International Journal of Arts and Social Science www.ijassjournal.com
ISSN: 2581-7922,
Volume 6 Issue 8, August 2023

Evaluation of ICT Integration in Performing Administrative Functions In Technical Training Institutions In Nyeri and Nairobi Counties, Kenya

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Abstract: In the contemporary society, Information and Communication Technology (ICT) has been identified as the most important enabler and driver of processes in institutions and organizations. The purpose of this study was to examine the level of (ICT) integration in performance of administrative functions in Technical Training Institutions (TTIs) inNyeri and Nairobi Counties in Kenya. The objectives of the study were to; Evaluate ICT integration in the performance of administrative tasks in the management of TTIs and Compare the levels of integration of ICT in the technical institutions in the two Counties in Kenya. The study tested the null hypothesis: Ho1: There is no significant difference between the level of ICT integration in administrative tasks in technical institutions in Nyeri and Nairobi counties in Kenya. This study was guided by the Adaptive Structuration and Technical Pedagogical Content Knowledge (TPACK) theories as the theoretical framework.The study adopted the mixed methods research design. The target population was 1026 TTI employees comprising of 10 Principals, 1006 lecturers and 10 Bursars in Technical Training Institutions in Nyeri and Nairobi Counties. A sample size of 290 lecturers were selected using the stratified random sampling while the 10 bursars and 10 principals were selected using purposive sampling. Questionnaires and interview schedules were used as data collection instruments. The questionnaires were administered to the lecturers while the interview schedules were used for the principals and bursars. The results of hypothesis testing using the t-test revealed that the level of ICT integration in administrative tasks in TTIs in Nairobi County was higher than that of TTIs in Nyeri county. The null hypothesis was therefore rejected. Thus, the study recommended that there is need for the government to strengthen the ICT policy in order to enhance resource allocation by the ministry and respective institutions required to deepen integration of ICT in Kenya. Through the ICT policy, the government should also have an annual performance target for every institution to file reports on their levels of ICT integration on all their operations.

Keywords: *Integration, ICT, Administrative Functions, Technical Training Institutions.*

I. INTRODUCTION

Information and Communication Technology (ICT) is a tool which has greatly revolutionized the efficiency and effectiveness of organizations in the 21st century especially educational institutions. The contemporary world is characterized by dynamic changes in politics, economics, technology and education. In order for the world economies to adapt to the ever rapidly changing world order, ICT has been identified as an important innovation that provides great potential for adaptation. There has been unprecedented growth of ICT coupled with

globalization which has casted huge challenges as well as opportunities in the field of education (Palvia, Baqir & Nemati, 2018). UNESCO (2015) posit that the tools of microelectronic and telecommunications that are used in the automatic acquisition, analysis, storage, retrieval, manipulation, management, control, movement, display, transmission, reception, and interchange of quantitative and qualitative data are critical to the achievement of effective management in educational institutions. This is pertinent and central to advancement of education goals to meet the knowledge based economy demands of the 21st century.

Modern society educationists emphasize the impartation of 21st century skills to learners which consist of flexibility in learning styles, competency, learner centeredness and inclusion of the realization of Sustainable Development Goals (SDGs) (Sarkar, 2012). This also increases their flexibility in adopting to the different technology developments employed by companies which require high level of competence in digital skills. In addition, the 21st century digital skills which also emphasize on digital literacy, e-skills, internet skills, has shifted from a technical orientation toward a wider perspective that considers content-related or higher-order skills. This narrows down to soft skills in communication, collaboration, creativity, critical thinking and problem-solving (Tang & Chaw, 2016).

