

INFORMATION COMMUNICATION TECHNOLOGY CONSIDERATIONS AND STAFF PERFORMANCE IN THE PUBLIC SECTOR IN NYANDARUA COUNTY, KENYA

John Chege Muikamba

Masters in Business Administration (Management Information Systems), School of Business, Kenyatta University, Kenya

Dr. Nzuki David

Management Science Department, School of Business, Kenyatta University, Kenya

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ABSTRACT

The performance of employees in public sector has called for attention from academicians, practitioners and researchers as a result of performing poorly over years. Even though the government put a lot of efforts towards 2030 sustainable development goals, the quality of good and services is still poor and continues to perform shoddy works. Though in Kenya performance of employees in public sector enterprises is significant to government service conveyance, it's regrettable that stakeholders complained around destitute service delivery. This study therefore sought to determine the effects of ICT on how staffs perform in the public sector in Nyandarua County, Kenya. Major objectives were to determining the impacts of ICT hardware, ICT software, ICT policy framework and ICT Support staff on staff performance at Nyandarua County. This study used both descriptive research and explanatory research design. The population of target consisted of 60 workers in the IT department in that County. The study was guided by resource-based theory, theory of Planned Behavior and Technology Acceptance Model. This study adopted census used where every individual in the division of IT in that County was involved. The size of the sample therefore consisted of 60 respondents. This study utilized primary data in form of questionnaires which were open-ended questions and closed-ended questions. A pilot study was conducted to test the validity and reliability of the data where 6 respondents were involved. Inferential and descriptive statistics were

applied in conducting the analysis. This gave reports that were quantitative by use of percentages, tabulations and measures of central tendency. The multivariate regression model, and correlation, and analysis of variance (ANOVA) explained how much variables related to each other. The study revealed that ICT Infrastructure, social media applications, Efficiency of ICT software applications, ICT Support staff, and ICT Policy Framework all had a significant influence on employee performance. The study concluded that the quality of ICT hardware at Nyandarua County enables faster processing of data as well as transmission, the integrated IT system provided a competitive edge for the County, ICT support staff at Nyandarua County helped in handling and integrating the ICT applications and other software an attribute that enhanced staff performance and that IT policy indicates the enforcement procedures in case of inappropriate use of IT systems. This study recommended that County government must consider procuring ICT hardware system that is are compatible, easy to configures, portable, space conservative, resistance to breakages. Procurement of ICT software by the County governments (on shelf or toiler made) must be comply with quality standards described through flexibility in use by the end users, easy to maintain, cost effective and durability. The County governments need to ensure that all applications installed or updated to the main County ICT system are backed with intensive training to all employees so as to eliminate utilization challenges that employees may face, the organization must come up with strong regulatory policy

framework that clearly stipulates extent or ways through which employees may utilize ICT system and its applications and procedure in solving ICT related complains whenever they arise.

Key Words: *information communication technology considerations, staff performance, public sector, Nyandarua County, Kenya*

INTRODUCTION

Information Technology (IT) is an important variable today, particularly, in an energetic and commerce environment that is competition requires use of IT instruments to make strides productivity, taken a toll viability, and convey tall quality items and administrations to clients (Aral & Weill, 2016). Development in Data and Communications Innovation (ICT) is without doubt one of the foremost surprising advancements in later times. Essentially, no field can claim insignificance of ICT in any of their operations. Similarly, in operations administration, ICT has an cluster of applications that empower associations to realize different destinations. Soh and Markus (2015) watched that data innovation is the foremost compelling device in decision-making prepare in operations administration.

The wrangle about on whether data innovation has had a positive or negative affect on worker execution is distant from over since contentions and counter contentions are springing up each single day (Yusuf, 2013). On one hand, the press clarify the way organizations have speeded up operations and made openings in trade and gotten to be competitive due to a great choice of IT put into put (Ward,2015). Concurring to Lucas (2015) IT has contributed in giving better approaches to plan organizations and modern organizational structures, displayed modern openings for electronic commerce, contributed to the efficiency and adaptability of information laborers among numerous others.

In any case of this late choice of Information Advancement it has come to change over the way the HR Office performs it portion suitably.. Scott et al (2016) famous that data innovation, of course, changed the face of HRM within the Joined together States and overseas. Maybe the foremost central utilize of technology in HRM is an organization's Human Resources Data Framework (HRIS). The foremost self-evident affect has been operational, that's, computerizing schedule exercises, reducing authoritative burdens, lessening costs, and making strides efficiency inside to the HR work itself. Further, Teo, Soon and Fedric (2011) notes that there has moreover been a few prove to propose that HR is slow in receiving IT but does not give reasons for this. Subsequently, the victory of this drift on IT appropriation in HRM hones as it were be ensured in the event that there's legitimate understanding of the basic components in embracing Data Technology.

STATEMENT OF THE PROBLEM

Public sector enterprises have been adjudged to be a critical prerequisite for the development of any nation. Be that as it may, inappropriate execution of suggested performance guidelines has brought about in superfluously high operation costs, clumsy business exercises, failure to attain domestic arrangement objectives, and disappointment to pull in and retain experts (Mattii, 2012). The public service has become the essence of inefficiency; this inefficiency has bred corruption, initiating a cycle of vice which had tormented many and cost the country billions. In an effort towards promoting efficient and effective service and product delivery to the public, many countries and governments spent a lot of money for purposes of providing service automation and computerized ones so as to enhance employee performance (Laudon & Laudon, 2013). In Kenya performance of employees in public sector enterprises is significant to government service conveyance. For decades performance of workers in public sector had been drawing in incredible consideration from specialists, academicians and analysts. In spite of Government endeavors for advancement it was damaged by poor works, destitute quality merchandise and administrations. Stakeholders complained around destitute service delivery. Benefits inferring from moved forward execution within the public-sector enterprises were dependent on a number of factors. In line with Vision 2030, a national strategy that purposed to change Kenya to a sustainable nation in terms of knowledge, various ICT technology projects are put into place to enhance employee performance. Nyandarua Pubic sector has faced a lot of challenges in the recent past, a case in point was in year 2017 where there were by troubles in Nyandarua County Public Service Board escalated and residents went to the streets to demand its disbandment. They accused the board of nepotism, corruption and poor management of public staff. It's clear that Nyandarua County public sector has faced a lot of challenges and the ICT development is meant to enhance and spectacularly improve the performance of employees and hence service delivery to citizens in Nyandarua County (Nyandarua County, 2017). Studies have been done on information communication technology and staff performance. James (2016) explored the effects of information and communication technology on secretaries' performance in France and found that the usage of computer, telecommunication and video techniques positively and significantly related to the productivity of public sector secretaries. Mgbeze (2015) studied how staff performance was affected by ICT case study of the sector of banking in Nigeria deduced a positive correlation exists between ICT and the performance of staff in Nigeria banks. Locally, Gituthu (2015) focused on how the architects performance was influenced by by ICT applications in public industry and noted ICT application helped architects increase productivity, increase architects' efficiency, ICT application helped architects produce quality information, ICT applications helped architects produce quality work and output and helped in reduction of working time. The studies focused above have been on different areas from our study thus the gap will be filled by focusing on capability of communication technology and staff performance in the public sector in Nyandarua County, Kenya.

