EFFECT OF INFORMATION COMMUNICATION AND TECHNOLOGY ADOPTION ON EMPLOYEE PERFORMANCE. A CASE OF EMPLOYEES OF KISUMU COUNTY GOVERNMENT

BY

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DECLARATION

I declare that this research project is my original work and has never been presented by any other researcher to any institution in its present form and manner for the fulfillment of the requirement for the award of any degree qualification.

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This research project has been presented for examination with my approval as University Supervisor

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DEDICATION

This Project is dedicated to my Family, who gave me necessary support and was accommodative during this period.

ABSTRACT

ICT has been defined as a broad-based technology (including its methods, management and application) that supports the creation, storage, manipulation and communication of information. In a landscape where organizations strive for efficiency and competitive edge, navigating technology adoption strategies becomes pivotal. This research delves into the correlation between Information Communication Technology (ICT) adoption and employee performance among Kisumu County Government employees. Numerous organizations grapple with technology choices to bolster efficiency and elevate employee performance for market competitiveness. The dearth of comprehensive data on specific technologies implemented and their integration within Kisumu County Government poses a knowledge gap. The absence of a holistic understanding of how technology types are integrated across departments impedes effective decision-making for technology adoption in the Kisumu County Government. This study aimed to assess the impact of technological infrastructure, technological skills, and technology management support on employee performance among the workforce in Kisumu County Government. The significance of this study lies in its illumination of the critical relationship between technology adoption and employee performance within the Kisumu County Government, offering valuable insights for policymakers and stakeholders to make informed decisions regarding technology integration and its impact on organizational efficiency. Justification stems from the current dearth of comprehensive data on specific technologies implemented and their effects within governmental settings, highlighting the pressing need for empirical evidence to guide strategic technological advancements for enhanced workforce productivity. Guided by resource-based theory, the hypothesis centered on the positive relationship between technology adoption factors and employee performance. Employing a quantitative approach with a descriptive research design, the study surveyed 375 respondents using a structured questionnaire. The census sampling method ensured a comprehensive sample representation. The study revealed significant insights: technological adoption accounted for a notable 36.1% variance in employee performance (R square = 0.361, F(3, 366) = 68.885, p < .05). Notably, technological infrastructure and skills positively impacted employee performance (B=.490, B=.263, respectively, p < .05), while technological management support did not significantly affect performance (B=0.061, p > .05).The findings have substantial implications. Policymakers, scholars, and stakeholders can leverage this data for informed decision-making and policy formulation on technology's role in augmenting employee performance. The findings are important to policymakers, scholars, academicians and future researchers and other stakeholders for purposes of increased investment in ICT, advocacy on ICT budgetary allocation and adoption support, for policy formulation and decision-making on the role of technology in enhancing employee performance. The study recommends increased investments on ICT infrastructure, training and capacity building of staffs on ICT skills to improve utilization and enhanced management support and commitment for ICT adoption and utilization. Expanding similar research to other counties, exploring technological infrastructure's influence on organizational performance, investigating technological management support's correlation with value for money in Kenyan counties. The study contributes crucial insights into the nexus between technology integration and workforce productivity in a governmental context and underline the significance of technological infrastructure and skills in enhancing employee performance, prompting avenues for further exploration and informed decision-making within organizational settings.

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LIST OF ABBREVIATIONS

EU	:	European Union
ERC	:	Ethical Review Committee
FDIs	:	Foreign Direct Investments
GDP	:	Gross Domestic Product
ICT	:	Information Communication Technology
IT	:	Information Technology
RBT	:	Resource Based Theory
SMEs	:	Small Medium Enterprises
TTF	:	Task-Technology Fit Theory

DEFINITION OF OPERATIONAL TERMS

Employee Performance: Is defined as how an employee fulfills their job duties and executes their required tasks. It refers to the effectiveness, quality, and efficiency of their output.

Information and Communication Technology: A Technology, whose objective is to gather process, store, and retrieve, present and transmit information by the county governments.

ICT Infrastructure: These are computing resources required for the operations of an ICT system of the county government.

ICT Skills: These are proficiencies required by county government staff to use ICT Systems.

Management Support: This is the support extended to the county government in Terms of acquisition of the necessary hardware and software resources needed by the county government, training of staff and initiation of projects by the management of the county government.

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CHAPTER ONE

INTRODUCTION

This part provides an overview of the background material related to the subject matter under investigation. It also outlines the problem that is being addressed, the purpose of the study, the research objectives, and the significance of the study. Additionally, it delimits the scope of the study and presents the conceptual framework that will guide the research.

1.1 Background to the Study

Technology adoption is defined as the choice or decision, by individual or organization, to acquire and implement a new innovation technology. The growing technology needs environment and increasing failures of technology adoption in the organization, a reliable behavior predicting tool has become an interesting topic for many companies. The adoption of technology not only depend on organizational strategies, policies, and action, but it also relies on the employee's attitude. Technology adoption needs strong managerial efforts and commitments in the organization (Achieng & Jagero, 2014).

Organizations require to provide sufficient facilitating conditions such as technology and resource support which would eventually influence them on using new technology. Both individuals and organizations tend to adopt new technology when there are some potential benefits that could increase their market competitiveness. Technology such as Information and Communication Technology (ICT) is nowadays widely used by organizations to improve performance. ICT is being widely utilized to enhance service delivery and customer service. Technology ensures resources are used optimally thereby reducing operational cost. Therefore technology adoption such as use of ICT is being used in marketing products globally without being restrained by boundaries (Ortega-Rodríguez, Licerán-Gutiérrez & Moreno-Albarracín, 2020).

According to Burhalis (2013), ICT has given huge impact to operations, structures and strategies of firms. ICT use not only leads to saving of costs and resource optimization, and it also leads to improved customer service (Ashraf & Murtaza, 2008). The use of Technology has become a way of live in all spheres of life. Technology abilities might be thought of as "gateway skills," without which a person's chances of landing a job would be greatly diminished. Over the past ten years, there have been significant changes in the ways that services are supported through technology. Technology skills such as ICT can serve to enhance a person's employability profile, particularly when combined with other skills and attributes, or as a catalyst for further skills development. (Hoyos, et al., 2013). ICT has been defined as a broad-based technology (including its methods, management and application) that supports the creation, storage, manipulation and communication of information (Nwabueze & Ozioko, 2011).

Internationally, billions of dollars are spent annually on technology especially information and communication technology (ICT) implementations in developing countries, such as India and China (UNDP 2004). Such ICT implementations play an important role in fostering socioeconomic development in these countries (UNDP 2004). In particular, ICTs have been suggested as a key building block in bringing better quality of life, education, health care, and government to these countries (UN Millennium Project 2005). One of the reasons for such large investments in technologies is foreign investors' interest in these countries as new frontiers for corporate expansion via a physical presence or outsourcing (Roberts and Arndt 2005). It is because of these foreign direct investments (FDIs) and other favorable factors (e.g., economic reforms) that developing countries, especially India and China, are now among the fastest growing economies in the world (Rajat 2005).

Beyond the broad benefits expected, ICT implementations in organizations in these countries are an important avenue for upgrading employees' skills and creating better career

opportunities (Rubery and Grimshaw 2001). The fruits of Technology whether constructive/potentially destructive have significantly shaped our country. A high rate of personal consumption respects for higher education the desire for excellence in all fields and government support of basic research has contributed to the rapidly changing environment (Rajakumaran, 2014). According to Odeh (2019), business transparency and efficiency is found to increase when there is a use of technology in the organization. In Africa, IT has been Africa's quest for greater productivity, quality and morale is heightening (Balcer, 2004). And while employee involvement has become the catchword in much forward thing kind organization with their quality circles and labor management.

ICT utilization has changed all aspects of organization direction and operation. In work systems, workers, labour and employee performance have been affected by ICT in nearly and its major aspects, as employees and managers are interconnected through network of computers and other information gadgets. Many aspects of organization, industrial relations are organized and directed through ICT networking. These networking also connect production and service provision within and outside organizations. In Rwanda, the Government of Rwanda has increased internet accessibility through an optic fiber covering all 30 districts as well as 4G penetration as these helps organizations and more so SMEs to use technology easily (Mundere & Marešová, 2016).

In Kenya, Communication Authority of Kenya provides Community ICT access points/Telecentres (CA, 2013).The community centers are communal ICT access points that aim to reduce the per –capita cost of using ICT services, by minimizing the cost of the equipment and payments for services. The idea is to facilitate organized social groups to integrate ICT services in their daily activities; in order to improve their livelihoods. This was deployed in four such centers. Each community center received a server, two computers, a printer and Internet connectivity for, at least, one year. Services provided by the centers.

Information communication technology is not only essential for company or government; it is also important for nation. Companies cannot run with old technologies. Technology increase human performance when human or employees use technology for the benefits of the organization and use it with ethical values.

Individual person cannot adopt technology easily and on the other side group of people can adopt technology easily. Computer is a greatest invention; it is useful only in that case when employees use it for their work. ICT technology can be used for both purposes for break or for make purpose. Employee work load reduce through technological advancement. Number of employees to perform one task is also reduced. Companies require not much more employees to perform one job. Human effort is also reduced through technological advancement. Single employee can perform its job without any hurdle (Ridley, 2020)

ICT has been defined as any technology used to support information gathering, processing, and distribution and use (Beckinsale & Ram, 2006). The definition used in this study classifies ICT into information technologies, telecommunications technologies and networking technologies (Nicol, 2003). This covers all forms of technologies such as computers, Internet, websites as well as fixed-line telephones, mobile phones and other wireless communications devices, networks, broadband and various specialized devices (Manueliet al, 2007). Performance as a multidimensional concept is defined as the manner in which something or somebody functions, operates or behaves; the way in which somebody does a job, judged by its effectiveness; and the act of accomplishing something such as a task or action (Eisakhani, 2012). Hence, employee performance is a complicated concept which encompasses both task-related and contextual factors including the importance of social skills as a predictor of the job performance (Armstrong, 2010). In this regard, job performance is defined as the extent to which an employee accomplishes the overall performance expectations.

