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ICT ADOPTION AND SERVICE DELIVERY IN PUBLIC HEALTHCARE INSTITUTIONS IN KAJIADO COUNTY, KENYA

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ABSTRACT

Public healthcare institutions are critical in promoting national development and improving the well-being of citizens by providing essential healthcare services. Despite ongoing government efforts to improve healthcare access and quality, public healthcare institutions in Kajiado County, Kenya, continue to experience challenges that hinder effective service delivery. This study sought to determine the influence of ICT adoption on service delivery in public healthcare institutions in Kajiado County, with specific focus on computerization and capacity building. The study was guided by the Technology Acceptance Model (TAM) and the Resource-Based View (RBV) Theory. The study adopted a descriptive research design and was conducted across 16 public healthcare institutions in Kajiado County, comprising one Level 5 hospital, four Level 4 hospitals, and eleven Level 3 hospitals. The target population consisted of 128 respondents, including ICT staff, operations staff, users of information systems, and patients from each healthcare facility. Cluster sampling was used to group healthcare facilities according to their levels, while purposive sampling was applied to select facilities relevant to the study objectives. Data was collected using structured questionnaires, and a pilot study was conducted to test the validity and reliability of the instruments. Collected quantitative data was analyzed using SPSS version 23 through descriptive statistics such as means, frequencies, percentages, and standard deviations, as well as inferential statistics including correlation and regression analysis. Findings indicated that computerization significantly improved service delivery through enhanced efficiency, accuracy, and accessibility of healthcare information systems. Capacity building was also found to positively influence service delivery by improving staff skills, system usage, and operational effectiveness. The study concluded that ICT adoption plays a significant role in enhancing service delivery in public healthcare institutions and recommended strengthening computerized health systems through improved digital infrastructure, continuous staff training, and reliable technical support.

Key Words: ICT adoption, computerization, capacity building, service delivery, public healthcare institutions, Kajiado County, Kenya

Background of the Study

The health sector encompasses a broad range of services and industries focused on maintaining and improving the well-being of individuals and communities. It includes healthcare providers such as hospitals, clinics, and primary care physicians, as well as specialized services like mental health, dental care, and rehabilitation (Moghaddam & Khatoon-Abadi, 2023). In addition to medical professionals, the health sector involves pharmaceutical companies, medical device manufacturers, insurance providers, and public health agencies. Public healthcare institutions are government-funded organizations that provide medical services to the general population, often with an emphasis on ensuring accessibility, affordability, and equity in healthcare (Trakulyingyong & Sunkpho, 2020). These institutions include public hospitals, community health centers, outpatient clinics, and specialized care facilities, which offer services ranging from preventive care and emergency treatments to surgeries and long-term care. Public healthcare systems are designed to prioritize the health needs of the population, particularly underserved or vulnerable groups, often offering services at low or no cost to patients (Saleem, *et al*, 2021).

Public healthcare institutions play several critical roles in promoting health and well-being within society. One of their primary roles is to provide accessible, affordable healthcare services to all segments of the population, regardless of their socioeconomic status (Chairoel, Widyarto & Pujani, 2022). These institutions are typically funded by government resources, ensuring that care is available to those who might otherwise be unable to afford private healthcare. By offering a broad spectrum of services—from routine check-ups and vaccinations to emergency care and specialized treatments—public healthcare institutions serve as the backbone of a country's health infrastructure (Chandavarkar & Nethravathi, 2023). Another significant role of public healthcare institutions is in disease prevention and public health initiatives. These institutions not only treat patients but also engage in proactive measures such as health education campaigns, immunization programs, and screenings to identify and prevent diseases before they spread (Yotham & Kijazi, 2024). They are often at the forefront of responding to public health crises like pandemics, providing testing, treatment, and preventive services to protect communities. Through these initiatives, public healthcare institutions help reduce the overall burden of disease, lower healthcare costs, and improve population health outcomes (Abdullahi, *et al*, 2021).

Public healthcare institutions are also instrumental in conducting medical research and training healthcare professionals. Many of these institutions are associated with universities and medical schools, contributing to advancements in medical science through clinical research and trials (Mgbemena & Onah, 2024). They also provide hands-on training for the next generation of healthcare workers, ensuring that there is a steady supply of well-trained doctors, nurses, and other medical professionals. By fostering innovation and education, public healthcare institutions help to continuously improve healthcare standards and practices (Prekoh & Xue, 2020). In addition, public healthcare institutions have an important role in ensuring health equity. By offering services to underserved populations, such as low-income groups, minorities, and rural communities, they address health disparities and ensure that everyone, regardless of their background, has access to necessary care. This role in equity is essential in creating a fairer healthcare system, where social and economic factors do not determine the quality of care a person receives (Kanyamuhanda & Noor, 2021).

ICT adoption refers to the process of integrating and utilizing Information and Communication Technology (ICT) tools and systems within an organization, community, or society to enhance efficiency, communication, and service delivery (Atisa & Mose, 2024). It involves the acceptance and implementation of technologies such as computers, software, mobile devices, and the internet to facilitate data exchange, improve decision-making, streamline business operations, and enable access to information (Machii & Kyalo, 2023). The adoption of ICT

often depends on factors such as technological infrastructure, organizational readiness, user skills, and societal attitudes toward technology. As ICT becomes increasingly essential in various sectors, its successful adoption is a key driver of innovation and development (Mutie & Kibe, 2024).