The Qingdao Declaration on ICTs in education, also affirmed the need to unleash the full potential of ICTs to achieve the educational targets for equity, access, quality and lifelong learning as documented in the SDGs (UNESCO, 2015). This is applicable in the Technical and Vocational Education and Training Institutions (TVET) which has evolved from providing semi-skilled basic operators to producing highly trained professional experts in practically all aspects of technology (Tok&Sora, 2013). According to UNESCO (2016) it is now possible to utilize ICTs in TVET in various levels of training including administration as well as in promoting information literacy. This will provide profound transformations in the conceptualization, governance, funding and organisation of TVET institutions to ensure that the sector is capable of responding effectively to the many economic, equity and sustainable transformational challenges of the 21st century world.

II. Statement of the Problem

ICT has been recognized as an essential tool for strengthening education systems and enhancing quality and effective learning. The initiatives to transform education using ICTs demand for allocation of necessary resources, formulation of explicit ICT automation policies, setting of time-bound targets, and political willpower at all levels in the private and governmental sectors. However, in Kenya there have been concerns that the rapid expansion of TVET institutions and associated enrollment has not been accompanied by the same growth of ICT integration in their operations. This is despite the Kenya Government supplying digital equipment such as the fibre optic cables to 43 TVET institutions in the year 2014. In particular, there are indications that teachers in TVET institutions are still comfortable with traditional instructional methods of talk and chalk. Therefore, this implies that although the Ministry of Education has taken steps to integrate ICT into all levels of administration at TVET institutions, much work remains to be done before both teachers and students can fully shift from using the traditional teaching and learning approaches.

The level of ICT integration in the management of TVET in Kenya is not clearly documented and known. Whereas ICT is believed to perform instrumental functions in the management of institutions, its integration in administrative functions in technical institutions needs to be clearly documented and demonstrated. This is especially so in view of the dynamics in the contemporary society that requires institutions to be efficient and effective in their training programs, in order to produce professionals who are technology savvy and ready to fit in the ever competitive 21st century world order.

In Kenya, studies that examine the use of ICT have largely focused on secondary education perhaps due to reported earlier bias in ICT facilitation. However, the massive support for ICT in TVETs in the recent past has not been resonated on research front. The study by Abuya (2014) examined the impacts of ICT integration in TTIs in Kenya. The study outlined the challenges faced by TTIs in ICT integration and also discussed the general impact of ICT integration in all TTIs in Kenya. Another study by Agufana, Too and Mukwa (2018)

determined the relationship between perceived ease of use and instructional use of ICT by lecturers in TTIs in Kenya. However, this studies do not detail the level of ICT integration in administrative processes.

In addition, among the studies conducted on ICT integration, very few have considered carrying out a comparative analysis to evaluate level of ICT integration among TVETs in different counties in Kenya. For instance, Maina, Ogalo and Mwai (2016) conducted a study on the pedagogical readiness of instructors towards achieving integration of ICT in TVET institutions in Kenya. The study was a comparative analysis of TVET institutions in Murang'a and Kiambu county, but it only examined the effects of pedagogical readiness on effective ICT integration in TVET institutions in Murang'a and Kiambu county. In this regard, this study sought to assess the level of ICT integration in administrative tasks among TTIs in Nairobi and Nyeri counties.

III. METHODOLOGY

The study was guided by the following two objectives, which were to;

i. Evaluate ICT integration in the performance of administrative tasks in the management of TTIs.

ii. Compare the levels of integration of ICT in the technical institutions from the two Counties in Kenya.

The study tested the following null hypothesis;

Ho1: There is no significant difference between the level of ICT integration in administrative functions in Technical Training institutions in Nyeri and Nairobi counties in Kenya

The study was based on mixed methods research design. The study was conducted in TVET institutions in Nyeri and Nairobi Counties. The target population comprised of 10 principals, 1006 lecturers and 10 bursars. Purposive sampling technique was used to select 10 bursars and 10 principals from the 10 selected TVET institutions. The sampling frame was then stratified with each TVET institution forming a stratum, thus creating a total of 10 strata. The sampling tables by Krecjie and Morgan (1970) was used to determine the sample size of 290 lecturers. Thus, the total sample of the study consisted of 10 principals, 290 lecturers and 10 bursars. The study used the primary data collection methods which comprised of questionnaires and interview guide. The questionnaires were administered to the 290 lecturers while the 10 principals and 10 bursars were taken through an interview by the researcher at their own convenient time