Harrington (2011) defines employee performance as a set of behaviour that is under persons

control and affects the goals of the employing organization. In addition, Harrington (2011) defines performance as a function that an employee can successfully perform within the framework of normal constraints and available resources. The key to the development and improvement of employees' job performance is identifying different factors impacting on their performance in organizations. All organizations want to remain competitive and retain their market share. A strong competitive advantage is driven by customer needs and aligns the organization's resources with its business opportunities (Neo, 2008). ICT adoption speeds up work processes so that client response is enhanced (Capon, 2008). Use of ICT enables quick and timely delivery of services and products. Secondly, reductions in processing time can only be accomplished by streamlining and simplifying processes and value chains to eliminate non-value-added steps such as rework and waiting time (Capon, 2008)

1.2 Statement of the Problem

Organizations need employees that are able to get the job done, because employee performance is critical to the overall success of the company. One of the most important factors in employee performance is to achieve goals. Successful employees meet deadlines, make sales and build the brand via positive customer interactions. When employees do not perform effectively, consumers feel that the company is apathetic to their needs, and will seek help elsewhere. One of the major factors that enable employees to perform is (ICT). Globally, ICT is being deployed by organizations to improve efficiency, customer service and acquire a portion of the global market. It is paramount that organizations that want to maintain competitive edge in this era of cut throat competition embrace ICT as a way of satisfying the ever-increasing demands of customers. Performance of employees in Kisumu County government is affected by poor governance, lack of efficiency, political interference, inadequate funding, poor management, poor communication and non- adoption of technology. ICT adoption plays a very important role in the performance of employees and subsequently on organizations. The biggest challenge

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is in ensuring optimum utilization of human resource in relation to ICT adoption. The major challenges are either underutilizing human resource or ICT tools adoption. This could be in form of misusing these tools by employees or underutilizing the potential of employees due to lack of appropriate information, communication technology tools. An organization may invest capital in bringing modern technology to use but if not appreciated by employees, it could be disastrous and the objective may not be realized in time probably due to lack of required skills in the organization. The county government of Kisumu is faced with challenges in adopting Technology. However, it is not clear how these challenges affect performance or the magnitude of these challenges. This has made the county not to offer effective, efficient and minimal and effective cost. It is against this that the study seeks to examine the effect of technology on employee performance in Kisumu County government.

1.3 General Objective

The general objective of the study was to determine the effect of ICT Adoption on Employee Performance using a case of Kisumu County Government Employees.

1.3.1 Specific Objectives of the Study

i.   To determine the effect of Technological infrastructure on employee performance in Kisumu County government, Kenya.

ii.   To assess the effect of Technological skills on employee performance in Kisumu County government, Kenya.

iii. To establish the effect of Technological management support on employee performance in   Kisumu County government, Kenya.

1.3.2 Hypotheses of the Study

H_{01}: Technological infrastructure does not have a significant effect on employee performance in Kisumu County Government

H_{02}: Technological skills does not have a significant effect on employee performance in

Kisumu County Government

H$_{03}$: Technology management support does not have a significant effect on employee performance in Kisumu County Government.

1.4 Scope of the Study

The scope of the study on the effect of Technology Adoption on employee performance in Kisumu County Government, Kenya, involves a comprehensive investigation into the integration of technological tools, systems, and innovations within the government structure and how these impact the efficiency, productivity, and overall performance of employees. This study aims to delve into the specific technologies implemented, their extent of adoption across various departments, and their correlation with employee job satisfaction, skill development, and task effectiveness. It seeks to analyze the challenges, benefits, and implications of technology adoption, considering factors such as infrastructure, training programs, and cultural aspects that may influence the successful implementation and utilization of technology. The research also intends to propose recommendations and strategies to optimize technology integration for enhancing employee performance within the governmental framework of Kisumu County, Kenya.

1.5 Justification of the Study

Understanding the impact of technology adoption on employee performance within the Kisumu County Government, Kenya, holds pivotal significance for optimizing governmental operations and service delivery. This study aims to elucidate the direct correlations between technological integration and employee productivity, efficiency, and job satisfaction. Assessing this relationship will not only validate the investment in technology but also provide actionable insights into the specific technologies and training programs that yield the most significant improvements in performance. Moreover, by contextualizing these findings within the unique socio-economic landscape of Kisumu County, the study can offer tailored recommendations

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for the county's governance, fostering a more adept and efficient public service delivery system while addressing the localized challenges and opportunities associated with technological integration.

1.6 Limitations of the Study

The researcher faced some limitations particularly when collecting the data from the sampled respondents. One of the challenges was on the structure of the data collection instrument which limited the way respondents gave their views. In line with this challenge, it was ensured that the research questionnaire addressed all study objectives as comprehensively as possible. Accessibility of some of the projected respondents proved to be difficulty due to the nature of their job that entails going to the field. To this effect, the researcher arranged with the offices of the employees where their contacts were taken. This improved their accessibility by making prior arrangement with them through phone calls.

1.7 Conceptual Framework

In a structure (conceptual framework), the research variables are conceptualized. This context is described as representing the variables of the research and how they are supposed to communicate. The conceptual framework can be described in a diagram. The conceptual framework shown in Figure 2.1 shows the Independent Variables and Dependent variable. Independent variables include Technology infrastructure, Technology skills and Technological management support. As conceptualized in the figure, the Independent variables are presumed to relate to the Dependent variable (employee performance).

Independent Variables   **Dependent Variable**
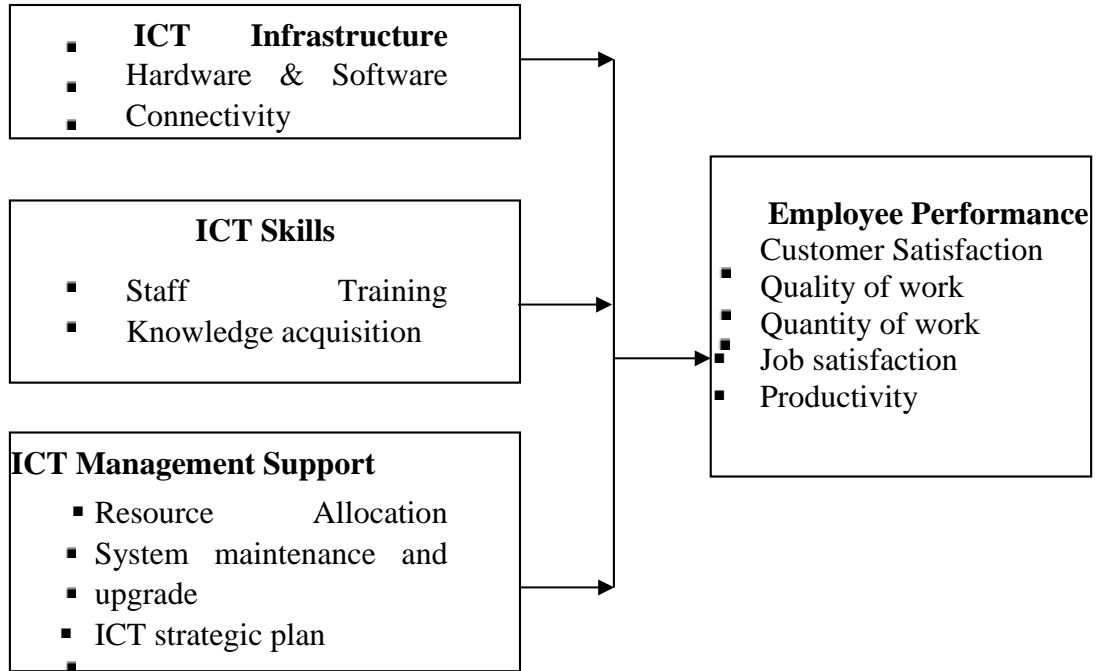
Figure 1. 1: Conceptual Framework

Source: Self Conceptualization (2023)

The Figure conceptualizes the relationship between technology adoption and employee performance. In this case, technology adoption is measured using three sub scales, these include ICT infrastructure, ICT skills and ICT Management Support. These are the subscales of the independent variable (Technological adoption). In addition, the dependent variables measured using four subscales which are customer satisfaction, quality of work, quantity of work and job satisfaction. The nature of the relationship is supposed to be both bivariate and causal, whereby technological adoption is expected to have a predetermined effect on employee performance.

1.8   Significance of the study

The study on the effect of Information Communication and Technology (ICT) adoption on employee performance within the context of Kisumu County Government holds paramount significance. It serves as a critical exploration into the intersection of technology integration and workforce productivity within a governmental setting. The findings can illuminate the potential enhancements in operational efficiency, service delivery, and overall performance that arise from embracing ICT tools and systems. Understanding these dynamics not only impacts the county's ability to leverage technological advancements effectively but also offers insights applicable to broader public sector organizations, paving the way for informed policy-making and strategic implementations in optimizing employee performance through ICT integration.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with the theoretical framework, conceptual framework, and empirical literature on key variables of the study namely ICT infrastructure, ICT skills and ICT management support and their effect on employee performance, research gap and summary of the literature.

2.2 Theoretical Framework

The section involves reviews of relevant theories and models that support the adoption of ICT and performance of employees and which were critical in guiding the study. The theories are Resource Based Theory and Task-Technology Fit Theory.

2.2.1 Resource Based Theory (RBT)

This theory was developed by Birge Wenefeldt in 1984.The theory acknowledges that firms achieve competitive advantage and superior firm performance through synergistic mix of valuable, rare, inimitable and non-substitutable resources that they possess (Barney, 1991). Further, RBT asserts that firms use these resources to implement strategies by effectively and efficiently developing capabilities that can be leveraged to sustain competitive advantage (Barney, 1991).The theory further emphasizes analysis and identification of firm's strategic advantages based on examining its distinct combination of assets, skills, capabilities and intangibles as an organization. According to RBT proponents, it is much more feasible to exploit external opportunities using existing resources in a new way rather than trying to acquire new skills for each different opportunity. In RBT model, resources are given the major role in helping companies to achieve higher organizational performance. There are two types of resources: tangible and intangible. Tangible assets are physical things. Land, buildings,

machinery, equipment and capital. Physical resources can easily be bought in the market so they confer little advantage to the companies in the long run because rivals can soon acquire the identical assets while intangible assets are everything else that has no physical presence but can still be owned by the company (Anand, Wamba & Sharma, 2013).Brand reputation, trademarks, intellectual property are all intangible assets. Unlike physical resources, brand reputation is built over a long time and is something that other companies cannot buy from the market.

The RBT's underlying premise is that a firm differs in fundamental ways because each firm possesses a unequal bundle of resources-tangible, intangible assets and organizational capabilities to make use of those assets (Anand, Wamba & Sharma, 2013). Each firm develops competencies from these resources, and when developed especially well, these become the source of the firm's competitive advantage (Pearce & Robinson, 2007).