Computerization involves the digitization of tasks previously performed manually, allowing for the automation of data processing, storage, and retrieval. This shift significantly improves efficiency and accuracy, reducing errors and time spent on repetitive tasks (Otieno & Makhamara, 2024). As organizations move toward computerization, they can harness the power of digital tools, making decision-making more data-driven and accessible. Capacity building encompasses training, workshops, and hands-on learning to ensure that individuals can confidently engage with digital tools (Moghaddam & Khatoon-Abadi, 2023). By integrating these elements, organizations and communities can enhance their adaptability, increase productivity, and drive innovation, ultimately contributing to long-term growth and development in the digital age (Saleem, *et al*, 2021). This study sought to determine the influence of ICT adoption on service delivery in public healthcare institutions in Kajiado County, Kenya.

Statement of the Problem

Kajiado County faces major healthcare challenges: Systemic delays persist due to low adoption of computerized systems, forcing facilities to rely on manual processes for patient registration, records retrieval, and billing- leading to long waiting times and inefficient service delivery (Mukuna, 2022). In addition, limited ICT connectivity among healthcare facilities hampers data sharing and real-time communication between departments and referral hospitals, resulting in disjointed care coordination and increased patient wait times, especially in rural areas where residents often travel over 10 kilometers for basic services (Mutie & Kibe, 2024).

Inadequate capacity building for healthcare staff limits their ability to effectively utilize available ICT tools. This results in underutilized or poorly maintained systems and negatively affects both the speed and quality of services delivered (Atisa & Mose, 2024). Lack of integrated information systems and weak interoperability of digital health databases restrict timely access to patient information, undermining diagnosis, treatment, and referral efficiency (Mutie & Kibe, 2024). Essential medical supplies and equipment shortages continue to strain service delivery: 45% of facilities lack critical medicines, and only 58% are equipped with basic diagnostic tools like X-ray and ultrasound machines, affecting the overall quality of care Mukuna, 2022)..

Research has shown that the adoption of Information and Communication Technology (ICT) in public sector institutions has a transformative impact on service delivery. Various studies have been conducted in different parts of the world on ICT adoption and service delivery. For instance, Atisa and Mose (2024) conducted a study on ICT adoption and procurement performance of large manufacturing firms. Machii and Kyalo (2023) assessed on the assessment of information communication technology adoption for performance of selected small and medium enterprises and Mutie and Kibe (2024) researched on analysis of ICT adoption on the financial performance of Teachers Sacco. However, none of these studies focused on computerization, capacity building on service delivery in public healthcare institutions in Kajiado County, Kenya. To fill the highlighted gaps, the current study sought to determine the influence of ICT adoption (computerization, and capacity building) on service delivery in public healthcare institutions in Kajiado County, Kenya.

Objectives of the Study

The general objective of the study is to determine the influence of ICT adoption on service delivery in public healthcare institutions in Kajiado County, Kenya

Specific Objectives

i. To establish the influence of computerization on service delivery in public healthcare institutions in Kajiado County, Kenya
ii. To determine the influence of capacity building on service delivery in public healthcare institutions in Kajiado County, Kenya

LITERATURE REVIEW

Theoretical Framework

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theoretical framework developed to understand and predict how users adopt and use new information technology. Initially proposed by Fred Davis (1986), TAM suggests that the adoption of technology is primarily driven by two main factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which a person believes that using a particular technology will enhance their job performance or productivity (Feisal, 2021). This perception hinges on whether the technology is perceived as valuable and beneficial in achieving specific goals or tasks. For instance, if employees believe that adopting a new software system will streamline their workflow, increase efficiency, or improve decision-making, they are more likely to view it as useful and consequently more inclined to adopt it (Ddumba, 2020).

Perceived ease of use, on the other hand, pertains to the extent to which a person believes that using the technology will be effortless and uncomplicated. It considers factors such as the simplicity of the interface, the ease of learning how to use the technology, and the clarity of its functions (Ndungu & Mukangu, 2022). If potential users perceive that the technology is easy to understand and integrate into their work routines without requiring significant effort or training, they are more likely to perceive it as easy to use and thus more likely to adopt it (Njau, 2021). According to TAM, these two perceptions—usefulness and ease of use—directly influence users' attitudes towards adopting technology. These attitudes, in turn, shape their behavioral intentions to adopt the technology. In other words, if individuals believe that a technology is both useful and easy to use, they are more likely to develop a positive attitude towards using it and subsequently intend to adopt it. This intention then leads to actual adoption behavior (Sugut, 2021).

The Technology Acceptance Model (TAM) has several assumptions underlying its framework, which provide the basis for understanding user behavior towards adopting new technologies. One fundamental assumption of TAM is that perceived usefulness and perceived ease of use are the primary determinants of users' attitudes and intentions towards technology adoption (Feisal, 2021). This assumption suggests that users are rational decision-makers who carefully weigh the benefits and ease of using a technology before deciding to adopt it. By focusing on these two factors, TAM assumes that other potential influences, such as social norms, organizational factors, or emotional aspects, are secondary in shaping technology adoption behaviors (Ddumba, 2020). Another assumption of TAM is that users' attitudes and intentions towards technology adoption can be reliably measured and predicted based on their perceptions of usefulness and ease of use. This assumption implies those users' perceptions are stable and predictable, allowing researchers and practitioners to assess and forecast adoption behavior accurately. TAM also assumes that user behavior is driven by cognitive processes and rational evaluations, rather than emotional or contextual factors that may also play significant roles in shaping adoption decisions (Ndungu & Mukangu, 2022).