GENERAL OBJECTIVE

The objective of the study was to investigate the effect of information communication technology and staff performance in the public sector in Nyandarua County, Kenya.

SPECIFIC OBJECTIVES

1. To establish the effect of ICT hardware on staff performance in the public sector in Nyandarua County, Kenya.
2. To examine the effect of internet and social media applications staff performance in the public sector in Nyandarua County, Kenya.
3. To assess the effect of ICT software system on staff performance in the public sector in Nyandarua County, Kenya.
4. To establish the effect of ICT support staff on staff performance in the public sector in Nyandarua County, Kenya.
5. To establish the effect of ICT policy framework on staff performance in the public sector in Nyandarua County, Kenya.

THEORETICAL LITERATURE REVIEW

Resource Based Theory

Resource based theory was developed by Wernerfelt (1984). Since the resource-based theory has then become an overpowering modern way for bargain with the examination, it has been credited for centrality of resources and proposal for its stability. The theory basically complements the plausibility that the affiliation should be seen as a load of assets and capacities to create regard and hence increment upper hand. The asset-based see furthermore structures that institutions can finish common concentrated and execution on the off chance that they have considerable or vague resources that are productive, unprecedented, unique and non-substitutable.

These four traits of resources portray what Wright, (2011) considers imperative assets that, in the event that fittingly arranged frame and keep up a company's upper hand and improve its execution. Resource based hypothesis centers on both the inner and outside examination of the organization. "The hypothesis involves a review of both unmistakable and intangible resources of a company. Thoughts and information that give competitive points of interest are treated as private property when licensed, anticipating others from utilizing the information and hence making an obstruction to entry" (Barney, 1986). Identifying the weaknesses and strength of an organization makes it easier for the management to discern what is and what isn't achievable. This was done during the internal analysis of the firm, which serves to identify a set of strategic options at the company's disposal.

It also served to identify which options that the company considered and made informed choices on. The strengths are the beneficial aspects of an organization used to develop competitive advantage. They could either be tangible or intangible. Such included competent human resource, brand loyalty, financial resources, good system controls among others. A company's weaknesses are qualities that hinder its accomplishment of the set mission and vision. The scarcity or lack of some strengths may serve as a weakness. These weaknesses affect negatively an organization's success and growth and are controllable. The organization should work to minimise or eliminate them if it aims to achieve and maintain a competitive edge above its competitors, (Barney, 1986). Adequacy of resources in this study will be taken to mean the degree to which there is adequacy of resources to improve the performance of staff performance in the public sector. this study finds the RBV theory relevant given that implementation of quality E-HR systems relies on proper allocation of resources to steer the process

Theory of Planned Behavior

It suggests that achievement of a certain behavior depends on capability to control the behavior and the purpose to acquire it. It involves control, regulating and behavioral change (Venkatesh et al., 2003). It involves: Demeanor which refers to the attitude that one holds towards an assessment of a certain behaviour. It also consists of thoughts for the outcomes of certain conducts; purposeful behavioral which refers to the inspiration that stirs a certain behavior; subjective standards referring to whether a person likes or dislikes a certain behavior (Hsu & Chiu, 2004). The study finds the theory relevant as its core concepts can be utilize to explain employee behaviors especially after or during change implementation process

Technology Acceptance Model

It is planning to clarify what impacts certain conclusion user-computing advances to be acknowledged (Davis, 1989). In expansion, TAM isn't as it were tightfisted it can manage exploratory food in an exertion to get it what decides the utilize of ICT (Venkatesh et al., 2003). It conceives that a client will embrace ICT depending on how he serious to use it, and this can be continuously impacted by what he accepts the item can do and how he approaches it. Encourage, shallow common sense and how effortlessly the ICT can be received too guides change in users' expectation (Davis, 1989). In brief, it can be settled that TAM subsequently highlights three key ranges which influence the utilize of innovation i.e. how clients see it, how valuable they see it and how effectively they can utilize it.

TAM tries to distinguish causes of handicaps in appropriation of ICT with a see of overseeing them to guarantee viable utilize of ICT stages hence making roads for way better execution of trade in organizations. Conservativeness in Communication can be broken by the TAM demonstrate as one of the variables for innovation utilize is seen execution. Agreeing to Davis 1989, seen convenience is the level of conviction in a individual with respect to the utilize a

particular data framework and how it would make strides the achievement of a work. Encourage, seen proficiency to utilize is the feeling that utilizing a data framework will require less exertion. Such convictions will continuously impact the take-up of innovation in that a favorable state of mind will cruel expanded whereas the switch is genuine (Gefen, 1997).

This study finds the hypothesis important within the pith that TAM is of specific intrigued to ICT experts since it makes a difference to upgrade their crave in appropriation and utilize of Data Innovation (IT) which is the prevailing innovation of the modern society and has raised the significance of speculations that foresee and clarify IT acknowledgment and which foresee the performance of staff execution within the open division.