The theory therefore emphasizes on the internal resources of the firm as the source of performance and competitive advantage, rather than the external environment. In regard to this study, the following factors can be viewed as forming bundles of firm assets important to the firm and for inclusion in the framework: computing resources and capabilities, top Management Support, ICT skills and human capital. Adoption of ICT by utilization of the resources can be used to develop competencies which in turn improve the performance of employees in county governments.

2.2.2 Task-Technology Fit Theory (TTF)

The theory was proposed by Goodhue and Thomson (1995). TTF theory assumed that information technology is more likely to have a positive effect on individual performance andbe used if the capabilities of information technology match the task that the user must performed (Goodhue & Thompson, 1995). To explain the linkage between information technology utilization and individual performance, they developed a conceptual model of technology-to-

performance chain. This conceptual framework was based on two separate research streams: first, the utilization of information technology with its antecedent of attitudeand behavior, and second, the ―fit focus‖ evident in research investigating the performance of individual information technology user.

Venkatraman (1989) discussed the concept of fit assessment in strategy research comprehensively with six alternative perspectives and approach of fit. Fit as moderation perspective; effect of fit as a moderating variable of an independent variable (predictor variable) on dependent variable (criterion variable). Fit as mediation perspective; an existence of intervening (indirect) effects between an antecedent variable and its consequent (criterion) variable. Fit as matching perspective; fit is a theoretically defined match between two related variable. Fit as gestalts; gestalts could be defined as the degree of internal coherence among a set of theoretical attributes (fit as on the identification of different group). Fit as profile deviation; the degree of adherence to a specified profile. Fit as co-variation; a pattern of co-variation or internal consistency among a set of theoretically related variables. Goodhue and Thompson (1995) indicate that the fit between task characteristics and featuresof information systems provide a conceptual basis for testing the quality of individual decision-making. System information helps users by providing information that can be used individually to carry out their duties. Therefore, the strong relationship between information technology and individual performance (Teo & Men, 2008) or utilization (Strong et al. 2006)is the fit between information technology that provides information to users and informationneeded to the task that must be done.

The TTF theory proposes that a better fit between technology and task will lead to better Performance. Goodhue and Thomson (1995) in their study observe that there is supportive evidence of TTF as a function of system characteristics and task characteristic, and strong evidence of performance in which TTF and utilization must be included. In the study, as

proposed by the TTF and as explained above, adoption of ICT by County governments can lead to improved employee performance. The fit between the task and technology as used in the study are the relevant ICT skills and the appropriate ICT resources adopted in order to enhance performance.

2.3 Empirical Literature

This section explores the previous studies relating to the effect of the constructs for independent variables, ICT infrastructure, ICT skills and ICT management supports, on the dependent variable, employee performance.

2.3.1 ICT Infrastructure and Performance

Al-Hawary and ALdafiri (2017) researched on the adoption of the information technology elements on Employees Performance of Interior Ministry of Kuwait State, the elements of information technology variables represented by (hardware, software, databases, networks, and the human element), the study population consisted of managers in the Interior Ministry of Kuwait State, and has been used comprehensive method of the population, and the researcher used the questionnaire to collect data of the study. And researcher used statistical tests in order to analyze questionnaire, answer the study questions and testing of hypotheses. And the researcher found that there a statistically significant effect at the level of significance for the adoption of information technology elements represented by (hardware, software, data bases, and the human element) on Employees Performance of Interior Ministry of Kuwait State. Infrastructure includes Information Technology. However, it does not include the associated People and processes. Infrastructure is the base on which a system or an organisation is supported (McKay & Brockway, 1989). In computing, the physical and virtual resources that help to manage and process data, form the information technology infrastructure.

Toader, Firtescu and Anton (2018) carried a study to examine the impact of information and communication technology infrastructure on economic growth, an empirical assessment for the

EU countries. Using panel-data estimation techniques, the researchers investigate empirically how various indicators of ICT infrastructure affect economic growth, proxied in the study by GDP per capita. Results indicated a positive and strongly effect of using ICT infrastructure on economic growth in the EU member states, but the magnitude of the effect differs depending on the type of technology examined.

Jabbouria, Zahari and Khalid (2015) investigated the impact of information technology (IT) Infrastructure on Innovation performance as a critical issue in the Iraqi private Universities. The proposed design approach asked participants to respond to a self-reported questionnaire, five information technologies as the independent variable, and subjective measures of Innovation performance as the dependent variable. Factor analysis was performed to identify the banks 'IT Infrastructure with Innovation performance to test. The study population consisted of six private Universities in Iraq. From these, 75 academics of the faculty were chosen. The analysis results indicated a positive and statistically significant association between IT Infrastructure and innovation performance.

A study conducted by Kimani (2015) examined the impact of information technology on organizational performance, a case of population services Kenya. A descriptive survey was used. Primary data was collected using a semi-structured questionnaire. The population for this study comprised of the entire PS Kenya staff which was 438. The questionnaire was administered electronically for data collection. The study findings revealed that majority of the respondents had various IT company devices at their disposal to enable them perform their duties. The study findings also revealed that there was a positive relationship between the level of IT use and organizational performance at Population Services Kenya. The study results indicated that IT use explains 82.4% of organizational performance at PS Kenya. The study recommends that organizations should embrace IT tools and services so as to have competitive edge and improve service delivery to their customers.

Karungani and Ochiri (2017) effect of ICT infrastructure support on organizational performance: a case of Nairobi County, Kenya. The research was based on the positivist research philosophy. A quantitative research design and a survey strategy were used.

The research employed purposive sampling to select 87 employees in Nairobi County Government to participate in the research. Data was collected using simple structure questionnaires and analyzed using descriptive and regression analysis. The findings showed that a robust Technology infrastructure in procurement improves communication, enhances efficiency, enhances monitoring and control, makes work easier as well as improving service delivery. Technology infrastructure also plays an important role in improving the level of coordination between members of the supply chain network. It facilitates the flow of information between members of the supply chain ensuring the timely delivery of goods and services between supply chain partners. By improving coordination among supply chain partners, Technology infrastructure eliminates high transaction costs associated with the flow of goods supply from one chain partner to another.

2.3.2 ICT Skills and Performance

Wang (2014) examined the effects of two ICT related factors, ICT utilization and perceived ease of ICT usage, on two job outcomes, job satisfaction and work effectiveness. On a theoretical basis, the author proposed that these effects could be mediated by knowledge sharing. A total of 246 usable responses from full-time employees working in China were analyzed using hierarchical regression analyses, which were furthered confirmed by Sobel test and bootstrap-based process analysis. Results showed that both job satisfaction and work effectiveness were positively related to ICT utilization and perceived ease of ICT usage. Employees' knowledge sharing orientation significantly mediated the relationships of job satisfaction with ICT utilization and ease of ICT usage, as well as the relationships of work effectiveness with these two factors. Technology Knowledge Management, Knowledge

management is defined as the organized arrangement of a company's knowledge resources for meeting business requirements and creating value.

An empirical study conducted by Dalain (2013) analysed the impact of training and information and communication technology on employee's performance in pharmaceutical manufacturing companies in Amman. Two independent variables were defined namely: Training and information and communication technology as well as one dependent variable is defined namely: employees' performance. The study population consisted of (15) Pharmaceutical Manufacturing Companies working in Amman. The study used stratified random sample. To collect the primary data a questionnaire survey was distributed to (120) managers. The results showed that training was the most significant and it positively and directly regresses on employee's performance, followed by information and communication technology and it positively and directly regresses on employee's performance.

The research of Sahito and Vaisane (2017) assessed the effect of ICT Skills on the Job satisfaction of teacher educators, evidence from the Universities of the Sindh Province of Pakistan. The research paper was a reflection of the results of collected data from Teacher Educators regarding their skills and expertise in Information and Communication Technologies (ICT). Seven themes were inductively identified and called, 7Es like as, expertise in use of windows programmes; expertise in use of security measures; expertise in use of hardware instruments; expertise in use of internet; expertise in creating accounts; expertise in installation of softwares; and expertise in use of software's. All extracted themes revealed the utility of the study and thematic analysis.

In Nigeria, Okwonko (2016) investigated the influence of ICT for effectiveness of staff job performance in two Universities in Oyo State, Nigeria. The descriptive survey research design was employed to collect the requisite data.

The data collected were analyzed using statistical measures of Mean, Standard deviation,

Pearson Product Moment Correlation. A total of nine hundred and four secretariat staff was used for this study from the two universities. Two hundred and twenty-eight were purposively used for this study. A structured questionnaire was used. The study revealed that availability of ICT facilities; in-service training and constraints were significantly related to the use of ICT effectiveness and job performance of staff in the two institutions.

Studies done by Machii and Kyalo (2016) focused on assessment of ICT adoption for performance of selected small and medium enterprises in Nairobi County, Kenya. The study used descriptive design. The targeted population was 4560 SMEs registered by the Ministry of Trade and Industrialization within Nairobi County. The sample size of 367 SMEs was used. The stratified random sampling was used in selecting the sample. The data was collected using structured questionnaire. The data analysis was conducted using both descriptive and inferential statistics with the help of SPSS. From the findings ICT user skills and government policies as licenses showed statistical significance in relation to ICT adoption on performance.

2.3.3 ICT Management Support and Performance

Research carried out by Niehoff, Cathy and Grover (2015) sought to find out the impact of top-management actions on employee attitudes and perceptions. Recent findings in transformational leadership research prescribe top management to develop and share a vision for the organization, model that vision, encourage innovativeness, support employee effort and allow employees input into decisions concerning their jobs. The study examined the relationships between the five actions and employee commitment, job satisfaction, and role ambiguity. Results suggested that top-management actions are strongly related to all three of these outcomes. The results also suggested that the effects of certain actions vary for different organizational settings.

Analyzing the effect of the senior management's support on the relationship between factors affecting and employees' performance in the Al-Zawiya University of Libya was a study

conducted by Dukhan, Mohamad and Ali (2017). The study aimed to test the influence of the senior management's support as a moderating variable on the relationship between the independent factors (Training, Empowerment, Motivation and Communication) and the dependent variable (Performance of Employees). Multiple-groups analysis was used to test the impact of the moderating variable. The paragraphs of the senior management's support variable are collected and divided into two groups according to the mean of the total paragraphs.

In addition, according to the relative weights given to the paragraphs of the questionnaire, using a five- point's Likert scale. The first group consisted of the grades less than the mean and it is considered as the group which is non-supporters of the existence of support. While the second group consisted of the grades higher than the mean and considered as the group which is a supporter of the existence of support. The study found that the model of study in the presence of the support of the senior management's was appropriate for the second group and inappropriate in light of the lack of support by the senior management's support for the first group (Machii & Kyalo, 2016).