Critiques of TAM primarily focus on its oversimplification of the complex factors influencing technology adoption. Critics argue that TAM may overlook other critical factors, such as organizational policies, social influences, cultural norms, and individual differences, which can

significantly impact users' adoption decisions (Njau, 2021). For instance, while perceived usefulness and ease of use are important, users may also be influenced by peer pressure, resistance to change, compatibility with existing systems, and perceived risks associated with adopting new technologies (Sugut, 2021). Moreover, TAM has been criticized for its static nature in capturing user behavior over time. Technologies and user perceptions can evolve rapidly, making it challenging to rely solely on initial perceptions of usefulness and ease of use to predict long-term adoption and sustained use (Feisal, 2021). Critics suggest that incorporating dynamic and contextual factors into TAM could enhance its predictive power and relevance in understanding technology adoption in diverse settings (Ddumba, 2020). This theory was used to establish the influence of computerization on service delivery in public healthcare institutions in Kajiado County, Kenya.

Resource-Based View

The Resource-Based View (RBV) founded by Barney (1991) is a strategic management framework that focuses on the internal resources and capabilities of a firm as sources of competitive advantage (Christopher & Denny, 2022). At its core, RBV posits that a firm's unique bundle of resources and capabilities can enable it to achieve sustainable competitive advantage and superior performance in the marketplace. Unlike traditional strategic management approaches that primarily focus on external factors such as market dynamics and industry structure, RBV emphasizes the importance of internal factors in determining a firm's success (Muragwa & Njenga, 2023). RBV theory entails identifying and leveraging a firm's distinctive resources and capabilities to create value and achieve strategic objectives. Resources can include tangible assets such as physical infrastructure, financial capital, and technology, as well as intangible assets such as human capital, intellectual property, organizational culture, and reputation (Moronge *et al*, 2024). These resources are considered valuable if they enable the firm to exploit opportunities or neutralize threats in the external environment. Capabilities, on the other hand, refer to the firm's ability to effectively deploy and utilize its resources to perform specific activities and achieve desired outcomes (Jepketer, Kombo & Kyalo, 2020).

The Resource-Based View (RBV) theory of strategic management is built upon several foundational assumptions that shape its approach to analyzing firm performance and competitive advantage. One key assumption of RBV is that firms are heterogeneous in terms of the resources and capabilities they possess (Otibine, 2022). This means that each firm has a unique bundle of resources—both tangible and intangible—that is valuable, rare, difficult to imitate, and non-substitutable (VRIN). RBV posits that these distinctive resources and capabilities are the primary sources of sustained competitive advantage and superior performance (Christopher & Denny, 2022). Another assumption of RBV is that firms are rational and profit-maximizing actors that seek to exploit their resources and capabilities to create value for stakeholders. RBV theory also assumes that resources are not static, but can be developed, accumulated, and leveraged over time to enhance a firm's competitive position (Muragwa & Njenga, 2023). This implies that firms can invest in building and renewing their resource base, as well as developing dynamic capabilities that enable them to adapt and respond effectively to changes in the external environment. Additionally, RBV assumes that markets are imperfect and that firms can earn economic rents by possessing unique resources and capabilities that are not fully captured by market prices. These rents can arise from factors such as brand reputation, customer loyalty, and proprietary technology (Moronge *et al*, 2024).

Despite its strengths, RBV theory has faced several critiques over the years. One criticism is that RBV may be tautological or circular in its reasoning, as the concept of valuable, rare, inimitable, and non-substitutable resources (VRIN) is somewhat subjective and difficult to operationalize empirically (Jepketer, Kombo & Kyalo, 2020). Critics argue that firms may achieve competitive advantage through factors other than resources and capabilities, such as

market positioning or network effects. Additionally, RBV has been criticized for its limited focus on external factors and industry dynamics, such as changes in customer preferences, technological innovation, and competitive rivalry (Otibine, 2022). Some scholars argue that RBV may overlook the importance of these external factors in shaping a firm's competitive position and performance. Moreover, RBV theory has been criticized for its lack of prescriptive guidance on how firms can identify and develop valuable resources and capabilities (Christopher & Denny, 2022). While RBV provides a useful framework for understanding the sources of competitive advantage, it offers limited practical guidance on how firms can systematically analyze their resource base and make strategic decisions to enhance their competitive position. Critics also point out that RBV may be less relevant in industries characterized by rapid technological change and disruptive innovation, where traditional sources of competitive advantage may be short-lived (Muragwa & Njenga, 2023). This theory was used to determine the influence of capacity building on service delivery in public healthcare institutions in Kajiado County, Kenya.

Conceptual Framework

A conceptual framework is a structured system of concepts and ideas that guide research, decision-making, or problem-solving within a particular field (Cooper, & Schindler, 2019). It provides a foundation for understanding and analyzing a specific phenomenon or issue. In this study, the conceptual framework presents the relationship between the independent variables and the dependent variable (Creswell, 2019). The independent variables are computerization, capacity building while the dependent variable is service delivery in public healthcare institutions in Kajiado County, Kenya.