EMPIRICAL REVIEW

Information Communication Technology Hardware and Staff Performance

Hardware is the physical portion of a computer, including the computerized circuitry, as recognized from the computer program that executes inside the equipment. The equipment of a computer is rarely changed. Firmware could be an uncommon type of program that seldom, in case ever, has to be changed and so is stored on equipment gadgets such as read-only memory (ROM) where it isn't promptly changed (Braa, Monteiro & Sahay, 2014). Equipment can influence the speed of information preparing. More current processors will handle speedier, and more up to date gadgets such as difficult circles will work speedier and with more prominent unwavering quality. In any case, it ought to be famous that all equipment inevitably falls flat. The equipment may not be up to the details that the program requires (Al-Qallaf & Al-Azmi, 2012).

Efficiency of ICT hardware may be affected by other forces that may directly or indirectly impact on the overall hardware performance such as: The Power of the Hardware which gives you a greater frequency and a larger word size, the expandability of the hardware that accommodate greater number of board slots for additional RAM (Random access memory), the number of Ports in your hardware facilitate ports for printer, external hard disk, communication devices and other peripherals, the Ergonomics of the hardware avail comfort and safety, compatibility of the hardware with other computers and peripheral devices, as well as software packages, the Carbon footprint area, that is how much carbon is emitted by the hardware, availability of telephone and on-line support for troubleshooting and genuineness of the hardware and its conformity to technical specification as set out by the manufacturer (Bretschneider, Gant & Ahn, 2013).

Other factors that may affect ICT Hardware efficiency would include the input and output devices. Input and Output gadgets may be as well moderate or the computer may discover it troublesome to handle the information from them. For illustration, a OMR (Optical Mark Recognition) gadget that's the method of capturing human-marked information from record

shapes such as studies and tests, may examined thousands of shapes which would take a long time and parts of memory. The computer may not have the memory to manage. On the other hand, in case the organization has get to ancient machines at that point information handling will be moderate and this would diminish productivity. The over variables are advocates of productivity and enormously influence the utilization of the equipment which leads to upgrade in staff execution (Hult, Ketchen, & Slater, 2014).

The hardware installed for use by staff in the public sector must be the correct type and useful in data processing activity. When wrong hardware is put in place, then the required performance of staffs is not achieved. Efficiency of ICT hardware can be determined from several aspects that is energy consumption, speed, durability and its reliability to perform the designated tasks. When ICT hardware consumes less energy during its performance, its data processing speed is high, meets the performance requirement as per the technical specifications and proves reliable over time, then we can infer that the hardware is efficient (Darwazeh (2016).

Maina (2015) focused on the influence of information communication technology applications on performance of architects in construction projects in public sector. The study revealed that stability of web and application servers had a high influence on architects' performance as it improved data processing and dissemination. Effective application servers provide the much-needed software and data to facilitate the architectural work and that capacity and speed of storage devices had a high influence on the performance of architects in construction projects in that data transfer is very fast as well as large volume of data can be stored which would otherwise be left out. Also, the speed of hardware enables faster processing of data as well as transmission and thus had a high influence on the performance of architects. Finally, accessibility of ICT applications used in construction projects by architects helped automate the production of design drawing, design change and also used to assist in the creation, modification analysis or optimization of a design and thus had a high influence on the performance of architects.

Internet and Social Media Applications and Staff Performance

A number of studies have been conducted on case for and case against utilize of social media and web and how it impacts the efficiency of a representative. 'Productivity' alludes to time utilized by a representative effectively performing the work they were contracted to do, in arrange to deliver the specified results anticipated from the employees' work depiction (Otieno, 2010). Munene and Nyaribo (2013) found engagement in social media in the midst of working hours was a figure that contributed to waste of time in this way driving to diminished proficiency levels. Another consider by Bennett (2010) found that specialists were contributing much time on social media locks in in non-work-related works out such as making person frameworks, spouting and downloading music and video, checking sports scores, taking after social

bookmarks. It was coming approximately into a portion of wasted hours of works which influenced the company's foot line (Richards, 2012).

Haythornthwaite and Wellman (2012) studied the effect of online social networking on employee productivity. The investigation explored recent Web developments as seen within the social Web and particularly examined the impact of online social organizing (OSN) on worker efficiency and what a few of the results would be in the event that representatives were permitted unlimited get to these systems. The discoveries concerned the nature of employees' OSN exercises, employees' state of mind or discernments with regard to OSN within the work environment and how OSN can contribute or influence the efficiency of workers are examined in this article. Expanded collaboration will invigorate information sharing between people, with the conceivable impact of expanded efficiency. Be that as it may, the dangers related with OSN ought to be famous, such as loss of security, bandwidth and capacity utilization, introduction to malware and lower worker efficiency.

Darwazeh (2016) focused impact created on executing staffs by the application of e-government within the Greater Amman District. The study employed the clear expository strategy (hypothetical and field), and (245) surveys were conveyed to all authoritative staff within the Municipality. This study showed some several outcomes; the foremost vital of which are that there's an apparent impact of application of e-government on the staff execution, adherence of workers with regulations and informational, and the exchanges are characterized by precision and quality not at all like the circumstance within the past. This proposal recommended that it's important to extend motivating forces so that staff's dependability gets more noteworthy, which it is critical to form continuous enhancement to preserve the display unmistakable execution level.

Information Communication Technology Software System and Staff Performance

Agwu (2016) considered the impact of ICT on accounting information system and worker performance. The study explored observationally the effect of data innovation on bookkeeping frameworks and worker execution. The study utilized auxiliary information and Pearson's relationship was utilized for examination utilizing SPSS for a test of 20 staff in monetary administrations and other related bookkeeping offices in Contract College. The outcomes of the observational discoveries appeared that there was a critical positive relationship between ICT framework and bookkeeping framework and a noteworthy positive relationship between ICT and worker execution. Workers performance was related to capacity funds, capacity to meet set objectives and activities. Be that as it may, to boost the benefits of data innovation frameworks, the suitable execution and appropriation strategies had to utilized, or else, there was small or no effect of these innovations on the prior said factors.

Kimenyi (2016) investigated how the management process on performance of staffs are affected by the e-HR systems level of knowledge for companies based in Kenya. This study employed

descriptive research design and it was chosen as it portrays an accurate profile of e-HR systems within the four Service NEPs in Kenya. The findings indicated that the use of e-HR systems is a practice that has been adopted in the industry and investing in the line managers knowledge level has had a positive contribution in the employee performance management process. The research further established that the e-HR systems knowledge level increased effectiveness of managers to close on goal setting agreements with their direct reports in comparison to paper-based processes.

