University of Science and Technology* 7p.
- Shittu, A. K. (2020, October). Public service and service delivery.
- Shrestha, N. (2020). Detecting multicollinearity in regression analysis. *American Journal of Applied Mathematics and Statistics*, 8(2).
- Shrestha, P., & Parajuli, D. (2021). Impact of workforce diversity on employee performance. *International Journal of Management*, 12(2), 86-95.
- Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied research: an overview. *International Journal of Economics, Commerce and Management*, III(11).
- Taherdoost, H. (2016). Validity and reliability of the research instrument: How to test the validity of a questionnaire/survey in a research. *International Journal of Academic Research in Management (IJARAM)*, 5(3), 28-36.
- Taherdoost, H. (2016). Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in research. How to test the validation of a questionnaire/survey in research (August 10, 2016).
- Taherdoost, H. (2017). Determining sample size: How to calculate survey sample size.
- Taherdoost, H. (2020). Different types of data analysis: Data analysis methods and techniques in
- Tanui, C. C. (2018). Effect of top management team changes on service delivery at Telkom Kenya. Nairobi: University of Nairobi.

- Teshome, Z., Belete, B., Gizaw, G., & Mengiste, M. (2020). Customer satisfaction and public service delivery: The case of Dire Dawa Administration. *Public Policy and Administration Research, 10*(7).
- Wandie, R. W., & Muathe, S. M. (2022). What enhances service delivery in public hospitals in Kenya? The role of total quality management practices. *Research in Business & Social Science, vii*(7).
- Wandie, R. W., & Muathe, S. M. (2022). What enhances service delivery in public hospitals in Kenya? The role of total quality management practices. *International Journal of Research in Business and Social Science (2147-4478), 11*(7), 01-08.
- WHO, OECD, World Bank. (2018). Delivering quality health services: A global imperative for universal health coverage. WHO, OECD, World Bank.
- Wijaya, S. V., Tarigan, Z. J., & Siagian, H. (2023). The role of top management commitment, employee empowerment and total quality management in production waste
- Willie, M. M. (2022). Differentiating between population and target population in research studies. *International Journal of Medical Science and Clinical Research Studies, 02*(06), 521-523.
- Wills-Gallagher, J., Kerr, K. W., Macintosh, B., Villadares, A. F., Kilgore, K. M., & Sulo, S. (2022). Implementation of malnutrition quality improvement reveals opportunities for better nutrition care delivery for hospitalized partners. *Journal of Parental and Enteral Nutrition, pp. 46, 243–248.*

- Wiranto, G., & Lubis, S. Y. (2020, December). Multiple linear regression analysis on the effect of time variations and voltage variations on spot welding against shear strength of aa5083 material using ibm spss application. In IOP Conference Series: *Materials Science and Engineering* (Vol. 1007, No. 1, p. 012062). IOP Publishing.
- Wolok, R. M. (2022). Model design of influence of service quality on customer satisfaction in regional general hospitals in Gorontalo province. *International Journal of Tourism & Hospitality in Asia Pacific (IJHAP)*.
- Wong, B., & Headrick, L. (2020, August). Application of continuous quality improvement to medical education.
- World Bank. (2019). Kenya Health Service Delivery Indicator Survey 2018 report. World Bank.
- World Health Organization. (2019). Framework for quality service delivery in health systems.

APPENDICES

Appendix I: Introduction Letter

Abuor Victor Odhiambo,
P.O. Box, Kenyatta
University, Nairobi.

21/12/2023

Dear Sir/Madam,

REF: REQUEST FOR VOLUNTARY PARTICIPATION IN THE RESEARCH

I am a post-graduate student pursuing Masters in Business Administration-Strategic Management. As part of the University's academic requirement, I am undertaking research entitled "**Total quality management practices and service delivery of public hospitals in Machakos County, Kenya**".

I am requesting your voluntary participation to enable the collection of data in support of the academic requirement. Please provide me with responses according to the guiding questions as honestly and possible.

Any information received will be used for purposes of academic only. Thank you.

Sincerely,

Abuor Victor Odhiambo

D53/OL/CTY/32099/2016

Appendix II: Questionnaire

SECTION A: BACKGROUND

Please provide an answer by way of ticking (✓) one of the options indicated.

1. What is your gender?

Male [] Female []

2. What is your age category?

Below 25 years []

26-30 []

31-35 []

36-40 []

Over 41 []

3. What is your highest education?

Certificate []

Diploma []

Undergraduate []

Masters []

PhD []

4. How many years of experience do you have in your current hospital (Length of time worked)?

Below 5 years []

6-10 years []

11-15 years []

Over 15 years []

5. What is your cadre?

SECTION B: TOTAL QUALITY MANAGEMENT

This section seeks to collect data related with your hospital's total quality management practices in four dimensions; continuous improvement, customer focus strategy, top management support and employee involvement. There are also blank spaces where you provide your own opinion regarding total quality management in your hospital.