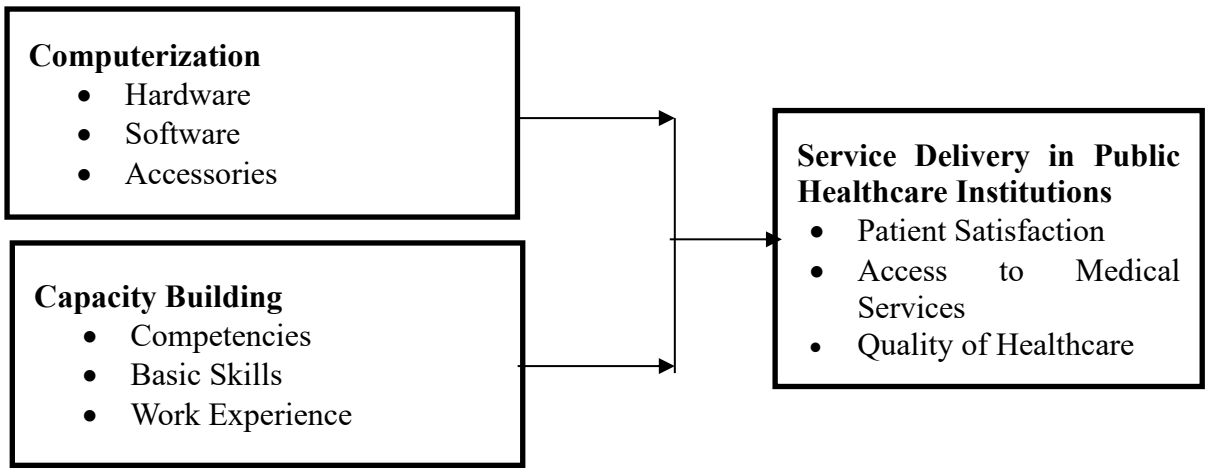

Figure 2. 1: Conceptual Framework

Computerization

Computerization refers to the process of integrating computer systems and technology into various aspects of work, processes, and systems to automate tasks and improve efficiency. It involves using computer software, hardware, and networks to replace manual or traditional methods of doing work, enabling faster, more accurate, and cost-effective operations (Ndungu & Mukangu, 2022). Computerization enhances data management, communication, and decision-making across industries by allowing for real-time information processing, storage, and retrieval. The widespread implementation of computerization has revolutionized everything from business practices to healthcare, education, and manufacturing, leading to greater productivity and innovation (Njau, 2021). Hardware refers to the physical components of a computer system that enable it to function. These include essential parts such as the central processing unit (CPU), memory (RAM), storage devices (hard drives or SSDs), input devices (keyboards, mice), and output devices (monitors, printers). Hardware acts as the foundation for

running software applications and executing tasks (Sugut, 2021). Over time, advancements in hardware have significantly increased computing power, leading to faster processing speeds, better graphics, and enhanced storage capabilities. Each hardware component plays a specific role in ensuring the smooth operation of a computer or device (Feisal, 2021).

Software, in contrast to hardware, encompasses the programs and applications that run on a computer system, instructing the hardware on what tasks to perform. Software can be categorized into two main types: system software, which includes operating systems like Windows, macOS, or Linux that manage hardware resources, and application software, which refers to programs designed for specific tasks, such as word processors, web browsers, or graphic design tools (Ndungu & Mukangu, 2022). Software is integral to a computer's functionality as it provides the interface through which users interact with the hardware, ensuring that data is processed, displayed, and stored efficiently. Accessories are external devices and peripherals that complement the core functionality of a computer system but are not essential for basic operations (Njau, 2021). These include items like printers, scanners, external hard drives, speakers, webcams, and specialized input devices such as graphics tablets or gaming controllers. Accessories enhance the user's experience and can provide additional features or convenience. For example, printers allow for physical copies of digital documents, while external hard drives offer extra storage space for backups. The right accessories can greatly expand a computer's capabilities, making it more versatile for both work and entertainment (Sugut, 2021).

Capacity Building

Capacity building refers to the process of developing and strengthening the skills, knowledge, resources, and capabilities of individuals, organizations, or communities to improve their ability to achieve specific goals or address challenges (Moronge *et al*, 2024). It involves training, education, and the provision of tools and resources that enhance the overall effectiveness and sustainability of an entity. Capacity building can take place in various contexts, such as education, healthcare, governance, or environmental management, and it empowers people and institutions to solve problems, adapt to changing circumstances, and make informed decisions (Jepketer, Kombo & Kyalo, 2020). Ultimately, it aims to create long-term improvements by fostering independence and resilience. Competencies refer to the combination of knowledge, skills, abilities, and behaviors that individuals need to perform tasks effectively in various settings, such as the workplace or educational environments. These competencies are critical for career development and are often categorized into technical skills, interpersonal abilities, and cognitive skills (Otibine, 2022). A person’s competencies reflect their potential to contribute to an organization’s goals, adapt to changes, and solve problems. Competencies are not only about what a person knows but also how they apply their knowledge in practical, real-world situations. Developing competencies is an ongoing process that enhances both personal growth and professional performance (Christopher & Denny, 2022).

Basic skills are fundamental abilities that serve as the foundation for learning and performing tasks in both educational and work settings. These include literacy (reading and writing), numeracy (basic arithmetic), communication skills, and problem-solving abilities (Muragwa & Njenga, 2023). Basic skills are essential for everyday tasks, such as reading instructions, managing finances, or collaborating with others. For individuals entering the workforce, having strong basic skills is crucial as they serve as the starting point for learning more advanced concepts and skills (Moronge *et al*, 2024). These skills are necessary for effective participation in society, education, and employment, ensuring individuals can function and succeed in various contexts. Work experience refers to the hands-on knowledge and skills gained through direct participation in a job or professional environment (Jepketer, Kombo & Kyalo, 2020). It plays a critical role in career development as it allows individuals to apply their theoretical knowledge in practical settings and gain a deeper understanding of the work process. Work

experience helps individuals build competence in specific tasks, understand industry standards, and develop soft skills such as communication, teamwork, and time management (Otibine, 2022). It can range from internships and part-time jobs to full-time positions, and is often considered a key factor by employers when evaluating job candidates. The more relevant work experiences an individual has, the more attractive they are to potential employers, as it demonstrates practical expertise and problem-solving capabilities (Christopher & Denny, 2022).