Information Communication Technology Support staff and Staff Performance

The range of human resources centers on the parts and obligations needed to realize the objectives of the association. Human resources are one of the foremost critical factors within the victory of ICT applications by staff within the open segment. In addition, a number of public sector requirements need to be considered such as adaptation to change, use of technology, integration, customer service and training and development. Human assets variables which contributes towards government objectives incorporate; preparing and bolster framework which keeps up the current staff abilities sets in keeping with firm improvements; IT help; such as help work areas; appropriately qualified IT staff inside the open organizations; IT administration; and specialized encounter (Mano, 2013).

The lion's share of public sector organizations actualizes information administration (KM) based overwhelmingly on ICT framework. Such conduct may lead to lacking short-term preferences as fruitful information administration depends on social changes and advancing a compound where individuals are pleasing to share their encounters with others. KM is centered on progressing information, capabilities and abilities. The users of the system require adequate training to understand the procedures, data, policies, functions and information needs of the public sector. This training requires being all round and effective and should be both on job training and off job training. This is necessary to provide the employees with the knowledge of current information Systems (IS) and other ICT related needs (Ives & Learmonth, 2014).

Lack of effective training yields unqualified staff that mess the system or maintain outdated system which do not serve the current needs of the employees. This often leads to lack of the correct information favourable for management functions and hence ineffectiveness in management. The public sector needs to create conducive working environment for its employees. There is the need of staff motivation to produce better results. The employees should be made part of the management, for them to work effectively in producing good information. This is an input provided for by the management by treating the employees with integrity especially during the introduction of a new information system (Rampershad, 2012).

There is usually resistance to change is such a case and for them to work effectively in producing good information they should be made to accept the system honorably not by coercion. For them to work effectively in producing good information to work effectively the employees must be

recognized and treated fairly so that they do not hinder the success of the new information system. In a case where the employees provide resistance that is not overcome, the new system is not successfully introduced and the information obtained from such a system is sub-standard eventually leading to inadequate information for their service delivery (Azab, Kamel & Dafoulas, 2013).

Maina (2015) focused on the influence of information communication technology applications on performance of architects in construction projects in public sector. The study revealed that ability of (ICT) support staff to adapt to changing IT environment had a high influence on the performance of employees as it ensured that the employees get the latest information and are up-to date with the latest technologies. Some of the respondents did not see the influence of support staff ability to adapt to the ever-changing ICT environment having any significant influence on the performance of employees since as tested and proven ICT applications work regardless of time lapse. Additionally, ICT applications are just beginning to take root and its influence is yet to be felt and saw the need of ICT staff competencies as a crucial factor to architects' performance while some disagreed that the knowledge of ICT staff is hardly incorporated in the staff work.

RESEARCH METHODOLOGY

Research Design

This is a structure of examination in order to get answers to inquire about questions (Kothari, 2014). The study used descriptive research and explanatory research design to determine the impacts of information communication technology on staff performance within the public sector with reference to Nyandarua County, Kenya. A descriptive study empowers an analyst to get expansive sums of information from a substantial population in an exceedingly successful, simple and in a prudent way utilizing surveys (Saunders, Lewis & Thornhill, 2012). A descriptive research plan was favored in this research since it permits for investigation of distinctive factors at a go and empowers the analyst to depict factors, conditions and circumstances (Erik & Marko, 2011). Explanatory design is used to test the hypothesis in the inferential statistics. The essential reason of explanatory research is to clarify why phenomena happen and to predict future events. Explanatory studies are characterized by research speculations that indicate the nature and course of the connections between or among factors being examined additionally generalize the results to the population from which the test is chosen. The data are quantitative and require the utilization of a statistical test to set up the legitimacy of the relationships (Saunders, Lewis & Thornhill, 2012).

Target Population

Agreeing to Garg and Kothari in (2014), population is a group of individuals, services or events being examined. Conversely, the target population refers to the particular population around which data is desired (Kothari, 2014). The study was restricted to the senior, middle and lower level management staffs within the IT division within the County. Mugenda and Mugenda (2008) characterized population as things or objects in a given investigation with same discernible characteristics. The population targeted 60 workers within the IT division within the County (Nyandarua County Public Service Board).

Sampling Procedure and Sample Size

Concurring with Marko (2011), sampling is selection of people or items to represent the entire population. It may be a little bunch gotten from available population. Sampling technique is the strategy an analyst employs to assemble individuals, things or places (Kombo & Tromp, 2006). The research performed a census where every department of IT in that County was represented.

Data Collection Instruments

This research used essential primary information on a basis of a questionnaire. Questionnaires grant a decently cheap, rapid and capable way of getting broad entireties of information from a broad test of people. Data can be collected decently quickly since the investigator would not appear when the studies were completed. Ordinarily profitable for broad populaces when interviews would be illogical (Kothari, 2014), This set of questionnaire entailed open and close ended questions in order to spare time additionally and as well empower respondents to reply questions the way they wanted to express themselves using words of their own (Erik & Marko, 2011). The questions that were close ended requires a respondent to make a choice from the responses set that are given (Mugenda & Mugenda, 2008)

Data Collection Procedure

This identifies with steps of gathering subjects and obtaining information required for the study (Erik & Marko, 2011). Information collection empower the analyst construct up">to construct up data approximately individuals, objects or a marvel and almost the setting in which they happen and are basically categorized in to essential and auxiliary information collection strategies (Cooper & Schindler, 2011). Surveys were utilized to assemble essential information. The investigator got an introduction letter from Kenyatta University in arrange to guarantee respondents that their data was to be as it were be for scholastic purposes and should be kept private.