Rureri, Namusonge and Mugambi (2017) assessed the role of top management support practice in selected steel manufacturing firms in Kenya and its effect on financial performance of the organizations. The study adopted a descriptive survey research design that collected both qualitative and quantitative data through structured questionnaires. The target population was the 46 listed Kenyan Steel Manufacturing Companies. Data was collected from Management Representatives or Quality Assurance Managers or their equivalents. Descriptive statistics was used to analyze quantitative data while qualitative was analysed through themes. The study revealed that there was a very minimal top management support attributed to lack of understanding of their traditional handling of the organization.

The study of Shaar and Manna (2015) aimed to identify the direct and indirect effect of top management support on innovation through the synergy between organizational structure and

information technology. Data were collected from 210 industrial companies. Structural Equation Modeling was used to test the hypotheses of the study. In addition, Confirmatory Factor Analysis was used to test the validity and reliability of the study instrument. The study concluded that the support of top management affect innovation (product innovation and process innovation). Furthermore, the results showed that top management support affects the synergy between organizational structure and information technology.

Another study conducted by Karungani and Ochiri (2017) evaluated the impact of leadership and management support towards procurement on organizational performance in Nairobi County Government. The research was conducted based on a quantitative research design and it employed a survey strategy. Convenience sampling was used to select 87 employees in the procurement and finance department of Nairobi County Government. The findings of this research showed that leadership and management support towards procurement positively impact on organizational performance. According to the research findings, the top management is charged with the responsibility of formulating policies, vision and goals of the organization; ensuring that employees are committed to organizational goals; provide guidance to support staff and providing direction to the entire organization

2.4 Service Quality and Customer Satisfaction

Early concepts of satisfaction research have typically defined satisfaction as a post choice evaluative judgment concerning a specific purchase decision (Churchill & Sauprenant 1992). Most researchers agree that satisfaction is an attitude or evaluation that is formed by the customer comparing their pre-purchase expectations of what they would receive from the product to their subjective perceptions of the performance they actually did receive (Oliver, 1980). Although there is a general conformity on the distinctiveness of service quality and customer satisfaction from a conceptual point of view, the operationalization of customer satisfaction is somewhat hazy. For instance, Cronin and Taylor (1992) defined and measured customer satisfaction as a one-item

scale that asks for the customers' overall feeling towards an organization. By using a single item scale to measure customer satisfaction, Cronin and Taylor's approach fails to do justice to the richness of the construct, as it has failed to acknowledge that, like service quality, customer satisfaction is also likely to be multidimensional in nature. Bitner and Hubert (1994) used four items to measure the customers 'overall satisfaction with the service provider. The authors introduced the concept of encounter satisfaction, and devised a nine-item scale to measure the same (i.e. the customers 'satisfaction with a discrete service encounter). Other works have emphasized the multi-faceted nature of customer satisfaction and have used multiple item scales to measure customer satisfaction (Crosby & Stephens, 1987; Suprenant & Solomon, 1987; Oliver & Swan, 1989). In a recent effort, Shemwell et al. (1998) used a five-item scale to model customer satisfaction. Price et al. (1995) measured service satisfaction by using a six-item scale, while studying the structural model of the relationships among the service provider 15 performance, affective response and service satisfaction.

From the growing body of literature on customer satisfaction, one can easily observe that there has been some research works on specific encounters, known as transaction-specific/encounter-specific customer satisfaction. Researchers have also acknowledged the multi-dimensional nature of customer satisfaction and have come out with global measures (capturing the satisfaction at multiple levels in the organization), that view overall satisfaction as a function of satisfaction with multiple experiences or encounters with the service providers. The present study takes a slightly different approach and views customer satisfaction as a multi-dimensional construct, but the underlying factors/items of customer satisfaction are the same as the ones by which service quality is measured. In other words, the current work argues that customer satisfaction should be operationalized along the same dimensions that constitute service quality and by the same items that span the different dimensions.

Researchers are yet to conclude on the antecedents to service quality and satisfaction. A study

carried out by Bitner (1990) on 145 tourists in an international airport suggested satisfaction as the antecedent to service quality (satisfaction →service quality). On the other hand, there are many other researchers who concluded that service quality is the antecedent to satisfaction (Ahmad and Kamal, 2002; Cronin and Taylor, 1992). Using service quality as the antecedent to satisfaction is more logical. This is because satisfaction is an important goal to be achieved by marketers and if the firm want to increase satisfaction, they can do it through service quality (Goode et al., 1996). According to Negi, (2009), the idea of linking service quality and customer satisfaction has existed for a long time. He carried a study to investigate the relevance of customer-perceived service quality in determining customer overall satisfaction in the context of mobile services 16 (telecommunication) and he found out that reliability and network quality (an additional factor) are the key factors in evaluating overall service quality but also highlighted that tangibles, empathy and assurance should not be neglected when evaluating perceived service quality and customer satisfaction. This study was based only on a specific service product in telecom industry (mobile service) and we think it is very important to identify and evaluate those factors which contribute significantly to determination of customer-perceived service quality and overall satisfaction. Researchers have yet to come to conclusion on the antecedents to service quality and satisfaction. A study carried out by Bitner (1990) on 145 tourists in international airport suggests satisfaction as antecedent to service quality (satisfaction- service quality). On the other hand, there are many other researchers who concluded that service quality is antecedent to customer satisfaction (Ahmad & Kamal, 2002; Cronin & Taylor, 1992). Kumar et al, (2009) used the SERVQUAL model in a research to determine the relative importance of critical factors in delivering service quality of banks in Malaysia (Kumar et al., 2009).

2.5.3 Employee Performance

Individual within the Organizations are performing to best of their ability and developing their potential for improvement‖ is the employees' work performance. Human resource performance is

intimately linked to technological change and technological innovation. Technological change could be effectively managed through human resource joint approach. Individuals can innovate and achieve great technological breakthrough but the complexities of modern technology require effective combination of different innovations based on different aspects of technology.

 Hence human resources need to work as an individual and as a team and combine their innovation for production of new technology, goods and services. Individual innovation is meaningful and workable when combined with that of others. The collective innovation is also impossible without individual innovation, hence the two are separate, but could only work in the production process when they are combined and effectively managed to produce result, (Burns & Stalker, 1961).

Throughout the years, numerous authors have provided diverse definitions of performance.

In 1964, Peter Drucker defined performance as "doing the right things well." According to Drucker, performance involves not only achieving high levels of productivity but also aligning one's efforts with the strategic goals and objectives of an organization. Robert and David (1988) introduced the concept of the Balanced Scorecard, which defined performance as the accomplishment of four key perspectives: financial, customer, internal processes, and learning and growth. This perspective emphasized the importance of measuring performance in multiple dimensions to provide a holistic view.

In 1992, Michael Armstrong offered a more individual-centric definition, stating that performance is "the ability to apply knowledge, skills, and abilities to achieve desired results." Armstrong's definition highlights the personal attributes and competencies that contribute to effective performance in the workplace. In 2011, Andre de Waal defined performance as "the ability to realize predefined goals and objectives effectively and efficiently." This definition emphasizes both effectiveness (achieving the right goals) and efficiency (achieving goals with minimal resources), reflecting a balanced approach to performance evaluation. These

chronological definitions of performance showcase the evolving perspectives on what constitutes performance, ranging from organizational alignment and measurement frameworks to individual competencies, collective contributions, observable behaviours, and the achievement of predefined goals. There are various methods for the measurement of organizational performance. The first of them is through: Objective (quantify) and Subjective (judgmental) methods. Financial (e.g. profit, sales) and operational (e.g. customer satisfaction, quality). Primary (from organization) and secondary (from databases) data bases (Venkatraman and Ramanujam, 1986; Sang, 2004). In objective measurement, quantitative data (i.e. absolute performance data) is measured whereas in subjective method what is measured is perceptive opinions about performance according to the competitors or company expectations (Dess and Robinson, 1984).

The same performance criteria are measured both objectively and subjectively. Your criteria can be qualitative such as customer satisfaction and overall organizational performance or quantitative such as profit. Effectiveness oriented companies are concerned with output, sales, quality, creation of value added, innovation, cost reduction. It measures the degree to which a business achieves its goals or the way outputs interact with the economic and social environment. Usually, effectiveness determines the policy objectives of the organization or the degree to which an organization realizes its own goals (Zheng, 2010). Meyer and Herscovitch (2001) analyzed organizational effectiveness through organizational commitment. Commitment in the workplace may take various forms, such as relationship between leader and staff, employee's identification with the organization, involvement in the decision-making process, psychological attachment felt by an individual. Shiva and Suar (2010) agree that superior performance is possible by transforming staff attitudes towards organization from lower to a higher plane of maturity, therefore human capital management should be closely bound with the concepts of the effectiveness.

2.6 Research Gaps

On ICT infrastructure, Jabbouria, Zahari and Khalid (2015) investigated the impact of information technology (IT) Infrastructure on Innovation performance; Toader, Firtescu and Anton (2018) carried a study on the impact of information and communication technology infrastructure on economic growth; Karungani and Ochiri (2017) on the effect of ICT infrastructure support on organizational performance. None of these studies dependent variable was on employee performance which was the focus of the study. On ICT skills Dalain (2013) analysed the impact of training and information and communication technology on employee's performance in pharmaceutical manufacturing companies in Amman; while Sahito and Vaisane (2017) assessed the effect of ICT Skills on the Job satisfaction of teacher educators, evidence from the Universities of the Sindh Province of Pakistan.

The study of Dalain (2013) took a case of pharmaceutical manufacturing companies yet for the present study concentrated on county governments. The study of Sahito and Vaisane (2017) featuredICT skills but in relation to Job satisfaction of teacher educators. Concerning ICT management support Dukhan, Mohamad and Ali (2017) studied the effect of the senior management's support on the relationship between factors affecting and employees' performance in the Al-Zawiya University of Libya. Rureri, Namusonge and Mugambi (2017) assessed the role of top management support practice in selected steel manufacturing firms in Kenya and its effect on financial performance of the organizations. These studies focused generally on top management support yet our current study focused specifically on ICT management support. Furthermore, there is no research known to the researcher addressing the broad ICT adoption on employees performance in the contemporary times, moreover none has done a project concerning employee performance in Kisumu County Government hence this research filling in that gap.