Empirical Review

Computerization and Service Delivery

Feisal (2021) assessed the impact of computerization on public universities' administration a case study of higher education commission of Pakistan's Pilot Project. The sites were visited to observe the transformed environment and its changed nature after the completion of computerization project. Besides observing the sites, interviews, documentation reading and storytelling methods were used to capture qualitative data. The research's outcome enhanced theoretical and practical knowledge. The study findings provided an insight on the university work realm engulfed in a body of politics where power and information circulation changes when the computerized campus management system is introduced as an element of change. The study revealed that computerization required changes to be made within the work environment. However, during this process the element of change itself had to be changed to some extent, in order to meet the particular needs of these universities. The study concluded that computerization was a determinant of the organization performance.

Ddumba (2020) assessed the effect of computerization on employee productivity a case of Uganda Revenue Authority-Masaka. The study used both the qualitative and quantitative research approaches for the data collection. For the purpose of the research, the population constituted all staff members of Uganda Revenue Authority. A census was conducted for all the members of Uganda Revenue Authority using a questionnaire. The findings revealed that the level of computers had increased efficiency and productivity as the majority of the respondents answered that the use of computers had incorporated quantitative targets. The study concluded that organizations should retain IT staff and develop backup plans.

Ndungu and Mukangu (2022) determined the role of computerization on organizational performance: A case of Kenya Airways Company. This study adopted a descriptive research design. The study population was Kenya Airways employees stationed at the company headquarters in Nairobi County. The study used a census approach to research and the target population was one hundred and forty-four (144) employees of Kenya Airways Company. The main instrument of primary data collection was a self-administered, semi structured questionnaire. Secondary data was obtained from published sources such. The study found out computerization positively influenced organizational performance of Kenya Airways. Only two factors statistically influenced organizational performance (integration and e commerce strategy). The study concluded that, computerization has the highest statistically significant influence on organization performance of Kenya airways.

Njau (2021) researched the influence of computerization on the performance of customs and border control in Kenya. Literature of past studies was reviewed from written documents and materials in books, journals and reports to enhance conceptualization of the study variables and establishment of gaps. The study used the descriptive design and considered the population of 57 Customs Officers at the Customs and Border Control Department, Kenya Revenue Authority. The study found that computerization of processes enhances improved customs performance mainly as a result of improved transparency and accountability at the Customs and Border Control Department. The study concluded that computerization has a positive and a positive influence on organization performance.

Sugut (2021) determined the effect of computerized accounting systems on the quality of financial reports of non-governmental organizations in Nairobi County, Kenya. Quantitative data was analyzed using both descriptive and inferential analysis. Data collected through the open-ended questions and analysis of documents was analyzed qualitatively through content analysis. The sample for the study consisted of 100 NGOs operating in Nairobi County; selected through non-proportional quota sampling. The study found out that a unit increase in computerized accounting systems leads to substantial increases in quality of financial reports of NGOs. The study concluded that computerization has a significant influence on organization performance.

Capacity Building and Service Delivery

Christopher and Denny (2022) researched on human capacity development in Indonesia: leadership and managerial ideology in Javanese organizations. Factor analysis, regression modeling and structural modeling are used to explain what constitutes leadership excellence in Javanese organizations. These findings based on the perceptions of 312 Javanese managers revealed that capacity building has a significant influence on human capacity development in Indonesia. The study concluded that capacity building has a significant influence on organization performance.

Muragwa and Njenga (2023) conducted a case study on employees' capacity building and performance of non-governmental organizations in Rwanda: A Case of Free Methodist Church in Rwanda, Kigali City. The population of this study was 270 employees of Free Methodist Church. The sample size of this research was selected using the formula of Slovene (1970) formula as 84 respondents. The researcher used to collect both primary and secondary data. The study found that capacity building has positive effect on level of performance in terms of workforce performance and productivity and operational performance. The study concluded that capacity building has positive effect on level of performance in terms of workforce performance and productivity and operational performance.

Moronge *et al* (2024) examined the role of civil society capacity building on performance of devolved units in selected county governments in Kenya. The study used the descriptive survey research design to analyze and describe the relationship between civil society' civic participation and performance of devolved units in Kenya. The population of the study was all 1290 top management staff to be drawn from the civil society organizations registered in Kenya; 470 (county ministers and chief officers) in the county governments of Kenya. The data collection instruments were questionnaires. Results revealed that all the civil society' capacity building dimension had a positive and significant relationship with performance of devolved governance units in Kenya. The study concluded that civil society capacity building is statistically significant in explaining performance of devolved units in Kenya.

Jepketer, Kombo and Kyalo (2020) assessed the relationship between capacity building strategy and students' performance in public secondary schools in Nandi County, Kenya. The study used descriptive survey design. Stratified and simple random sampling techniques were used for the study. The study populations were the principals, teachers and students. The researcher used 30% as population sample size for the public secondary schools, 30% as population sample size for principals, 10% for teachers and 10% for the students. The target sample was public secondary schools, school principals, teachers and students. The study found out that contribution of teacher capacity development influences students' performance to a greater extent. The study concluded that teachers' capacity building should be strengthen in order to enhance teacher professional growth, and to realized quality students' outcome in academic achievement.

Otibine (2022) determined the effects of capacity development strategies on the performance of the department for international development in Kenya. This study adopted a case study design approach which helped the researcher to obtain in depth information of the studied

organization. Primary data, which was specific to this study, was collected by conducting interviews. An interview guide, included in appendix 1, was developed and designed based on the objectives of the study; it helped to guide the interviews and tailor the discussions to obtain appropriate responses. The interview guide is divided into two parts; the initial section covers the interviewee demographic information and the later part seeks to identify the capacity development strategies employed by Department for International Development in Kenya and effects of these capacity development strategies on the organization's performance in Kenya. New approaches that are adequate to meet the competitive business environment. The findings established that department for international development capacity development strategies included effective financial management, human resource development and information management, communication and technology as well as continuous automation of systems. These capacity development strategies contributed to the timely fund flows to project beneficiaries, accurate financial forecasting, effective programme management and enhanced relationships between employer and employees as well as with project implementation partners and other stakeholders affiliated to department for international development operations in Kenya. The study concluded that, capacity building has a positive and a significant influence on organization performance.