Data Analysis

Data analysis is the strategy of evaluating data utilizing illustrative and coherent considering to see at each component of the data given which offer help in, cleaning and modeling data with the objective of finding important information, prescribing conclusions (Bryman& Chime, 2007). Information collected was in both quantitative and subjective in nature. Subjective information was analyzed utilizing topical strategy. the expressive quantifiable gadgets offer help the investigator to depict the data and choose the degree utilized. Examination was done quantitatively and subjectively by utilize of expressive experiences. This incorporated recurrence conveyances, tables, rates, cruel mode, middle etc. In expansion, progress factual procedures (inferential statistics) were moreover be considered. Analysis of data shall utilize SPSS, STATA and Microsoft excels and displayed using tabulations, means, percentages and other measures of central tendencies. The analyst further utilized a multivariate regression model to study the relationship between the variables considered here. Regression is able to assess the coefficients of the linear equation, including one or more independent factors, which best anticipate the esteem of the dependent variable (Cooper & Schindler, 2011). A multiple regression model was utilized to evaluate the collective impact of four autonomous factors and the depended variable. The regression strategy was utilized within the study in effort to test the nature of impact of independent factors on a dependent variable. The regression model was as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$$

Where: Y = Staff Performance; β_0 = Constant Term; β_1 , β_2 , β_3 and β_4 = Beta coefficients; X_1 = ICT Infrastructure; X_2 = Efficiency of ICT Hardware; X_3 = ICT Policy Framework; X_4 = ICT Support staff; X_5 = ICT Policy Framework; ε = Error term

RESEARCH RESULTS

Information Communication Technology Hardware

The findings showed the study found weak positive correlation coefficient between ICT hardware and Employee performance at Nyandarua County, application servers in the Nyandarua County are accurate which later increases the performance of staffs and that the capacity of ICT storage devices in Nyandarua County is adequate and that effective application servers provide the much-needed software and data to facilitate. Further the study noted that stable web servers ensured that the information flow is continuous with minimal interruption and that the speed of hardware enables faster processing of data as well as transmission. ICT hardware in the Nyandarua County is reliable which later increases the performance of staffs, ICT hardware infrastructure in Nyandarua County is stable which later increases the performance of staffs and that the speed of ICT storage devices in Nyandarua County is adequate which in turn enhance staff performance and that the speed of hardware enables faster processing of data as well as transmission.

Internet and Social Media Applications

Assessment on role of the role of Internet and Social Media Applications in enhancing employee performance revealed negative correlation between social media applications and Employee performance at Nyandarua County, descriptive results affirmed that the use of online social networking in Nyandarua County has enhanced knowledge sharing between individuals, the use of e-government applications has enhanced the staff performance in the County and that employee engagement with social media during working hours reduce their productivity. Further the study revealed that the use internet in Nyandarua County has enhanced the skills of the employees resulting to productivity, The use of internet applications has enhanced the accuracy of the work in the County the use of internet applications has enhanced the efficiency of operations in the County and that the employees in the County spend much time creating personal networks which reduce their productivity.

Information Communication Technology Software System

The study established that integrated IT system has provided a competitive edge for the Nyandarua County, the study found positive correlation between ICT software applications and employee performance at Nyandarua County the use of E-Recruitment has ensured that qualified staffs are recruited in the County and that the use of E-Training has ensured that employees are well trained thus enhancing their skills. Further the study revealed that ICT software system in Nyandarua County has enhance staff performance at the County level, The E-human resource systems in the County ensure the employee needs are met and thus employee satisfaction, the use of E-Payroll administration has ensured that employees are paid in time, the accounting system in the County enhance employee productivity and that the e-HR systems has increased effectiveness of employees in the County.

Information Communication Technology Support staff

The study revealed a strong positive correlation between ICT Support staff and Employee performance at Nyandarua County, descriptive statistics showed that ability of (ICT) support staff to adapt to changing IT environment has a high influence on the performance, lack of the correct information favourable for management functions leads to ineffectiveness in management and that lack of effective ICT training yields unqualified staff that mess the system and that training and support of ICT staffs help maintain the current personnel skills of staffs sets in keeping with firm developments,

The study also established that that the ability of the ICT support staff in handling computer system to adapt to changes in ICT environment influences staff performance, Ability of ICT support staff in handling and integrating the ICT applications and other software enhance staff performance and that Nyandarua County has implemented knowledge management based

predominantly on physical ICT infrastructure, and lack of effective ICT training leads to outdated system which do not serve the current needs of the employees.

Information Communication Technology Policy Framework

The findings of this study uncovered that a positive relationship between ICT Approach System and Representative execution at Nyandarua County, graphic comes about moreover appeared that Nyandarua County has ICT arrangement manual in put that got to be taken after whereas receiving data innovation, the representatives within the County are mindful of the County ICT approach, the IT arrangement shows rules and directions on utilize of individual computers on the organize, the workers within the County are mindful of the County ICT approach the IT arrangement demonstrates points of interest approximately appropriate authorization in arrange to get to IT frameworks.

Further evaluation appeared to show that the IT approach demonstrates how the IT frameworks are to be repaired and kept up the data Innovation approach applies to all clients of IT frameworks within the Province, the County arrangement system on ICT is satisfactory in directing the workers in selection of ICT foundation, the IT arrangement shows ways in which the approach can be assist created which the IT arrangement demonstrates the requirement methods in case of improper utilize of IT frameworks.

INFERENCE STATISTICS

On the correlation of the study variable, the researcher conducted a Pearson moment correlation. from the finding in the table above, the study found that there was strong positive correlation coefficient between ICT hardware and employee performance at Nyandarua County, as shown by correlation factor of 0.439, this strong relationship was found to be statistically significant as the significant value was 0.032 which is less than 0.05. Maina (2015) revealed that stability of web and application servers had a high influence on architects' performance as it improved data processing and dissemination. Effective application servers provide the much-needed software and data to facilitate the architectural work and that capacity and speed of storage devices had a high influence on the performance of architects in construction projects in that data transfer is very fast as well as large volume of data can be stored which would otherwise be left out.

The study found weak negative correlation between social media applications and employee performance at Nyandarua County as shown by correlation coefficient of -0.475, the significant value was 0.009 which was less than 0.05. Haythornthwaite and Wellman (2012) noted that online social networking enhanced workers efficiency. Information sharing between people enhanced efficiency. Be that as it may, the dangers related with online social networking ought to be well-known, such as loss of security, bandwidth and capacity utilization, introduction to malware and lower worker efficiency.