IV. Literature review

The study was guided by the Adaptive Structuration Theory advanced by DeSanctis and Poole (1994) and Technical Pedagogical Content Knowledge (TPACK) model advanced by Koehleand Mishra (2005).

i. Adaptive Structuration Theory

The Adaptive Structuration Theory is based on Anthony Giddens' (1984) structuration theory. DeSanctis and Poole defines the theory as the production and reproduction of the social systems through members' use of rules and resources in interaction. They adapted Giddens' theory to study the interaction of groups and organizations with information technology, and called it Adaptive Structuration Theory (Barrett, 2018). The theory criticizes the techno centric view of technology use and emphasizes the social aspects. Groups and organizations using ICT for their work dynamically create perceptions about the role and utility of the technology, and how it can be applied to their activities (Aktaruzzaman& Plunkett, 2016). These perceptions can vary widely across groups and may influence the way technology is used and hence mediate its impact on group outcome.

Adaptive structuration theory (AST) has been used for a number of years in the information systems discipline to study the use of new technologies in organizations (Elbasha& Wright, 2017). Organizations have adapted advanced ICT technologies aimed at bringing revolution to management activities through sophisticated technologies. Proponents of AST contend that developers and users of these systems (ICT) hold high hopes for their potential to change organizations for the better, but actual changes often do not occur, or occur inconsistently (Barrett, 2018). It examines the change process from two vantage points: firstly, the types of

structures that are provided by advanced technologies, and secondly the structures that actually emerge in human action as people interact with these technologies.

The theory is relevant to this study because, ICT investments in TVETs aim at bringing change and efficiency so as to meet challenges of labour requirements of 21st century (Deya, 2016). Indeed, Kenyan Government in collaboration with donors started with facilitating 43 institutions with digital equipment. Moreover, there have been efforts to improve ICT competencies of teachers and principals (MOE,2014). However, there have been doubts overachievement of the intended goals. According to Aktaruzzaman and Plunkett (2016), the impact of technology on administrative tasks can only be realized through effective implementation. The theory was thus, useful in examining the status of ICT support both physical and human as well as scaling expected outcomes in relation to incorporationof ICT in the administration of the institution.

ii. Status of ICT Integration in TVETs

Digitalization has been earmarked as the centralstrategy tospecifically achieve the fourth Sustainable Development Goals (SDGs) which aims at increasing the number of youth and adults with relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship by 2030 (UNESCO, UNICEF, World Bank, 2015). Hence, the Governments worldwide that are signatories to the United nationscommitment to the social economic agenda outlined in SDGs as well as in the Education Framework for Action 2030, have beenchallenged to transform education institutions and current schooling practices to align them with the fast growing demands of the technology-driven world.

This has led to the development of digital strategies to support education as illustrated by (Patra& Mete, 2014). Further, it has resulted in a shift in computer usage and the need for ICT skills in today's workforce (Tomaro, 2018). Governments have therefore been pushed to develop policies for educators to ensure that learners are prepared to match with the demands of the 21st century.

Such economic and social changes have led to growth of knowledge economies and learning societies, something that has made knowledge and learning the core of economic productivity and social development (Kozma&Vota, 2014). For instance, the countries that have embraced ICT in TVET in Asia such as South Korea, Singapore & Malaysia have experienced monumental social economic growth (Cheng, 2017). The integration of ICT in TVETs isviewed as strategic to economic take off for the third world countries.