RESEARCH METHODOLOGY

The study employed descriptive research design. This research design assists the researcher to establish whether there exists a significant association between the variables at a particular point in time (Mugenda & Mugenda, 2019). According to Creswell and Clark (2019) a descriptive design is a design whose main concern is 'what, how and who' which is the concern of this research study.

This study was conducted in public healthcare institutions in Kajiado County, Kenya. According to the Ministry of Health Report (2024), there are 16 public healthcare institutions in Kajiado County comprising of 1 level five hospital, 4 level four hospitals and 11 level three hospitals. This study targeted 8 respondents in each facility comprising of 2 respondents from ICT, 2 respondents from Operations, 2 Users of the Information Systems and 2 Patients. In this study the unit of Observation comprised of 2 respondents from ICT, 2 respondents from Operations, 2 Users of the Information Systems, 2 Patients while the Unit of Analysis was 1 Level 5 Hospitals, 4 Level 4 Hospitals and 11 Level 3 Hospitals. Will be 16 level 3 to Level 5 healthcare institutions/ facilities in Kajiado County This implied that in every hospital the study targeted 8 respondents hence the total target population was 128 respondents.

Table 1: Target Population

Category	Target Population
ICT	32
Operations	32
Information Systems	32
Patients	32
Total	**128**

The study employed cluster and purposeful sampling techniques. The Healthcare facilities were grouped into clusters based on their levels (Level 3, Level 4, and Level 5 hospitals). Purposeful sampling was used to select facilities most relevant to the study objectives. Purposeful sampling is a technique where the researcher intentionally selects specific facilities that are most likely to provide useful, relevant, and in-depth information related to the study objectives, rather than choosing facilities randomly.

The study used Yamane (1967) formula to determine the size of the sample. From the formula, the sample size was 97 respondents. This study used a structured questionnaire, which contains

pre-defined, standardized questions with fixed response options to ensure consistency and ease of analysis. To facilitate data analysis, the collected data was coded and entered into SPSS software. The study collected quantitative data. Quantitative data collected was analyzed using descriptive statistics techniques such as means, standard deviation, frequencies and percentages. SPSS version 23 was used to analyze the quantitative data.

The study also analyzed the data using inferential statistics which include correlation and regression analysis. Pearson R correlation was used to measure strength and the direction of linear relationship between variables. Multiple regression models were fitted to the data in order to determine how the independent variables affect the dependent variable. It was used to determine the influence of ICT adoption on service delivery in public healthcare institutions in Kajiado County, Kenya.

RESEARCH FINDINGS AND DISCUSSIONS

The sample size of this study was 97. The researcher distributed 97 questionnaires to the respondents during data collection process and 85 were fully filled and returned to the researcher thus making a response rate of 87.6%. Wilson (2019) argues that a response rate which is more than 50% is considered adequate while excellent response rate is usually above 70%. This implies that the response rate in this research is good for making conclusions as well as recommendations.

Descriptive Statistics

Computerization and Service Delivery

The first specific objective of the study was to establish the influence of computerization on service delivery in public healthcare institutions in Kajiado County, Kenya. The respondents were requested to indicate their level of agreement on statements relating to computerization and service delivery in public healthcare institutions in Kajiado County, Kenya. The results were as presented in Table 2.

From the results, the respondents agreed that the computer hardware in this facility is modern and up-to-date (M=3.891, SD= 0.728). In addition, the respondents agreed that the devices and equipment provided are reliable and perform well for daily tasks (M=3.882, SD= 0.584). Further, the respondents agreed that the software used in the facility is user-friendly and easy to navigate (M=3.876, SD=0.878).

From the results, the respondents agreed that the software applications available support the effective management of healthcare services (M=3.866, SD= 0.679). In addition, the respondents agreed that the necessary accessories are readily available and functional (M=3.853, SD= 0.742). Further, the respondents agreed that the accessories complement the hardware and software, enhancing productivity (M=3.830, SD=0.900).

Table 2: Computerization and Service Delivery

	Mean	Std. Deviation
The computer hardware in this facility is modern and up-to-date.	3.891	0.728
The devices and equipment provided are reliable and perform well for daily tasks.	3.882	0.584
The software used in the facility is user-friendly and easy to navigate.	3.876	0.878
The software applications available support the effective management of healthcare services.	3.866	0.679
The necessary accessories are readily available and functional.	3.853	0.742
The accessories complement the hardware and software, enhancing productivity.	3.830	0.900
Aggregate	**3.866**	**0.752**

Capacity Building and Service Delivery

The second specific objective of the study was to determine the influence of capacity building on service delivery in public healthcare institutions in Kajiado County, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to capacity building and service delivery in public healthcare institutions in Kajiado County, Kenya. The results were as presented in Table 3.

From the results, the respondents agreed that the training provided in this facility help them enhance their professional competencies (M=3.867, SD= 0.514). In addition, the respondents agreed that the healthcare facility provides sufficient opportunities for them to improve and update their professional competencies (M=3.843, SD= 0.671). Further, the respondents agreed that the basic skills training offered is adequate for performing their job efficiently (M=3.832, SD=0.719).

From the results, the respondents agreed that the basic skills training is up-to-date and relevant to their day-to-day tasks in the healthcare environment (M=3.826, SD= 0.885). In addition, the respondents agreed that the work experience opportunities provided by the facility contribute significantly to their professional growth (M=3.806, SD= 0.815). Further, the respondents agreed that their practical work experience enhances their ability to deliver high-quality healthcare services (M=3.794, SD=0.700).