Table 1: Correlation analysis

		Employee performance	ICT hardware	Social media applications	ICT software applications	ICT Support staff	ICT Policy Framework
Employee performance	Pearson Correlation	1	.439*	-.475*	.445*	.421	.512*
	Sig. (2-tailed)		.032	.009	.030	.002	.012
	N	57	57	57	57	57	57
ICT hardware	Pearson Correlation	.439*	1	.745**	.897**	.266	.153
	Sig. (2-tailed)	.032		.000	.000	.198	.477
	N	57	57	57	57	57	57
Social media applications	Pearson Correlation	-.475*	.745**	1	.653**	.116	.290
	Sig. (2-tailed)	.009	.000		.000	.581	.169
	N	57	57	57	57	57	57
ICT software applications	Pearson Correlation	.445*	.897**	.653**	1	.317	.097
	Sig. (2-tailed)	.030	.000	.000		.122	.653
	N	57	57	57	57	57	57
ICT Support staff	Pearson Correlation	.421	.266	.116	.317	1	.178
	Sig. (2-tailed)	.002	.198	.581	.122		.404
	N	57	57	57	57	57	57
ICT Policy Framework	Pearson Correlation	.512*	.153	.290	.097	.178	1
	Sig. (2-tailed)	.012	.477	.169	.653	.404	
	N	57	57	57	57	57	57

The study found positive correlation between ICT software applications and employee performance at Nyandarua County as shown by correlation coefficient of 0.445, this too was also found to be significant at 0.030. Kimenyi (2016) indicated that the use of e-HR systems is a practice that has been adopted in the industry and investing in the line managers knowledge level has had a positive contribution in the employee performance management process. The research further established that the e-HR systems knowledge level increased effectiveness of managers to close on goal setting agreements with their direct reports in comparison to paper-based processes.

Further the study found weak positive correlation between ICT Support staff and Employee performance at Nyandarua County as shown by correlation coefficient of 0.421 at 0.002 levels of confidence and finally the study found strong positive correlation between ICT Policy Framework and Employee performance at Nyandarua County as shown by correlation coefficient of 0.512 at 0.012 levels of confidence. Lack of effective training yields unqualified staff that mess the system or maintain outdated system which do not serve the current needs of the employees. This often leads to lack of the correct information favourable for management functions and hence ineffectiveness in management. The public sector needs to create conducive

working environment for its employees. There is the need of staff motivation to produce better results (Rampershad, 2012).

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891(a)	.753	.745	.19440

The adjusted R squared is the coefficient of determination that explains the changes on the variable that is dependent as a result of changes on the bvariable that is independent, as per the outcomes on the table above, the adjusted R squared became 0.745 showing the existence of a 74.5% variation on employee performance as a result of changes in ICT Infrastructure, social media applications, Efficiency of ICT software applications, ICT Support staff, and ICT Policy Framework. at 95% confidence interval.

This shows that 74.5% changes in employee performance at Nyandarua County could be accounted by ICT Infrastructure, social media applications, Efficiency of ICT software applications, ICT Support staff, and ICT Policy Framework. R is a coefficient of correlation indicating the relationship existing amongst the variables in the studys, as seen from the outcomes illusrated in the above table, a strongly positive relationship was present amongst the variables of the study as given by the value 0.891. Waruguru (2012) contend that appropriation of IT in organizations ought to be a best motivation of the beat brass of any organization who are entrusted with coming up with vision, mission, and organizational targets which are the long-term plans of the organization.

Table 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.86	5	.772	5.1812	.048 ^b
	Residual	7.599	51	.149		
	Total	11.46	56.00			

As seen from the statistics of ANOVA in the above table, the parameters of population had a 4.8% level of significance that illustrates that the data obtained is appropriate for arriving at a conclusion concerning the parameters of population since thee significance value is below 5%. The value that was calculated happened to be bigger than that of the critical one implying that the null hypothesis was rejected and thus there was a significant relationship between ICT Infrastructure, social media applications, efficiency of ICT software applications, ICT Support staff and ICT Policy Framework with staff performance.

Mahony, Timmer and Van Ark (2010) noted the key IT depends on conceiving ways in that the advancement can be saddled to serve major organizational targets and senior organization must be included in setting these targets and judging ways of get

together them. It was concluded ICT Infrastructure, social media applications, Efficiency of ICT software applications, ICT Support staff and ICT Policy Framework affected staff performance.

Table 4: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 Constant	.593	.091	.561	6.516	.156
ICT Hardware	.543	.096	.507	5.656	.031
Social media applications	-.354	.106	.327	3.340	.146
Efficiency of ICT software applications	.477	.121	.433	3.942	.074
ICT Support staff	.654	.216	.601	3.028	.331
ICT Policy Framework	.631	.123	.593	5.130	.421

The regression equation that was obtained as a result of the above data was:

$$Y = 0.593 + 0.543X_1 + (- 0.354 X_2) + 0.477X_3+ 0.654X_4 + 0.631X_5$$

Resulting from this equation, an increase in a unit of ICT Hardware would result to a rise in employee performance by factors of 0.543. Maina (2015) revealed ICT Hardware had a high influence on the performance of architects in construction projects. A unit increase in social media applications would lead to decrease in employee performance by -0.354, Haythornthwaite and Wellman (2012) noted that online social networking enhanced workers efficiency. An increase in a unit of efficiency of ICT software applications would lead to increase in employee performance by factors of 0.477, Kimenyi (2016) established that the use of e-HR systems is a practice that has been adopted in the industry and investing in the line managers knowledge level has had a positive contribution in the employee performance management process.

A unit increase in ICT Support staff would result to a rise in employee performance by factors of 0.654, is necessary to provide the employees with the knowledge of current information Systems (IS) and other ICT related needs (Ives & Learmonth, 2014). A unit increase in ICT Policy Framework would result to a rise in employee performance by factors of 0.631.

CONCLUSIONS

It was concluded that there was a strong relationship between ICT hardware and employee performance which was deemed to be positive in nature. For this to happen application servers should be accurate which later increases the performance of staffs and that the capacity of ICT storage devices in an organization should be adequate and effective application servers provide the much-needed software and data to facilitate employee performance.

There was a strong relationship between social media applications and employee performance which was deemed to be positive in nature. Test results from regression model predict that

increase in social media applications would lead to decrease in employee performance therefore the study concluded that there was a negative relationship between social media applications and employee performance. This could be because when employees spend much of their time in social media such as Facebook, Instagram, twitter and WhatsApp they tend to be less productive. However, social networking can enhance knowledge sharing between individuals and thus staff performance.