Please provide answers by choosing one from the options provided according to what applies to you. The options are rated on a scale of 1-5; 1- strongly disagree, 2= disagree, 3=neutral, 4=agree, 5= strongly agree

NO.	ITEM	1=SD	2=D	3=N	4=A	5=SA
	Continuous improvement					
CI01	Due to improvements made in my hospital, there is speed in response time to patient issues.					
CI02	My hospital regularly undertakes products and service evaluation.					
CI03	There is continuous monitoring and improvement of products, services and processes.					
CI04	The hospital has high professional quality assurance based on employee expertise.					
CI05	All the hospital's operations and services have been improved.					
CI06	there is consistency in feedback to employees for improvement purposes.					

How does continuous improvement improved service delivery in your hospital? _____

SECTION C: CUSTOMER FOCUSED STRATEGY

Please provide answers by selecting one option from the choices presented according to what applies to you. The options are rated on a scale of 1-5: 1-strongly disagree, 2=disagree, 3= neutral, 4=agree, 5=strongly agree

NO.	ITEM	1=SD	2=D	3=N	4=A	5=SA
	Customer focused-strategy					
CFS01	My hospital values customer feedback					
CSF02	My hospital uses customer satisfaction information to improve quality					
CSF03	There is innovative products and services that meet patient needs.					
CSF04	My organization is fostering trust and assurance in providing patient needs					
CSF05	The hospital has clean and well-prepared furniture.					
CSF06	My organization has different customer support tools					

Please explain more how your hospital incorporates customer focused strategy to improve service delivery: _____

SECTION D: TOP MANAGEMENT SUPPORT

Please choose one answer by selecting from the options presented according to your opinion. There is a rating scale with 1-5: 1- strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree.

NO.	ITEM	1=SD	2=D	3=N	4=A	5=SA
	Top management support					
TMS01	The hospital's top management supports quality management adoption					
TMS02	There is full management commitment in my hospital					
TMS03	The management allocates resources to the hospital to support quality management.					
TMS04	The management values and encourages team work.					
TMS05	There is effective communication between management and staff.					

Please explain how top management support enhances service delivery in your hospital

SECTION E: EMPLOYEE INVOLVEMENT

You have been provided by multiple choices from where you will select one option according to what applies to you. The choices are rated in a scale of 1-5: 1=strongly disagree, 2= disagree, 3= neutral, 4= disagree, 5= strongly disagree.

NO.	ITEM	1=SD	2=D	3=N	4=A	5=SA
	Employee involvement					
EI01	The hospital shares with employee's information related with quality improvement.					
EI02	Employee suggestion is valued for improvement purposes.					
EI03	Employees are given opportunity to participate in decision making regarding hospital quality management.					
EI04	There is allocation of resources for employee education in the hospital.					
EI05	There are training programs in the hospital aimed to improve employee skills.					
EI06	The management highly involves all employees.					

How does your hospital involvement employees in service delivery programs?

SECTION F: SERVICE DELIVERY





This section seeks to collect data related with service delivery in your organization where ratings are in the scale of 1 to 5; 1=strongly disagree, 2= disagree, 3= neutral, 4= agree and 5=strongly agree. Please choose one according to what applies to you.

NO	ITEM	1=SD	2=D	3=N	4=A	5=SA
SD01	The hospital has competent workers that enhances assurance in service delivery					
SD02	The quality of consultation provided in my hospital is excellent					
SD03	My hospital has variety of medical services					
SD04	There is medical equipment that allows for more services to patients.					
SD05	The waiting time by patients to be serviced is as per the standard.					
SD06	There is person-centred service to patients					

Please indicate how total quality management practices has enhanced service delivery in your hospital

THANK YOU

Appendix III: NACOSTI Research Permit

 <p>REPUBLIC OF KENYA</p>	 <p>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION</p>
Ref No: 861028	Date of Issue: 12/March/2024
RESEARCH LICENSE	
	
<p>This is to Certify that Mr.. Abuor Odhiambo Victor of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: TOTAL QUALITY MANAGEMENT PRACTICES AND SERVICE DELIVERY OF SELECTED PUBLIC HOSPITALS IN MACHAKOS COUNTY, KENYA for the period ending : 12/March/2025.</p>	
License No: NACOSTI/P/24/33787	
861028	
Applicant Identification Number	Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
<p>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</p>	
See overleaf for conditions	

Appendix IV: KU Authorization Letter



KENYATTA UNIVERSITY
GRADUATE SCHOOL

3

E-mail: dean-graduate@ku.ac.ke

P.O. Box 43844, 00100

Website: www.ku.ac.ke

NAIROBI, KENYA

Tel. 810901 Ext. 4150

Internal Memo

FROM: Executive Dean, Graduate School

DATE: 19th February, 2024

TO: Abuor Victor Odhiambo
C/o Business Administration Dept.

REF: D53/OL/CTY/32099/2016

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 14th February, 2024 approved your Research Project Proposal for the M.B.A Degree Entitled, "**Total Quality Management Practices and Service Delivery of Selected Public Hospitals in Machakos County, Kenya.**"

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and progress report Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.


ANNBELL MWANIKI
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

c.c. Chairman, Business Administration.

Supervisors:

1. Dr. Janet Muthimi
C/o Department of Business Administration
Kenyatta University

AM/mo