Table 3: Capacity Building and Service Delivery

	Mean	Std. Deviation
The training provided in this facility help me enhance my professional competencies.	3.867	0.514
The healthcare facility provides sufficient opportunities for me to improve and update my professional competencies.	3.843	0.671
The basic skills training offered is adequate for performing my job efficiently.	3.832	0.719
The basic skills training is up-to-date and relevant to my day-to-day tasks in the healthcare environment.	3.826	0.885
The work experience opportunities provided by the facility contribute significantly to my professional growth.	3.806	0.815
My practical work experience enhances my ability to deliver high-quality healthcare services.	3.794	0.700
Aggregate	**3.828**	**0.717**

Service Delivery

The respondents were requested to indicate their level of agreement on various statements relating to service delivery in public healthcare institutions in Kajiado County, Kenya. The results were as presented in Table 4.

From the results, the respondents agreed that the waiting time for consultation with a healthcare provider is reasonable (M=3.853, SD= 0.905). In addition, the respondents agreed that the waiting time for medical procedures or tests is acceptable (M=3.818, SD= 0.793). Further, the respondents agreed that it is easy to access healthcare services in this facility, regardless of the time of day (M=3.762, SD=0.826).

From the results, the respondents agreed that they are satisfied with the overall healthcare services provided at this facility (M=3.720, SD= 0.555). In addition, the respondents agreed that the healthcare staff treated them with respect and compassion (M=3.687, SD= 0.683). Further, the respondents agreed that they feel that their health concerns were listened to and addressed appropriately (M=3.661, SD=0.717).

Table 4.: Service Delivery

	Mean	**Std. Deviation**
The waiting time for consultation with a healthcare provider is reasonable.	3.853	0.905
The waiting time for medical procedures or tests is acceptable.	3.818	0.793
It is easy to access healthcare services in this facility, regardless of the time of day.	3.762	0.826
I am satisfied with the overall healthcare services provided at this facility.	3.720	0.555
The healthcare staff treated me with respect and compassion.	3.687	0.683
I feel that my health concerns were listened to and addressed appropriately.	3.661	0.717
Aggregate	**3.750**	**0.747**

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (computerization, and capacity building) and the dependent variable (service delivery in public healthcare institutions in Kajiado County, Kenya) dependent variable. Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients.

Table 5: Correlation Coefficients

		Service Delivery	**Computerization**	**Capacity Building**
Service Delivery	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	85		
Computerization	Pearson Correlation	.876**		
	Sig. (2-tailed)	.000		
	N	85		
Capacity Building	Pearson Correlation	.843**	.166	1
	Sig. (2-tailed)	.001	.021	
	N	85	85	85

From the results, there was a very strong relationship between computerization and service delivery in public healthcare institutions in Kajiado County, Kenya (r = 0. 876, p value =0.000).

The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Feisal (2021) who indicated that there is a very strong relationship between computerization and service delivery.

Further, the results revealed that there is a very strong relationship between capacity building and service delivery in public healthcare institutions in Kajiado County, Kenya (r = 0.843, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Muragwa and Njenga (2023) that there is a very strong relationship between capacity building and service delivery.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (computerization, capacity building) and the dependent variable (service delivery in public healthcare institutions in Kajiado County, Kenya)

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.872	.761	.760	.10120

a. Predictors: (Constant), computerization, capacity building

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.761. This implied that 76.1% of the variation in the dependent variable (service delivery in public healthcare institutions in Kajiado County, Kenya) could be explained by independent variables (computerization, capacity building).

Table 7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.264	4	26.066	63.73	.000[b]
	Residual	32.731	80	.409		
	Total	136.995	84			

a. Dependent Variable: service delivery in public healthcare institutions in Kajiado County, Kenya

b. Predictors: (Constant), computerization, capacity building

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 63.73 while the F critical was 2.486. The p value was 0.000. Since the F-calculated was greater than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of computerization, and capacity building on service delivery in public healthcare institutions in Kajiado County, Kenya.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	0.271	0.071		3.817	0.000
	Computerization	0.373	0.097	0.374	3.845	0.000
	Capacity building	0.340	0.090	0.341	3.778	0.001

a Dependent Variable: service delivery in public healthcare institutions in Kajiado County, Kenya

The regression model was as follows:

$$Y = 0.271+0.373X_1 + 0.340X_2$$

According to the results, computerization has a significant effect service delivery in public healthcare institutions in Kajiado County, Kenya (β_1=0.373, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the findings of Feisal (2021) who indicated that there is a very strong relationship between computerization and service delivery.

Furthermore, the results revealed that capacity building has significant effect on service delivery in public healthcare institutions in Kajiado County, Kenya (β_1=0.340, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the findings of Muragwa and Njenga (2023) that there is a very strong relationship between capacity building and service delivery.

Conclusions

The study concludes that computerization has a positive and significant effect on service delivery in public healthcare institutions in Kajiado County, Kenya. Findings revealed that hardware, software and accessories influence service delivery in public healthcare institutions in Kajiado County, Kenya.

Further, the study concludes that capacity building has a positive and significant effect on service delivery in public healthcare institutions in Kajiado County, Kenya. Findings revealed that competencies, basic skills and work experience influences service delivery in public healthcare institutions in Kajiado County, Kenya.

Recommendations

The study recommends that the management of public healthcare institutions in Kenya should strengthen the integration and maintenance of computerized health information systems by investing in robust digital infrastructure, continuous staff training, and reliable technical support.