There was a strong relationship between software applications and employee performance which was deemed to be positive in nature. Test regression results predict that increase in efficiency of ICT software applications would lead to increase in employee performance therefore this study concluded that there was a positive relationship between IT system and employee performance. This is because IT systems such as E- human resource systems, E-Payroll administration and e-HR systems tend to increase effectiveness of employees and thus provide a competitive edge for the organization.

The study found a significant relationship between ICT Support staff and employee performance. Results show that increase in ICT Support staff would result to a rise in employee performance, given the association the study concluded that there was a positive relationship between ICT support staff and employee performance. This is because the correct information favourable for management functions leads to effectiveness in management and effective ICT training yields qualified staff that support the system and that training and support of ICT staffs help maintain the current personnel skills of staffs.

The study found a significant relationship between ICT Policy Framework staff and employee performance. Results show that increase in ICT Policy Framework would result to a rise in employee performance by factors therefore this study concluded that there was a positive relationship between ICT policy framework and employee performance. This is because IT policy indicates how the IT systems are to be repaired and maintained. The policy framework also help guide the employees in adoption of ICT infrastructure and indicates ways in which the policy can be further developed.

RECOMMENDATIONS

Organizations must consider procuring ICT hardware system that is are compatible, easy to configures, portable, space conservative, resistance to breakages and again ICT hardware must be easy to work with so as to enhance employee performance.

Though social media platforms were found to be negatively associated with employee performance, this study recommends that strong measures through policy frame work must be put in place in place to avoid instance where employees may waste a lot of time in social media platforms and thus affecting their productivity.

Procurement of ICT software by the County governments (on shelf or toiler made) must be comply with quality standards described through flexibility in use by the end users, easy to maintain, cost effective and durability, chosen an application should be easy to run on different platforms (operating *systems*) with or without minimal changes.

The County governments need to ensure that all applications installed or updated to the main County ICT system are backed with intensive training to all employees so as to eliminate utilization challenges that employees may face.

The County government needs to procure or employ in-house ICT professional who shall be tasked with the responsibility of offering training to employees or routinely check on the efficiency or effectiveness of the system.

Therefore, to enhance employee performance, the organization must come up with strong regulatory policy framework that clearly stipulates extent or ways through which employees may utilize ICT system and its applications and procedure in solving ICT related complains whenever they arise.

REFERENCES

- Agwu, R. (2016). *The effect of ICT on accounting information system and employee performance*. MBA Thesis, University of Nairobi.
- Al-Qallaf, C. & Al-Azmi, H., (2012). Information Technology in Public Libraries in Kuwait: A First Study. *International Information and Library Review*, 34 (4), 289-308.
- Aral, S., & Weill, P. (2007). IT Assets, Organizational Capabilities & Firm Performance: How Resource Allocations and Organizational Differences Explain Performance Variation. *Organization Science*, 2 (5), 1-18.
- Arnold, H. J., & Feldman, D. J. (2012) A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology*, 67(3), 350-360.
- Azab, N. A., Kamel, S. & Dafoulas, G. (2013). A Suggested Framework for Assessing Electronic Government Readiness in Egypt. *Electronic Journal of e-Government*, 7(6), 11 – 28.
- Barney, J. B. (1986). 'Strategic factor markets: Expectations, luck, and business strategy', *Management Science*, 3 (2), 1231-1241.
- Bennett, J. (2010). Workplace Impact of Social Networking. *Property Management*, 138-148.
- Bowen, P. L. (2015). Enhancing IT governance practices: A model and case study of an organization's efforts. *International Journal of Accounting Information Systems*. 5 (3), 74 - 154.
- Braa, J., Monteiro, E., & Sahay, S. (2014). Networks of action: Sustainable health information systems across developing countries, *MIS Quarterly*, 28 (3), 337-362.
- Bretschneider, S., Gant, J., & Ahn, M. (2013). *A General Model Of E-Government Service Adoption: Empirical Exploration*. Public Management Research Conference. Washington, DC: Georgetown Public Policy Institute.
- Bryman, A., & Bell, E. (2007). *Business research method*. (2nd ed.) Oxford: Oxford University Press.

- Chan, Y.C.L., & Lynn, B.E. (2011). Performance evaluation and the analytic hierarchy process. *Journal of Management Accounting Research*, 3, (6) 57-87.
- Coens, T., & Jenkins, M. (2012). *Abolishing Performance Appraisals*. San Francisco: Berrett-Koehler Publishers, Inc.
- Cooper, R. D., & Shindler, S. P. (2011). *Business research methods*, (9th ed.). New York: McGraw-Hill.
- Darwazeh, R. (2016). The effect of application of e-government on the staff performance in the Greater Amman Municipality a field study.
- Davis, F. D. (1989). *A technology acceptance model for empirically testing new enduser information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).
- DiRomauldo, A., & Gurbaxani, V. (2013). Strategic intent for IT outsourcing. Center for Research on Information Technology and Organizations.
- Erik, M., & Marko, S. (2011). *A Concise Guide to Market Research: The Process, Data, and Methods Using IBM SPSS statistics*, New York: Springer Heidelberg Dordrecht.
- Gefen, D., & Straub, D. W. (1997). Gender differences in the perception and use of email: An extension to the technology acceptance model. *MIS quarterly*, 389-400.
- George, J.F. (2002). "Influences on the intent to make Internet purchases", *Internet Research*, 12 (2), 165-180.
- Gill, J., & Johnson, P. (2008). *Research Methods for Manager*. (3rd ed.) Longman: Sage.
- Gituthu, P. M. (2015). *Influence of Information Communication Technology Applications on Performance of Architects in Construction Projects in Public Sector: The Case of Directorate of Public Works, Kenya*
- Government of Kenya, (2017).
- Gujarati, T. (2014) Impact of Capital Structure on Performance of Listed Public Sector Banks In India. *International Journal of Business and Management Invention*, 2 (5) 35-43.
- Haythornthwaite, C., & Wellman, B. (2012). *The Internet in Everyday Life*. Oxford, O.X: Blackwell.
- Heinz, H. (2012). Determinants of the adoption of information and communication technology; An empirical analysis based on firm-level data for the Swiss Business Sector. *Journal of Technology* 3 (1), 125-134.
- Hsu, M., & Chiu, C. (2004), Internet self-efficacy and electronic service acceptance. *Decision Support Systems*, 38 (3), 369-381.
- Hult, G. T. M., Ketchen, D. J., & Slater, S. F. (2014). Information processing, knowledge development, and strategic supply chain performance. *Academy of management journal*, 47(2), 241-253.
- Huselid, M. A. (2015). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 3(8), 635-672.
- Imran, A., & Gregor, S. (2015). *Strategies for ICT Use in the Public Sector in the Least Developed Countries: A Cross-Country Analysis*. In B. Campbell.
- Ives, B., & Learmonth, G. (2014). *The information system as a competitive weapon*. *Communications of the ACM*, 27(12), 93-142.
- Kimenyi, E. (2016) The influence of electronic human resource systems knowledge level on employee performance management process: a case of network service equipment provider companies in Kenya. University of Nairobi.