A survey carried out by UNESCO indicated that by the onset of 21st century, countries such as Egypt, Mauritania, Morocco and Sudan had articulated digitalization of TVETs in their ICT policies (Lolwana, 2017). In Nigeria, the master plan for the development ofnational ICT programmerenvisaged adoption of ICT in all levels of Education including TVETs (Garba, 2014). Specifically, ICT is recognized as critical to virtual transfer of knowledge from TVET institutions to overcominggeographical and financial limitations of learners to enable them achieve practical skills (Abubakar, 2016). This is hoped to be achieved through provision of both physical and human resources in ICT.

In Kenya, ICT became a dominantfeature in education and other social economic policies following adoption of MDGs and EFA on the onset of the 20th century. Moreover, ICT has been graded as critical to the achievement of both Vision 2030 and Sustainable Development Goals slated for 2030 (UN, 2015). The government appreciates and recognizes that ICT literate workforce is the foundation on which Kenya can acquire the status of a knowledge economy (Saina, Mukwa&Kyalo, 2018). Further, the ICT policy notes the supply of digital equipment to 43 (forty-three) TTIs. As of 2020, more than 3872 Master teacher trainers had been trained on ICT and more than 30,653 teachers had also been trained on ICT integration (TVET Authority Kenya Report, 2020). Moreover, a draft ICT lecturers' competencies framework and e-resource Centre have been proposed (Agufana, Too &Mukwa, 2018). Additionally, sensitization workshop and training of teachers on the application of ICT to teaching, learning, and management has also been undertaken (MOE, 2019). All teachers had been required by Ministry of Education (MOE) to be ICT literate by year 2015.With this kind of facilitation coupled with

technical support, maintenance of ICT facilities and provision ofICT leadership, ICT integration is administrative processes of the TVET instituitons is expected to be advanced.

Students joining TVETs through Kenya Universities and Colleges Central Placement Service are eligible for Kshs30,000 bursary from the Government and Kshs 40,000 loan from Higher Education Loans Board. Thus, this has attracted prospective students to join TVETs. Mwangi (2016) reported that a combination of factors which include environmental, teacher as well institutional factors determine extent of ICT integration. These factors must becoordinated in order to realize TVET goals. As a management tool, ICT can be integrated in education management facets which include, financial and instructional management (Deya, 2016). Integration of ICT in administrative management involves connecting technology for better planning, setting standards, effecting change and monitoring results of the core functions in a learning institution.

According to Mtebe (2015), ICT in management systems have changed the nature of administration of schools by allowing information to be transferred, stored, retrieved and processed by almost all who work, study or interact within and outside the institutions. In addition, Mtebe (2015) point out that ICT is used in maintenance of records, communication and documents management. This has improved efficiency in day-to-day institutional operational activities especially in managing information about students, staff and resources (Ohliati& Abbas, 2019). The role of ICT cannot be overemphasized in automation of admission process as well as staff and student management.

Nonetheless, the challenge has been to balance investments in ICT and education outcomes (Abuya, 2014). Indeed, contextual inscriptions of implementers may be at variance with the user actuality which may limit accruing of digitalization benefits (Saina, Mukwa&Kyalo, 2018). Moreover, benefits of ICT integration will also depend on the level which may vary from one institution to another or even from one country to the other. Further, past studies in Kenya indicate a mismatch between ICTpolicies, coupled with supply of digital materials and adoption of technology in management of educational institutions. Indeed, slow uptake of technology has been reported in management of secondary schools and teacher training colleges institutions. (Kimosop&Mulwa, 2016). In TVETs, ICT policy and infrastructural support was initially delayed, but with the enactment of TVETAct 2012, support has been overwhelming (Amukhuma, 2018). The Kenya government in partnership with donors and bilateral organization such as USAID has supplied TVETs with digital materials. Among the majority of beneficiaries are TVETs in both Nyeri and Nairobi Counties (MOE, 2014). However, extent to which levels of technology has been taken in the management of the TVETs has not received adequate scholarly attention.