2.7 Summary

The researcher managed to review theories related to Technology adoption and employee performance. The theories are resource based theory, task-technology fit theory and Technology Acceptance Theory. The researcher was able to link the theories to the study in order to improve the research further. The study was represented in a conceptual model highlighting the relationship between the independent and dependent variable and how they correlate and link up to help in the study of the problem at hand. Finally, the researcher managed to highlight empirical literature from other scholars on the study variables and their contribution to performance. The literature was from the international context, African context and Kenyan context, this is in order to buildup on the case at hand on employee performance in Kisumu County government, Kenya.

RESEARCH METHODOLOGY

3.1 Introduction

According to (Kothari, 2004), Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study It involves procedures of describing, explaining and predicting phenomena so as to solve a problem; it is the process or techniques of conducting research. A Methodology does not set out to provide solutions but offers the theoretical underpinning for understanding which procedure, set of procedures can be applied to a specific case. This section presents the research design, study area, target population, sample size and sampling procedure technique, data collection instruments and data analysis, sources and type of data, data collection procedures, reliability tests, validity tests and presentation and model specification. It further outlines and explains the research design, target population, sampling design, and data collection instrument and data collection procedure. The last section entails the procedure and methods that will be followed and utilized to process and analyze the collected data. Moreover, the chapter states how the results emanating from data analysis was presented.

3.2 Research Design

This study adopted a descriptive research design with an illustration of a case study in carrying out the study which investigates the effect of ICT adoption on employee performance among employees of Kisumu County Government. The choice of the named research design was informed by the goal of the study which was to establish whether the variables used in the study had an effect on employee performance among Kisumu County Government employees. Descriptive research design describes the state of affairs as it exists in the present (Kothari, 2004). A descriptive research design was appropriate as the study involves fact finding and

documenting the findings. A descriptive research design is also appropriate as it is structured and is free from bias and represents data as it is (Kothari 2004).

The design was deemed fit for the study as it describes the characteristics of the population which is how information communication and technology affects employee performance in Kisumu County Government and thereby revealing summarized statistics by showing responses to all possible questionnaire items that lead to identifying needed changes (Bryman, 2008). Descriptive survey was used, it is simple in design and can yield important information about a phenomenon. Surveys are excellent vehicles for collecting original data for the purpose of studying attitudes, orientations and opinions of a very large population.Descriptive survey design was the most appropriate when the purpose of the study is to create a detailed description of a phenomenon (Wiersma & Jur, 2005).

3.3 Target population

Population is an entire group of individuals, events or objects having common or observable features (Mugenda and Mugenda, 2004) whereas Cooper and Emory (2001) defines population as the total collection of elements about which the researcher wishes to make some inferences. The study targeted 375 participants who are officers in major departments namely; ICT, Procurement, Governance, Finance and Administration, Lands, Human Resource, Health, Agriculture, Education and finally Youth/PWD and social work.

Table 3. 2: Target Population

Department	Number of employees
ICT	50
Procurement	30
Governance, Finance and Administration	40
Lands	20
Human resource	30
Health	80
Agriculture	30
Education	35
Youth/PWD and Social Work	30
Tourism	30
Total	**375**

Source: Head Human Resource Kisumu county government, (2023).

3.4 Sample Size and Sampling Technique

The research employed Census sampling technique since the target population was small. In this study, 375 target respondents were issued with questionnaires. According to Cooper and Schindler (2006), a census is a count of all the elements in a population. The study used census sampling to select all the 375 respondents who also form population composition. The samples were first stratified according to 10 different County Departments.

3.5 Data Collection Instrument

Questionnaire used as primary data collection tool. According to Kothari, (2004) primary data is information gathered directly from the respondents. The questionnaire was considered appropriate because it is more convenient to administer, they are also fairly cheap and no prior preparations are required before posting, they also prevent humiliation on the part of the respondents as it allows them to consider on their responses, particularly where there are pre-coded possibilities. Additionally, they also permit probable anonymity of respondent and have no interviewer bias if managed correctly.

3.6 Data Collection Procedures

The researcher sought a research authorization letter before embarking on data collection process as dictated by ethics. The instruments were administered through personal visits to the Kisumu County Government. Primary data was collected through structured and semi structured questionnaires administered by interviewing the respondents while secondary data are collected by the use of relevant publications and reports. The researcher administered the questionnaire individually to all respondents of the study. The study exercised care and control ensured that all questionnaires issued to the respondents were received and this was achieved by the researchers maintaining a register of questionnaires, which were sent and received back. The questionnaire were administered using a drop and pick later method.

3.7 Validity and Reliability of Data and Research instruments

Validity is the degree, to which a test measures what it purports to measure Borg and Gall (1989), According to Mugenda and Mugenda (2004), validity is the degree to which the results obtained from the analysis of data actually represents the phenomenon under the study.

3.7.1 Validity of the study

In this study, validity was assessed through expert opinion of researchers in the subject of ICT and performance management. The researcher also conducted a pilot study on 30 employees of Kisumu County Government, these population was also used in final study after the validity study showed that they were meeting expectation of the study. Inappropriate questionnaire items were cleaned up by discarding, rephrasing and, merging.

3.7.2 Reliability

Reliability in research is influenced by random error, of which if it is high, reliability is low. To assess the reliability of instruments, test-retest technique was used. The study aimed at a reliability of at least 0.70 or 70% for purposes of quality (Kathuri & Pals, 1993). The researcher kept measures on questions of reliability of instruments through test and re-testing of questionnaires to selected respondents. The reliability was carried on the questionnaire and the results are presented in the Table 3.2

Table 3. 3 Reliability Test

	Number of Items	Pearson r value
Technological Infrastructure	5	0.797
Technological skills	4	0.878
Technological management Support	4	0.857
Employee performance	4	0.859
Overall Cronbach's Alpha		0.848

There were a total of 4 constructs for the study with a total of 17 items, from which all the Cronbach's alpha coefficients are above 0.7 threshold value. The reliability coefficient for

technological infrastructure was 0.797. Technological skills had a reliability coefficient of 0.878, technological management support 0.857 had a reliability coefficient of 0.857 while employee performance had 0.859. The overall coefficient for the four constructs was 0.848, which implies that the instrument was reliable for data collection.

3.8 Data Analysis and presentation

After data collection, the researcher verified the questionnaires to ensure that they were complete and filled, then serialized them in preparation for coding and entry. Quantitative Data was analyzed by use of both descriptive statistics like measures of central tendencies, dispersion and normality and inferential statistics like correlation and regression analysis. The study findings were presented using tables.

All collected data was coded and tabulated on the basis of various objectives and variables that measured them. Using Statistical Program for Social Scientists (SPSS), descriptive statistics was generated in terms of frequencies, percentages and means. These were presented using frequencies, percentage and means in frequency tables.

3.8.1 Model Specification

The study adopted multiple regression analysis to establish the relationship between dependent variable which was employee performance and independent variable such as technology infrastructure, technological skills and technology management support.

$$Y = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + e \ldots\ldots\ldots\ldots$$

Where

Y=Employee performance

B_0=Constant Coefficient

B_1=Coefficient of technology infrastructure

B_2=Coefficient of skills

B_3=Coefficient of management support

X_1=Technology infrastructure

X_2=Technology skills

X_3=Management support

e= error term at time

Test for Normality

3.8.2 Diagnostics Tests for Regression Model

Diagnostics tests were carried out to establish whether the data met the regression model assumptions which included normality, linearity and multicollinearity tests.

3.8.2.1 Normality Test

Further test of normality was carried out on the data set to determine its normality. The findings are presented in Table 3.3

Table 3. 4 Test for Normality

Tests of Normality						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Technological Infrastructure	.099	370	.25	.973	370	.129
Technological skills	.115	370	.200	.965	370	.321
Technological management Support	.115	370	.138	.965	370	.184
Employee Performance	.149	370	.218	.867	370	.421
a. Lilliefors Significance Correction						

From the table, sig value or the p-value is greater than .05. This therefore shows that variables are normally distributed using the 5% level of significance. This indicates that the dataset is normally distributed. This therefore further implies that linear regression and Pearson correlation will be relied upon.

3.8.2.2 Collinearity Test

The collinearity test was carried out to determine of there was multicollinearity between the

variables. The findings are outlined in Table 3.4

Table 3. 5 Collinearity Test

	t	Collinearity Statistics		
		Sig.	Tolerance	VIF
(Constant)	5.799	.000		
Technology Infrastructure	10.149	.000	.865	1.156
Technology Skills	.944	.346	.737	1.357
Technology Management Support	4.929	.000	.736	1.359

Dependent Variable: Employee Performance

According to Table 3.4, tolerance is an indicator of how much the variability of the specified

independent is not explained by the other independent variables in the model. The tolerance of

less than .10 that the multiple correlation with other variables is high, suggesting the possibility

of multicollinearity. The tolerance values for technology infrastructure, technology skills and

technology management support are; 0.865, 0.737 and, .736 respectively. All the values are

above 0.10 suggesting there was no multicollinearity. The VIF values (inverse of tolerance) of

all the constructs are all below 10 therefore the multicollinearity assumption has not been

violated. This implies there is no multicollinearity between the variables.

FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings and discussions of the study findings whose main objective was to determine the effect of technology adoption on employee performance in County Government of Kisumu. Analysis was guided by key variables in line with the study conceptual framework, which included the effect of; technological infrastructure, technological skills and technological management support. The findings are presented in the order of response return rate, demographic characteristics, overview of employee performance, overall model results and finally as per the objectives of the study under the overall model results.

4.2 Response Return Rate

The study targeted 375 participants who are officers in major departments namely the ICT officers Procurement staffs, Finance staffs and Engineers as technical staffs and Human resource, Finance and administration, Health, Agriculture, Social, and Tourism staffs in Kisumu county government. The response return is presented as shown in Table 4.1 that follows.

Table 4. 1: Response Return Rate

Target Sample	Achieved Sample	Response rate
375	370	98.7%

Source (Field Survey Data, 2023)

Results in Table 4.1 shows that out of a total of 375 questionnaires that were distributed, 370 were fully filled and returned. This transforms to a sample response rate of 98.7 percent, which is adequate for sample size return rate.

4.3 Demographic Information of the Respondents

Demographic data of the respondents consisted of their department, their gender (sex), ages and management level. In response to the questionnaire, the respondents gave their data as

presented in Table 4.2.