- Kinanga, R. (2013). Information technology adoption determinants in improving human resource function in Kenyan Public Universities. Master's Thesis University of Nairobi, Kenya.
- Knezek, G., & Christensen, R. (2012). Impact of new information technologies on teachers and students. *In networking the Learner*, 5 (2), 169-178).
- Kothari, C. R. (2014). *Business research methods*. 6th ed. Boston: Irwin/McGraw Hill.
- Kothari, C. R., & Garg, G. (2014). *Research methodology Methods and Techniques*. New Age International (P) Ltd. - New Delhi.
- Laudon, K., & Laudon, J. (2013). *Essentials of Management Information Systems*. Prentice Hall: New Jersey.
- Lucas, H. (2015). "*Why Information Systems Fail*." New York; Columbia University Press.
- Mahony, M., Timmer, M., & Van Ark, B., (2010). ICT and productivity growth in Europe: An update and comparison with US, in Cimoli, M.
- Maina, G. (2015). *The influence of information communication technology applications on performance of architects in construction projects in public sector. The case of directorate of Public Works, Kenya*. Degree of Master of Arts in Project Planning and Management of University of Nairobi.
- Mano, R.S. (2013). Information technology, adaption and innovation in nonprofit human service organizations. *Journal of Technology in Human Services*, 27(3), 227-234.
- Mattii, P. (2012). The New Economy: Facts, Impacts and Policies. *Information Economics and Policy*, 1(3)3-14.
- Mgbeze, V. A. (2015). *The impact of information technology on the performance of staff in Nigeria Banking Sector: A Case Study of Keystone Bank Limited*.
- Mojisola, O. (2012) *The effect of information systems on firm performance and profitability using a case study approach*. Thesis University of Plymouth.
- Moore, G., & Benbasat, I. (2011). "Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation." *Information Systems Research*, 2 (4), 192-222.
- Mugenda, O. & Mugenda, B. (2008). *Research Methods. Quantitative and Qualitative*. Nairobi: Acts Press Publishers.
- Munene, A. G., & Nyaribo, Y. M. (2013). Effect of Social Media Pertication in the Workplace on Employee Productivity. *International Journal of Advances in Management and Economics*, 2 (4), 141-150.
- Mwituria, E. (2015). The impact of social networks on employee productivity in commercial banks in Kenya: a case study of NIC Bank Kenya. United States International University – Africa.
- Opiyo, A. (2015). *The effects of human resource information system on performance of commercial banks in Kenya: a case of Kenya Commercial Bank*. MBA Thesis, University of Nairobi.
- Otieno, A. V. (2010). "*Application of ICT strategy in enhancing competitive advantage among commercial banks in Kenya*", MBA Thesis, University of Nairobi.
- Peansupap, V., & Walker, D. H. T. (2015.) Factors affecting ICT diffusion: a case study of three large Australian construction contractors. *Engineering Construction and Architectural Management*, 12 (1), 21-37.

- Rampersad, H. K. (2012). *Total Performance Scorecard; eenspeurtocht naar zelfkennis en competentieontwikkeling van lerende organisaties*, Scriptum Management, Schiedam.
- Rao, P. (2011). Internationalization of Technological Activity, and the Emerging Economies: Implications for Global Marketing. *The ICT Revolution*, 5(7)17-56.
- Richards, J. (2012). What has the internet ever done for employees? A review, map and research agenda. *Emerald Journal*, 34(1), 22-43.
- Rogers, R., & Hunter, J. E. (2011). Impact of Management by Objectives on Organizational Productivity. *Journal of Applied Psychology*, 76 (2):325.
- Rumelt, R. P. (1984). 'Towards a strategic theory of the firm'. In R. Lamb (ed.) *Competitive Strategic Management*. Prentice-Hall, Englewood Cliffs, NJ, pp. 556-570.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students* (4th edn). Harlow: FT Prentice Hall.
- Scott, T., Rundall, T., Vogt, R., & Hsu, J. (2016). "Kaiser Permanente's Experience of Implementing an Electronic Medical Record: A Qualitative Study," *British Medical Journal*, 331(3), 1313-1316.
- Soh, C., & Markus, M. L. (2015). How IT Creates Business Value: A Process Theory Synthesis Proceedings of the Sixteenth International Conference on Information Systems.
- Teo, T., Soon, L., & Fedric, S. (2011). "Adoption and Impact of Human Resource Information Systems (HRIS)." *Research and Practice in Human Resource Management Journal*, 9(1), 101-117.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003), User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Ward, J. (2014). *Principals of Information Systems Management*. New York; Routledge.
- Waruguru, I. (2012). Influence of information and communication technology on Performance of aviation industry; a case of Kenya Airways ltd. Master's Thesis University of Nairobi, Kenya.
- Wernerfelt, B. (1984). 'A Resource-based view of the firm', *Strategic Management Journal*, 5 (2), 171-180.
- Wright, M. (2011). The future of resource-based theory: revitalization or decline?. *Journal of management*, 37(5), 1299-1315.
- Yusuf, M (2013). The Impact of Management Information System (MIS) on the Performance of Business Organization in Nigeria. Diss. University of Abuja.