Further, the study recommends that the management of public healthcare institutions in Kenya should invest in continuous capacity-building programs that equip healthcare workers with updated technical, administrative, and patient-care skills. Regular training in areas such as digital system use, clinical best practices, customer service, and data management will enhance staff competence and confidence, enabling them to deliver services more efficiently and accurately.

Suggestions for Further Studies

This study was limited to the influence of ICT adoption on service delivery in public healthcare institutions in Kajiado County, Kenya hence the study findings cannot be generalized to service delivery in other organizations in Kenya. The study therefore suggests further studies on the influence of ICT adoption on service delivery in other organizations in Kenya.

Further, the study found that the independent variables (computerization, capacity building) could only explain 76.1% of service delivery in public healthcare institutions in Kajiado County, Kenya. This study therefore suggests further research on other factors affecting service delivery in public healthcare institutions in Kajiado County, Kenya.

REFERENCES

Abdullahi, H. O., Hassan, A. A., Mahmud, M., & Ali, A. F. (2021). Determinants of ICT adoption among small scale agribusiness enterprises in Somalia. *International Journal of Engineering Trends and Technology, 69*(2), 68-76.

Atisa, W. O., & Mose, T. (2024). ICT adoption and procurement performance of large manufacturing firms in Nairobi City County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship, 8*(1), 855-868.

Chairoel, L., Widyarto, S., & Pujani, V. (2022). ICT adoption in affecting organizational performance among Indonesian SMEs. *The International Technology Management Review, 5*(2), 82-93.

Chandavarkar, N. D., & Nethravathi, P. S. (2023). Analysis of challenges faced during adoption of ICT by small and medium enterprises in India. *International Journal of Management, Technology, and Social Sciences, 8*(2), 2-21.

Christopher, S., & Denny, M. (2022). Human capacity development in Indonesia: leadership and managerial ideology in Javanese organizations. *Asia Pacific Business Review, 23*(2), 264-289.

Cooper, D. R., & Schindler, P. S. (2019). *Business Research Methods* (12th ed.). Boston: Irwin McGraw Hill International.

Creswell, J. W., & Plano Clark, V. L. (2019). *Designing and Conducting Mixed Methods Research* (3rd ed.). SAGE Publications.

Creswell, R. (2019). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. USA: Sage Publications.

Ddumba, F. (2020). *The Effect of Computerization on Employee Productivity: A Case of Uganda Revenue Authority-Masaka*.

Feisal. (2021). *Impact of Computerization on Public Universities' Administration: A Case Study of Higher Education Commission of Pakistan's Pilot Project*.

Jepketer, A., Kombo, K., & Kyalo, D. N. (2020). Relationship between teacher capacity building strategy and students' performance in public secondary schools in Nandi County, Kenya. *International Journal of Humanities and Social Science Invention, 4*(10), 37-50.

Machii, J. K., & Kyalo, J. K. (2023). Assessment of information communication technology adoption for performance of selected small and medium enterprises in Nairobi County, Kenya. *International Journal of Scientific Research and Innovative Technology, 3*(8), 25-51.

Mgbemena, I. C., & Onah, B. C. (2024). ICT adoption and organizational profitability in the Nigerian banking sector. *International Journal of Engineering and Information Systems, 8*(4), 15-21.

Moghaddam, B. K., & Khatoon-Abadi, A. (2023). Factors affecting ICT adoption among rural users: A case study of ICT Center in Iran.

Mukuna, N. (2022). The effect of ICT adoption on the performance of health sector in Kenya: A survey of hospitals in Nairobi County. *International Journal of Technology and Systems, 1*(2), 12-29.

Muragwa, J., & Njenga, G. (2023). Employees' capacity building and performance of non-governmental organizations in Rwanda: A case of Free Methodist Church in Rwanda, Kigali City. *Journal of Human Resource & Leadership, 6*(4), 73-84.

Mutie, M. M., & Kibe, L. W. (2024). Analysis of ICT adoption on the financial performance of Kitui Teachers Sacco. *Journal of Economics, Finance and Management Studies, 7*(7), 4188-4197.

Ndungu, S., & Mukangu, F. K. (2022). Role of computerization on organizational performance: A case of Kenya Airways Company. *The Strategic Journal of Change and Business Management, 3*(2), 724-555.

Njau, W. M. (2021). *Influence of Computerization on the Performance of Customs and Border Control in Kenya*.

Otibine, L. I. (2022). *Effects of Capacity Development Strategies on the Performance of the Department for International Development in Kenya*.

Otieno, D. O., & Makhamara, F. (2024). Adoption of information communication technology in hybrid working and employee performance in African Development Bank in Nairobi City County, Kenya. *The Strategic Journal of Business & Change Management, 11*(3), 718-728.

Prekoh, S., & Xue, X. (2020). The impact of ICT adoption on the performance of logistics firms in Accra, Ghana. *International Journal of Advanced Engineering Research and Science, 8*(3), 92-109.

Saleem, I., Qureshi, T. M., Anwar, S. M. F., & Hijazi, T. (2021). Role of information and communicational technologies adoption in perceived organizational performance: Empirical evidence from higher education sector of Pakistan. *Business Review, 6*(1), 81-94.

Sugut, O. C. (2021). *The Effect of Computerized Accounting Systems on the Quality of Financial Reports of Non-Governmental Organizations in Nairobi County, Kenya*.

Trakulyingyong, T., & Sunkpho, J. (2020). An examination of the effects of government's strategy on SMEs' decision to adopt ICT in Thailand. *International Journal of Innovation in Management, 5*(1), 9-20.

Yotham, A., & Kijazi, A. (2024). Influence of information and communication technology adoption on the performance of office management practices: A case of the Tanzania Automotive Technology Centre, Tanzania. *African Journal of Empirical Research, 5*(4), 421-431.