Table 4. 2: Demographic Information

Age	Category		Frequency	Percentage
	20-35		109	29.5%
	36-45		153	41.4%
	46-55		85	23.0%
	56-65		20	5.4%
	Over 66		3	0.8%
			370	100%
gender				
	Male		231	62.4%
	Female		139	37.6%
	Total		370	100.0
Management Level	Top management		19	5.1%
	Facility management		89	24.1%
	Departmental Head		105	28.4%
	Sub-county/Middle level		157	42.4%
			370	100.0%
Department	Health		262	70.8%
	Agriculture and Livestock		14	3.8%
	Public Service		17	4.6%
	Finance Administration and Governance		22	5.9%
	Trade and Tourism		11	3.0%
	Lands		10	2.7%
	ICT and Economic Planning		14	3.8%
	Education and social services		20	5.4%
			370	100%

Source (Field Survey, 2023)

From the demographic table, majority of the 153(41.4%) respondents were between the ages 36 to 45. This was followed by 20-35 with frequency 109 equivalent to (29.5%). 46-55 had a frequency of 85 which was equivalent to (23%). 56-65 were 20(5.4%) and over 66 years had 3(.8%). On the gender, 231 respondents were male equated to 62.4% while the remaining were female 139(37.6%). 19(5.1%) of the respondents were in the top management, 89(24.1%) were in middle level management capacity.

One hundred and five, 105(28.4%) of the respondents were departmental heads, 157(42.4%) were in middle level management capacity and were the majority of the respondents. On the department, majority 262(70.8%) of the respondents were in the health department, finance 14(3.8%), public service 17(4.6%), administration and governance 22(5.9%), tourism

11(3.0%), lands 10(2.7%) ICT and planning 14(3.8%) and finally education 20(5.4%).

4.4 Overview of Employee performance

Employee performance was measured using four items, which included enhancement of client satisfaction, quality of work, quantity of work and job satisfaction. These were measured on a five point Likert Scale whereby SD-indicated Strongly Disagree (1), D-Disagree (2), N-Neutral (3), A-Agree (4) and SA-Strongly agree (5). Means below an average of 2.5 on the 1-5 scale used meant that there was low performance, and above 2.5 meant that the performance was high. However, 1 was extremely low performance, 2-low, 3-Average, 4-Above average and 5 satisfactory performance in the practical interpretation. In addition, a mean and standard deviation were computed in order to get the average response as well as variations in the response. Standard deviations above 1 were indicative of high deviations from the average mean while values below 1 indicated small deviations or more agreeableness on the response. The findings are presented as shown in Table 4.3.

Table 4. 3: Overview of Employee performance in Kisumu County

Statements	SD	D	N	A	SA	Mean	Std. Deviation
The clients are highly satisfied	146(39.5)	164(44.3)	29(7.8)	21(5.7)	10(2.7)	1.9	0.96
Employees do a good quality of work	188(50.8)	150(40.5)	18(4.9)	6(1.6)	8(2.2)	1.6	0.83
Large quantity of work id done by employees	145(39.2)	133(35.9)	37(10)	33(8.9)	22(5.9)	2.1	1.18
There is effectiveness on working	162(43.8)	166(44.9)	20(5.4)	8(2.2)	14(3.8)	1.8	0.93
Overall Mean & Standard Deviation						1.8	0.76

Source (Field Survey Data, 2023)

Majority of the respondents, 164(44.3%) disagreed on high client satisfaction and followed by 146(39.5%) who strongly disagreed.

This means that a significant percentage of employees indicated very low performance in terms of client satisfaction. However, 29(7.8%) of the employees were neutral on client satisfaction,

21(5.7%) agreed and 10(2.7%) strongly disagreed. The average response (M=1.9, SD=.96) indicated low performance (clients satisfaction very low), which was agreed as indicated by low standard deviation. This means that in terms of clients' satisfaction, the county poorly performed.

The second item was the quality of work, on which majority, 188(50.8%) strongly disagreed that it was good and 150(40.5%) disagreed. There were 18(4.9%) of the respondents who remained neutral, 6(1.6%) who agreed and 8(2.2%) who strongly agreed. Based on the low average response (M=1.6, SD=.83), and standard deviation, it can be noted that average respondents agreed on low performance in terms of quality of employee work.

Performance in terms of the quantity of work carried out by employees was also measured. From the findings, majority, 145(39.2%) of the respondents strongly disagreed that employees did large quantities of work. The findings indicates that 150(40.5%) of the employees also disagreed and 37(10.0%) remained neutral. However, 33(8.9%) of the employees agreed and 22(5.9%) strongly agreed. Averagely, (M=2.1, SD=1.18) there was low rating on employee performance in terms of quantity of work done, although with deviations from the average rating. This means that whereas some respondents agreed on low quantity, others opted otherwise. It can however be concluded based on the average response that employees also had low performance in terms of quantity of work done.

Majority of the respondents, 166(44.9%) disagreed that they were effective on the services they offered, which was supported by 162(43.8%) who strongly disagreed. However, 20(5.4%) of the employees remained neutral (which is indicated of average rating). Finally, 8(2.2%) of the employees agreed that they were effective with the services while 14(3.8%) strongly agreed that they were effective. Based on the averagely low rating (M=1.8, SD=.93) coupled with low standard deviation, it can be concluded that there was low effectiveness on the services offered and hence low performance in terms of effectiveness of the services.

From the aforementioned findings, it was established that employees perform poorly in almost all the aspects that were measured, ranging from client satisfaction to effectiveness of the services offered. This means that there is low performance of employees in terms of the tested aspects in Kisumu County. The relatively low standard deviations implied that there were low variations in the average means that were low.

4.5 Overview of Technology Adoption in Kisumu County

Technology adoption was measured preliminarily using basic and advanced elements of communication as well as using three indicators which had four items each. Basic communication elements included fixed line, mobile and fax while elements of advanced communication entailed email, internet browsing, intranet, file sharing among others. Respondents were asked to indicate on each of the elements the level of adoption. The findings are presented as shown in Table 4.4.

Table 4. 4: Level of Technological Adoption

Nature of Communication	Number of Respondents
Basic Communication	F (%)
Fixed line	264(70.4%)
Mobile	375(100%)
Fax	69(18.47%)
Advanced Communication	
Email	342(91.27%)
Internet browsing	339(90.4%)
Intranet	103(27.47%)
File Sharing	142(37.87%)
Creating website	96(25.6%)
E-Commerce	84(22.47%)

The findings in Table 4.4 on the level of technological adoption shows different levels through basic and advanced communications. For basic communications, there was 100% use of mobile phones followed by 70.4% use of fixed lines whereas the least of use of fax at 18.4 percent. For advanced communications, the leading was the use of email at 91.27% followed by internet browsing at 90.4% and file sharing at 37.87%. The least were intranet at 27.4%, creating of

websites at 25.6% and finally E-Commerce at 22.47%. The overall average level of technological adoption was at 53.7 percent.

The indicators, classified objectively as technological infrastructure, technological skills and technological management support were all measured on a five point likert scale.

These included SD-indicated strongly disagreement (1), D-Disagree (2), N-Neutral (3), A-Agree (4) and SA-Strongly agree (5). Means below an average of 2.5 on the 1-5 scale used meant that there was low adoption, and those above 2.5 meant that the adoption was high. However, a value of 1 meant very low adoption, 2-low, 3-Average, 4-Above average and 5 full adoption in the practical interpretation. These were analyzed using frequency counts and percentage. In addition, a mean and standard deviation were computed in order to get the average response as well as variations in the response. Standard deviations above 1 were indicative of high deviations from the average mean while values below 1 indicated small deviations or more agreeableness on the response. The findings are presented as shown in Table 4.5.

Table 4. 5: Technological Infrastructure

Statements	SD	D	N	A	SA	Mean	Std. Deviation
Our county has sufficient computer hardware resources	43(11.6)	206(55.7)	56(15.1)	57(15.4)	8(2.2)	2.4	0.96
Our county has adequate telephone line connections	52(14.1)	217(58.6)	34(9.2)	55(14.9)	12(3.2)	2.3	1.00
Our county has reliable and fast internet connectivity	54(14.6)	176(47.6)	67(18.1)	62(16.8)	11(3.0)	2.5	1.03
Existing infrastructure supports future system upgrade (scalability)	29(7.8)	126(34.1)	82(22.2)	108(29.2)	25(6.8)	2.9	1.10
The existing ICT infrastructure enhances efficient running of ICT solutions and service delivery	43(11.6)	130(35.1)	84(22.7)	93(25.1)	20(5.4)	2.8	1.11
Overall Mean & Standard Deviation						2.6	0.73

Source (Field Survey Data, 2023)

From the findings, majority 206(55.7%) of the respondents disagreed that the county had sufficient computer hardware resources, which was affirmed by a low mean and standard deviation that indicated very small variations from the mean (M=2.4, STD=.96). It is also clear that the county lacked adequate telephone line connections as indicated by majority, 217(58.6%) as well as unreliable fast internet connectivity as indicated by majority, 176(47.6%) of the respondents. Majority, 126(34.1%) of the respondents disagreed that existing infrastructure supports future system upgrade, which was confirmed by a low mean (M=2.9, STD=1.10) although with high standard deviation indicating variations from the average response. Finally, the findings shows that the existing ICT infrastructure does not fully enhance efficient running of ICT solutions and service delivery as indicated by majority, 130(35.1%) who disagreed, with a low mean (M=2.8, STD=1.11) and high standard deviation. From the overall low mean and small standard deviation on adoption of technological infrastructure, it can be concluded that there is little adoption.

Table 4. 6: Technological Skill

Statements	SD	D	N	A	SA	Mean	Std. Deviation
The staff have the requisite knowledge to use ICT resources in the county	19(5.1)	107(28.9)	73(19.7)	151(40.8)	20(5.4)	3.1	1.05
The staff are able to access websites to search for information through use of mobile or other internet connections	24(6.5)	42(11.4)	49(13.2)	188(50.8)	67(18.1)	3.6	1.10
The organization offers training to the staff whenever there is software or hardware upgrade	51(13.8)	159(43.0)	74(20)	72(19.5)	14(3.8)	2.6	1.07
There is induction of new staff on use of ICT resources	54(14.6)	186(50.3)	59(15.9)	63(17)	8(2.2)	2.4	1.00
Overall Mean & Standard Deviation						2.9	0.78

Source (Field Survey Data, 2023)

Table 4. 7: Technology Management Support

Statements	SD	D	N	A	SA	Mean	Std
The management facilitates organization to undertake System Monitoring at regular time to avoid breakdowns	33(8.9)	149(40.3)	76(20.5)	93(25.1)	19(5.1)	2.8	1.08
Management has invested and continues to invest in ICT Facilities	27(7.3)	110(29.7)	111(30.0)	113(30.5)	9(2.4)	2.9	0.99
Management facilitates staff on training of new and emerging Technologies related to ICT	35(9.5)	186(50.3)	61(16.5)	76(20.5)	12(3.2)	2.6	1.02
Management supports the staff by attending ICT project	35(9.5)	188(50.8)	71(19.2)	66(17.8)	10(2.7)	2.5	0.98
Overall Mean & Standard Deviation Overall						2.7	0.82

Source: (Field Survey Data, 2023)

The findings shows that shows that there is little effort (M=2.8, STD=1.08) by the management

to facilitate organization to undertake system monitoring at regular time to avoid breakdowns,

which was affirmed by majority, 149(40.3%) of the respondents. Majority of the respondents,

111(30.0%) remained neutral on the statement that management has invested and continues to

invest in ICT facilities, and the mean was low (M=2.9, STD=.99) with small standard deviation.