Many organizations have turned to ICT as a way to cope with turbulent environments in the current business world. According to Sharma (2015), information technology refers to interrelated components working together to collect, process, store, and disseminate information to support decision making, coordination, control, analyses, and visualization in an organization. As a result, education administrators and other educators globally are compelled to carefully analyse the academic and social needs of their students in which ICT can play a significant role (Lawrence & Tar, 2018). Particularly, ICT is expected to drive reform in TVETs to play theirrole intransforming world economies. This involves harnessing of technology for better management of education institutions in administrative, instructional and financialprocesses, (Maina, 2018). This can be essential in planning, setting standards, effecting change and monitoring results of the core functions of TTIs.

Education administrators and other educators globally are compelled to carefully analyse the academic and social needs of their students in which ICT can play a significant role. Deya (2016) and Maina (2018) agree that administrative functions in schools are becoming increasingly complex in terms of enrolments, population mobility and social problems. This complexity requires the use of powerful administrative tools resulting in better communication, efficient operations and better personal services. One of such tools is the computer. Sharma (2015) stipulates that ICT plays a vital role in supporting powerful and efficient administration in the education sectors. It can be used from student and staff administration to institutional and community engagements in an education institution.

Administration is a social procedure that has to do with classifying, preserving, inspiring, directing and combining formally coordinated individual and material assets within an integrated setting distinctively made to achieve preplanned goals and objectives (Soneye 2012). Administrators make use of ICT tools to convey instructions and provide organizational training in an interesting style. Mwalongo (2011), discovered that administrators adopt ICT tools, in preparing organizations and institutions announcements, papers for meetings with clients, students, learner'senrollment, registration, instructors and staff recruitment. ICT tools if properly adopted by administrators can be used in decision making based ondata that can be orderly stored and retrieved.

A study was conducted by Pavlova (2018) on the Computerization of school administration: Impact on principals' role: a case study of school 4 in Hougang, North Zone of Singapore. From the study it was found that ICT helped in streamlining administrative processes of the human resource especially in the area of communication. Teachers used to refer to big log books to know which rooms were available for booking and who booked same and for how long, but with ICT, they could see the schedule for an entire month and know who booked them and which date the rooms may be vacant. It was further noted that ICT was a very important tool for information dissemination. That is, it helps communicate all the necessary information available to the staff the moment they logged in the school administration portal/platform (Kanwar, Balasubramanian&Carr, 2019).

In Nigeria, Chidobe (2015) examined ICT application in the Management of administrative personnel and student records in the public universities in Enugu State. Quantitative data was collected using a questionnaire. It was administered to a sample size of 605 respondents made up of university academic staff and senior administrative staff. The data were analyzed using mean, standard deviation and t-test statistics on a modified 4-point rating scale. Findings of the study revealed among others that ICT is not adequately applied in the management of both administrative personnel and student record in the Universities in Nigeria. However, the study did notindicate the levels of ICT integration, a concern that will be addressed inthe proposed study.

In Uganda, Juma, Raiha and Clement (2016) examined therole ofICT in the management of highereducation. This was in response to modern education dynamics especially inhigher instititions including TVETs. Technology development has invariably affected all areas of administration in education.The study comprised of four universities in which 48 administrators were conveniently sampled. Data was analysedusing inferential and descriptive statistics. The findings indicated that adoptionof ICT improved communication and sharing of information among administrators, eased management of data of both staff and students and coordination of tasks and responsibilities. However, the studydid not focus on the levels of ICT integration. Moreover, the sample was drawn using non probability methods which limit generalizations (Asuman, Khan & Clement, 2018). To bridge this gap, the proposed study will examine the levels of ICT integration.

In Kenya, Ngugi (2012) investigated the extent of the use of ICT in education management in public secondary schools in Naivasha district. Among the objectives relevant to the proposed study is the use of ICTin student and staff management. Sample was drawn from school principals, bursars, secretaries and teachers. Data was analysyed using descriptive statistics. The study noted that ICT was largely used inmanagement ofdata involving staff and students as well asin communication within the school community.There is need to examine whether the same applies to TVETs which has received overwhelming support in ICT facilitation. . In Kenya TVETs have of late recorded high enrolment due to government support.However, it is not clear how ICT is being applied in administrative tasks such managing student and staff.