Majority, 186(50.3%) of the respondents also indicated that management facilitated staff on

training of new and emerging technologies related to ICT, which was confirmed by a low mean

(M=2.6, STD=1.07) although with high variations from the mean. Finally, the findings shows

that there is little (M=2.5, STD=.98) support of staff by management through attendance of

ICT projects, which is confirmed by majority, 188(50.8%) of the respondents. The overall mean

and standard deviation were low (M=2.7, STD=.82) implying that there was little technology

management support and there were agreement about the mean respectively.

4.6 Correlation analysis

To scientifically understand the relationship between the independent variables and the

dependent variables, correlation analysis was carried out. Correlation simply measures the

strength and magnitude of association between two variables and the r coefficient ranges between -1 and 1 (Gogtay & Thatte, 2017). A correlation coefficient of +1 denotes that the two variables are perfectly correlated in a positive linear way, -1 in a linear perfect negative way whereas a correlation of zero (0) implies that there is no correlation at all. Bujang and Baharum, (2016) also classified the correlation coefficient and later classified them. A correlation coefficient ranges from values slightly above zero as weak correlations and strong correlations for values close to 1. This was further categorized as 0.01-0.39 as weak correlations, 0.4-0.6 as moderate correlation and 0.61-0.99 as strong correlation. Statistical significance was measured using threshold values referred to as p-values, which according to Gelman (2013), refers to the marginal significance within statistical hypothesis. In the case of the study findings, p values are threshold for evidence of the correlation or regression coefficients. For instance, the values are set at 0.05 of 5%, which implies that the error value in the test should be less that or equal to 0.05 for there to be sufficient evidence of the relationship between two variables. If the p value is greater than 0.05, then it can be interpreted as lack of significance in correlation between the two variables at 95% confidence interval. The findings are presented in Table 4.8

Table 4. 8: Correlation Analysis

		Employee Performance	Technology Infrastructure	Technology Skills	Technology Management Support
		Correlations			
Employee Performance	Pearson Correlation	1	.546**	.306**	.407**
	Sig. (2-tailed)		.000	.000	.000
	N	370	370	370	370
Technology Infrastructure	Pearson Correlation	.546**	1	.315**	.317**
	Sig. (2-tailed)	.000		.000	.000
	N	370	370	370	370
Technology Skills	Pearson Correlation	.306**	.315**	1	.484**
	Sig. (2-tailed)	.000	.000		.000
	N	370	370	370	370
Technology Management Support	Pearson Correlation	.407**	.317**	.484**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	370	370	370	370

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

Source (Field Survey Data, 2023)

According to the results in the correlation Table 4.8, there exists a moderate positive correlation between employee performance and technology infrastructure, (r=.546, p<.05) where p value is the significance threshold value caped at 0.05 conventional value. It shows the statistical significance or implies that the error in the findings is less than 0.05. This implies that there is a positive association between employee performance and technology infrastructure since the correlation is significant at .05. There exists a low correlation between employee performance and technology skills. The correlation coefficient (r=.306) is significantly positive and is also low according to Bryman, (2008) p<.05). This also suggests a positive association between employee performance and technology skills. The correlation coefficient (r=.407, p<.005, p=.00) between employee performance and technology management support is moderate and positive (Gogtay & Thatte, 2017). Hence, employee performance is positively associated with technology management support. In addition, the correlation coefficient (r=.315, p<.005) between technology infrastructure and technology skills is low (Gogtay & Thatte, 2017). The

correlation is positive and significant at .005. This also shows a positive association between technology infrastructure and technology skills.

There is a significant low correlation (r=.327, p<.005) between technology infrastructure and technology management support. The results therefore reveal a positive association between technology management support and technology infrastructure. Finally, there is a positive significant correlation (r=.484, p<.005) between technology management support and technology skills and hence a positive association between the two variables.

4.7 Regression Analysis

Regression analysis was used to establish the causal effect of ICT Adoption on Employee Performance. It measures the effects using model coefficients which could be standardized or unstandardized (Sarstedt, Mooi, Sarstedt & Mooi, 2019), and also the variance or variation in the dependent (outcome) variable that is explained or accounted for by the predictor (independent) variable. In the current study, a standard multiple regression model as well as simple linear regression models were used in the analysis. Standard multiple was used to establish the overall model effect on performance, consisting of each of the predictor variables in a single model. However, simple linear regression models were used to establish the causal effect of each of the independent variables (technological infrastructure, technological skills and technological management support) on employee performance.

4.7.1 Technological infrastructure and employee performance in Kisumu County government,

To start with, a simple linear regression model was carried out to establish the effect of technological infrastructure on employee performance. To achieve this, all the items composing technological infrastructure were combined by getting the mean. The employee performance subscale (mean) was also obtained and regressed against technological infrastructure using

simple linear regression model. The findings are presented as shown in Table 4.9.

Table 4. 9: Model summary of regression analysis results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.546ᵃ	.299	.297	.87937	.299	156.688	1	368	.000	1.91

a. Predictors: (Constant), Technology Infrastructure
b. Dependent Variable: Employee Performance

Source (Field Survey Data, 2023)

From the findings, the model F statistics, F (1, 368) =156.688, p<.005, indicates model fitness.

The R value indicates that there is a moderate multiple correlation between technology

infrastructure and employee performance (R=.546). Finally, it was established that technology

infrastructure accounts for 29.9% variance in employee performance, R^2=.299, p<.05. This

means that technological infrastructure accounts for a significant amount of variance in

employee performance. Durbin Watson test also shows values close to 2, that is 1.91 which

means that there were zero autocorrelations in the data. Findings were also presented for the

regression model coefficients as shown in Table 4.10.

Table 4. 10: Regression coefficients analysis

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
		Coefficients				
1	(Constant)	1.774	.146		12.186	.000
	Technology Infrastructure	.587	.047	.546	12.518	.000

a. Dependent Variable: Employee Performance

Source: (Field Survey Data, 2023)

The unstandardized coefficients (B=.587, p<.005) show that technology infrastructure had a

positive effect on employee performance. A unit change in technology infrastructure causes a

.587 units improvement in employee performance. The change is positive and significant as

shown by the p-value. The t- statistics (t=12.518, p<.005) further concludes that technology

infrastructure has a positive significance effect on the employee performance since its

associated p-value is less than .005 at 5% level of significance. Therefore the null hypothesis that technology infrastructure does not have a significant effect on employee performance in Kisumu County government was rejected. These findings agree with previous studies which established a relationship between technological infrastructure and performance. However, the difference comes in the scope of the study, with previous studies covering mostly the private companies. These findings agrees with the previous studies' results such as Al-Hawary and ALdafiri (2017), Toader, Firtescu and Anton (2018) among others who also established that adopting technology infrastructure improved employee performance. Given the findings in Kisumu County, it is thus important to conclude that technological infrastructure has a positive and significant effect on employee performance such that good telephone connectivity, internet connection, sufficient hardware resources and the exiting ICT infrastructure positively enhances employee performance.

4.7.2 Technology Skills

The second predictor of employee performance was technology skills. All the items under technology skills constructs were combine by getting their overall mean. Employee performance subscale was thereafter regressed against this mean using simple linear regression model. The findings for the model summary are presented as shown in Table 4.11.

Table 4. 11: Model summary of regression analysis results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.306[a]	.094	.091	.99969	.094	37.986	1	368	.000	1.94

a. Predictors: (Constant), Technology Skills
b. Dependent Variable: Employee Performance

Source: (Field Survey Data, 2023)

The findings shows that technological skills accounted for a small variance in employee performance as indicated by R square value, 0.094, which is significant at 0.05 or 5%. This therefore implies that technological skills explained 9.4% variance in employee performance. The findings are supported by the F statistic, F(1,368)=37.986, which is significant thus meaning that the findings were not by chance but as a result of carefully fitting the model. Durbin Watson test also indicates zero autocorrelations, since the value is close to 2, when rounded off to a whole number, which implies that there were no dependence on other respondents opinion or influence when providing response to the questionnaire. Therefore the data reflects independent opinions. The model coefficients table was also presented as Table 4.12.

Table 4. 12: Regression coefficients analysis

Coefficients^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.305	.201		11.443	.000		
	Technology Skills	.409	.066	.306	6.163	.000	1.000	1.000
a. Dependent Variable: Employee Performance								

Source: (Field Survey Data, 2023)

The unstandardized coefficient (B=.409, p<.005) indicates technology skills has positive effect on employee performance. A unit increase in technological skills causes .409 unit increase in employee performance in Kisumu County government. The t- value for the effect of technological skills on employee performance is 6.163, which is more than 2, with an associated p value of .000. The p-value is less than .005 at 5 percent significance level affirming further the positive effect of technological skills on employee performance. The study therefore failed to uphold the null hypothesis and thus rejected and the alternative adopted.

Therefore based on this significant finding, the null hypothesis is rejected an alternative hypothesis adopted leading to a conclusion that technology skills have a positive and significant

effect on employee performance. These findings strongly corroborate with the previous studies such as those of Wang (2014), Dalain (2013) and Sahito and Vaisane (2017) which also established an almost similar result although in different scope. The findings also well aligns with the resource based theory acknowledges that firms achieve competitive advantage and hence it suffices to strongly conclude that technology skills have a positive and significant effect on employee performance in Kisumu County.

4.7.3 Technological management support and employee performance in Kisumu County

The third objective of the study sought to establish the effect of technological management support on employee performance in Kisumu County. The corresponding hypothesis was "H03: Technology management support does not have a significant effect on employee performance in Kisumu County Government." In order to test this hypothesis, employee performance was regressed against technology management support. Therefore the overall mean of employee performance (subscale) was regressed against the mean of technological management support scale using simple linear regression model. The model summary results are shown in Table 4.13.