Mue (2014) examined application of information communication technology in school administration in public secondary schools in Lang'ata Division, Nairobi county, Kenya. One of the objectives relevant to this study is the use of ICT in human resource management. Data was collected using interviews and questionnaires andanalysed using descriptive statistics. According to the findings, schools in Lanagata have embraced ICT in the administration of human resource for instance in monitoring attendances, performance, staff training and recruitment of the staff. However, a similar study conducted by Makewaet al., (2013) in Nandi County reported

limited use of ICTfor administrative purposes. Perhaps the difference may be attributed to geographical locationof the two study areas. Nairobi County as urban area may perhaps enjoy better ICT facilities as well as training to a rural county. There is need for a comparative analysis on utilization of ICT between an urban compared and rural setting in TVETs.

V. RESULTS AND DISCUSSION

The findings of the study are reported in accordance with the objectives that guided the study. The results are as folows;

i). The first objective of the study sought to to evaluate the level of ICT integration in administrative tasks for TTIs inNyeri and Nairobi Counties in Kenya. The respondents used a likert scale where 1= Strongly disagree, 2= Disagree, 3=Moderately agree, 4=Agree and 5= Strongly agree. The results regarding whether institutions heavily invested on Enterprise Resource Processing (ERP) systems revealed that 25% of the respondents strongly agreed, 34.91% agreed and 17.24% moderately agreed. In addition, 14.66% of the respondents disagreed and 8.19% strongly disagreed. The percentage average of all the responses was 70.8 implying that most of the respondents (77.15%) agreed that TTIs heavily invest on ERP systems. Similarly, Hoques, Ahmad &Zohora (2012) study which showed that majority of schools in Malaysia are well and adequately equipped with ICT facilities. However, ICT was mainly used for administrative purposes and teachers preparation rather in imparting skills to learners.

The results on whether the institution has invested in training staff who operate ERP systems also indicated that 30.60% of the respondents strongly agreed while 31.90% agreed and 18.97% moderately agreed. Moreover, 12.50% of the respondents disagreed, 6.03% strongly disagreed. The percentage average of all the responses was 73.8% implying that most of the respondents (81.47%) agreed that the institution has invested in training staff who operate ERP systems. However, Onguko (2016) study revealed that many attempts to equip learning institutions with ICT devices as well as in teacher training have often not been accompanied with adequate research or tracking on progress of ICT policy implementation. This implies that though there have been efforts to invest in ICT devices and teacher training, there is still need to review the ICT policies implemented.

Further, the findings determining whether institutions have invested in hardware used to run ERP systems indicated that 26.29%, 37.07% and 19.83% of the respondents strongly agreed, agreed and moderately agreed respectively. On the other hand, 5.60% and 11.21% of the respondents strongly disagreed and disagreed respectively. The percentage average of the responses was 73.4% revealing that most of the respondents (83.19%) agreed that the institution has invested in hardware used to run ERP systems. Chepkoech and Mwinzi (2016) also outlined that there should be an enhancement in provision of ICT facilities such as Audio - visuals, applications software, networking facilities which are still a challenge in the technical institutions.

The results also found that 29.74%, 36.21% and 16.38% of the respondents moderately agreed, agreed and strongly agreed respectively with the statement that the institution invests in Information Security Management Systems (ISMS). While 9.48% and 8.19% of the respondents disagreed and strongly disagreed respectively. This implied that most of the respondents (82.33%) agreed that the institution invests in Information Security Management Systems (ISMS) and this was confirmed by the percentage average of all the responses which was 74%. Kiboi (2014) further noted thatdonated ICT equipment in colleges were in good condition and accessible but technical support was not adequate which translated to low integration of ICT in the management contrary to expectations.