Table 4. 13: Regression Summary Model Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.407ᵃ	.165	.163	.95921	.165	72.977	1	368	.000	2.00

a. Predictors: (Constant), Technology Management Support
b. Dependent Variable: Employee Performance
Source (Field Survey Data, 2023)

According to the findings in Table 4.13, technology management support accounts for 16.5%, R^2=.165 variations in employee performance. This means that out of 100%, technology management support accounts of 16.5% variance in employee performance. The model was also found to have good fit, as indicated by F statistic, $F_{(1, 368)}$ =72.977, which was significant

at 5% significant level, (p<.05). This implies that technological management support is significant to improvement in employee performance. Durbin Watson test, which tests the presence of autocorrelations, had a value of 2.00, which indicates lack of autocorrelations. This means that there was high independence in data that were provided by subsequent respondents. The findings on model coefficients were also presented as shown in Table 4.14.

Table 4. 14: Regression coefficients analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.229	.157		14.169	.000		
	Technology Management Support	.445	.052	.407	8.543	.000	1.000	1.000
a. Dependent Variable: Employee Performance								

Source: (Field Survey Data, 2023)

The unstandardized coefficient (B=.445, p<.005) shows that technology management support has a positive significant effect on employee performance. This further implies that a unit change in technology management support causes .445 change in employee performance. The t-value, which is more than 2, is also in support and are significant at .005 at 5% significant level. The null hypothesis was therefore rejected and an alternative hypothesis adopted, which states that technological management has a positive and significant effect on employee performance. The null hypothesis corresponding to this objective stated that "H03: There is no effect of technology management support on employee performance in Kisumu County Government". The findings aligns well with the previous studies such as Rureri, Namusonge and Mugambi (2017), Shaar and Manna (2015), Karungani and Ochiri (2017) which all supported that management support enhanced employee performance. It can thus be concluded that technology management support improves employee performance.

4.8 Overall Model Results on the effects of Technology adoption on employee performance

Guided by the study objectives, it was essential to establish the effect of technological adoption on employee performance in Kisumu County. In regard to this, a standard multiple regression model specified as;

$Y=B_0+B_1X_1+B_2X_2+B_3X_3+e………………,$

Where Y=Employee performance,

B_0=Constant Coefficient,

B_1=Coefficient of technology infrastructure, B_2=Coefficient of skills, B_3=Coefficient of management support, X_1=Technology infrastructure, X_2=Technology skills, X_3=Management support and e= error term at time, was carried out. This was achieved by regressing employee performance against the three indicators of technological adoption. The findings are presented as shown in Table 4.15.

Table 4. 15: Overall Standard Multiple Model Summary Results

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.601[a]	.361	.356	.84173	.361	68.885	3	366	.000
a. Predictors: (Constant), Technology Management Support , Technology Infrastructure Technology Skills									

The R square value (R Square=.361, p<.05) indicates that technological adoption accounts or explains 36.1% variance in employee performance. The model F statistic, F (3, 366) =68.885, p<.05, shows that the findings were not by chance but as a result of fitting the model carefully. It can thus be noted that technological adoption accounts for a significant variance in employee performance. The model coefficients results for the standard multiple regression model were also presented as shown in Table 4.16.

Table 4. 16: Overall Standard Multiple Regression Model Coefficient Results

	Coefficients					
Model					T	Sig.
	B	Std. Error	β			
1 (Constant)	1.128	.195			5.799	.000
Technology Infrastructure	.490	.048	.456		10.149	.000
Technology Management Support	.061	.065	.046		.944	.346
Technology Skills	.263	.053	.240		4.929	.000
a. Dependent Variable: Employee Performance						

Source (Field Survey Data, 2023)

Key: β -Standardized Coefficients (Beta), B- Unstandardized Coefficients

After using one model (standard multiple regression model), where all variables were added in the model, it was established that the variable that had the strongest contribution to employee performance was technological infrastructure (B=.490). The findings shows that holding all other variables constant, a one unit improvement in technological infrastructure improved employee performance by a magnitude of 0.490 units. Similarly, one unit improvement in technology skills and technological management improved employee performance by 0.263 units and 0.061 units respectively. Whereas in the overall model some of the variables lack significance, it can be concluded that each of them have positive effects on employee performance. This therefore means that enhancing the adoption of ICT positively improves employee performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter deals with the summary of findings, conclusions, Recommendations and Suggestions for further studies.

5.2 Summary of Findings

The first objective of the study sought to determine the effect of Technological infrastructure on employee performance in Kisumu County government, Kenya. Using four items, the study established a low rating on sufficiency of computer hardware, inadequate telephone connectivity and reliability of internet. However, there was infrastructural support of the upgrades and ICT solutions service delivery to some extent. Pearson product moment correlation revealed that there was a positive and significant correlation between technological infrastructure and employee performance. Regression model revealed that technological infrastructure had a positive effect on employee performance.

The second objective of the study assessed the effect of Technological skills on employee performance in Kisumu County government, Kenya. Technological skills was measured using four items that included requisite knowledge on ICT by staff and ability to access websites which had a high rating and training to staff and induction of new staff which had a low rating. Averagely, technological skills had average rating, implying that they were somehow practiced. A positive and significant correlation was realized between technological skills and employee performance using Pearson product moment correlation. The study also established that technological skills had a positive and significant effect on employee performance.

Finally, the third objective of the study sought to establish the effect of technological

management support on employee performance in Kisumu County government, Kenya. There was average rating on system monitoring facilitation by the management, investment in ICT facilities and very low rating on facilitation of staff on training of new and emerging technologies as well as management support of staff by attending ICT projects. It was also established that whereas a positive and significant correlation was existed between management support and employee performance, it was weak. As a result, the effect of technology management support on employee performance was weak.

5.3 Conclusions

From the first objective of the study, it can be noted that technological infrastructure is practiced in the county to some significant extent and hence is positively correlated with employee performance. Therefore employee performance relies on technological infrastructure and hence the better it is, the better the employees perform their work. Therefore it can be concluded that adoption of technological infrastructure enhances employee performance.

From the second objective, it can be inferred that technological skills exists to a little extent among county employees. This is so since employee performance is positively related to these skills, which seem to improve on their performance particularly on ICT related duties. Based on this establishment, it can be concluded that technological skills have a significant effect on employee performance.

The third objective sought the effect of technological management on employee performance, which revealed that there is little technological management support in the county. As a result, there is a weak relationship between technological management and employee performance. Despite the weak effect of technological management on employee performance, it was still significant. It can thus be concluded that technological management support has a positive and significant effect on employee performance.

5.4 Recommendations

Based on the conclusion of first objective of the study, the study recommends that counties improve their investment on technological infrastructure in order to enhance employees' performance. The study further advocates for a serious advancement of technological skills especially among county employees through capacity building as well as continuous training. This will enhance their efficiency and consequently their performance.

The study recommends county governments and especially the heads of the department and executive to put adequate financial and all other forms of technological support so as to improve efficiency and effectiveness of using ICT infrastructure for better employee performance.

5.5 Suggestions for Further Studies

The study recommends further studies on an extension of a similar study across other counties, with particular focus on the relationship between technological infrastructure effects on organizational performance instead of employee performance. The study also suggest other studies on the effect of specific technological skills such as enterprise resource planning or financial packages, general computer packages or basics on the efficiency of counties in service delivery.

Finally, the study suggests further studies on the relationship between Technological management support and value for money among counties in Kenya.

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APPENDICES

Appendix I: Letter of Introduction

Dear respondent,

I'm a Masters students studying Business Administration at Maseno University carrying out a research study on ***Effect of Technology adoption on employee performance, case study of Kisumu County Government Employees, Kenya***. In view of this, we are collecting data that relate to the study.

You are hereby kindly and humbly requested to participate in the study by providing the requisite. In the event that your institution will be interested in the study findings, the same will be shared with you.

I wish to assure you that the information that you will provide will be used for academic purpose only and will be treated with utmost confidentiality.

Thank you in advance for your assistance.

Yours Faithfully

_____

Odhiambo O. Fredrick

Appendix II: Research Questionnaire

The following questionnaire is an integral part of the study titled: Effect of Technology adoption on   employee performance, case of Kisumu County Government Employees, Kenya.

Department: ……………. SEX ………… AGE ………MANAGEMENT LEVEL ………...

It is divided basing on study variables. The responses are on a five point Likert scale where:

1: Strongly Disagree, 2: Disagree, 3: Neutral, 4. Agree, 5: Strongly Agree

PART A: Technology Infrastructure

This subsection is concerned with the effect of Technology infrastructure on employee performance. Please indicate the extent to which you agree with the following statements on scale of 1-5 where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree and 5=Strongly Agree.

	Statement	1	2	3	4	5
1	Our county has sufficient computer hardware resources					
2	Our county has adequate telephone line connections					
3	Our county has reliable and fast internet connectivity					
4	Existing infrastructure supports future system upgrade (scalability)					
5	The existing ICT infrastructure enhances efficient running of ICT solutions and service delivery					

PART B: Technology Skills

This subsection is concerned with the effect of Technology infrastructure on employee performance. Please indicate the extent to which you agree with the following statements on scale of 1-5 where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree and 5=Strongly Agree.

	Statement	1	2	3	4	5
6	The staff have the requisite knowledge to use ICT resources in the county to access					
7	The staff are able to access websites to search for information by through of mobile or other internet connections					
8	The organization offers training to the staff whenever there is software or hardware upgrade					
9	There is induction of new staff on use of ICT resources					

PART C: Technology Management Support

This subsection is concerned with the effect of Technology infrastructure on employee performance. Please indicate the extent to which you agree with the following statements on scale of 1-5 where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree and 5=Strongly Agree.

	Statement	1	2	3	4	5
10	The management facilitates organization to undertake System Monitoring at regular time to avoid breakdowns					
11	Management has invested and continues to invest in ICT Facilities					
12	Management facilitates staff on training of new and emerging Technologies related to ICT					
13	Management supports the staff by attending ICT project					

PART D: Employee performance

This subsection is concerned with employee performance indicators. Please indicate the extent to which you agree with the following statements on scale of 1-5 where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree and 5=Strongly Agree

	Statement	1	2	3	4	5
10	Technology adoption enhances client satisfaction					
11	Technology adoption improves quality of work					
12	Technology adoption increases the quantity of work done					
13	Technology adoption enhances job satisfaction					

Appendix III: Map of Kisumu County