Moreover, the results that assessed whether the institution has invested in training staff who operate the ISMS found that 30.17% strongly agreed, 34.91% agreed and 17.67% moderately agreed. Additionally, 7.33% of the respondents disagreed and 9.91% of the respondents strongly disagreed. This meant that most of the respondents (82.75%) agreed with the statement and was demonstrated by the percentage average of the responses 73.6%. However, Onguko (2016) study revealed that many attempts to equip learning institutions with ICT devices as well as in teacher training have often not been accompanied with adequate research or tracking on

progress of ICT policy implementation. This implies that though there have been efforts to invest in ICT devices and teacher training, there is still need to review the ICT policies implemented.

Furthermore, 30.17% strongly agreed, 31.90% agreed and 12.07% moderately agreed with the statement that the institution has invested in hardware used to run the ISMS. While 13.79% and 12.07% of the respondents strongly disagreed and disagreed respectively. The percentage average of the responses was 70.6% meaning that most of the respondents (74.14%) agreed that the institution has invested in hardware used to run the ISMS. Chepkoech and Mwinzi (2016) also outlined that there should be an enhancement in provision of ICT facilities such as Audio - visuals, applications software, networking facilities which are still a challenge in the technical institutions.

The results also found that 21.55%, 27.59% and 21.12% of the respondents strongly agreed, agreed and moderately agreed respectively that the institution heavily invests in business telephone systems. While 17.24% and 12.50% of the respondents disagreed and strongly disagreed respectively.The percentage average of the responses was 65.6% implying that majority of the respondents (70.26%) agreed that the institution heavily invests in business telephone systems. Similarly, Lim (2017) reported that despite ICT equipment availability , internet connectivity was very poor especially in rural areas. Whereas, the ICT infrastructure is largely well established in the institutions that are within the precincts of urban areas such Kigali.

On the other hand, 33.19%, 42.24% and 13.79% of the respondents strongly agreed, agreed and moderately agreed respectively that the institution has invested in training staff who operate the business telephone systems. While 8.19% and2.59% of the respondents disagreed and strongly disagreed respectively. The percentage average of the responses was 79% implying that majority of the respondents (89.22%) agreed that the institution has invested in training staff who operate the business telephone systems. However, Onguko (2016) study revealed that many attempts to equip learning institutions with ICT devices as well as in teacher training have often not been accompanied with adequate research or tracking on progress of ICT policy implementation. This implies that though there have been efforts to invest in ICT devices and teacher training, there is still need to review the ICT policies implemented.

In addition, the results regarding whether the institution has invested in hardware used to operate the business telephone systems also indicated that 30.17% strongly agreed, 34.05% agreed and 15.09% moderately agreed. While 10.78% and 9.91% of the respondents disagreed and strongly disagreed respectively. The percentage average of the responses was 72.8% meaning that most of the respondents (79.31%) agreed that the institution has invested in hardware used to operate the business telephone systems. However, these findings were in disagreement with those of Kukali (2013) study which revealed that in developing countries most rural and informal urban settings may lack electricity and internet connection, as well as capacity to meet maintenance costs.

The findings were in agreement with Pavlova (2018) argument who stipulated that ICT plays a vital role in supporting powerful and efficient administration in the education sectors. It can be used from student and staff administration to institutional and community engagements in an education institution.

Table 2: The Level of ICT Integration in Administrative Tasks

Statements	Strongly disagree	Disagree	Moderately agree	Agree	Strongly agree	Mean	Percentage Average
The institution heavily invests in Enterprise Resource Processing systems (ERP).	8.19%	14.66%	17.24%	34.91%	25.00%	3.54	70.8%
The institution has invested in training staff who operate ERP systems.	6.03%	12.50%	18.97%	31.90%	30.60%	3.69	73.8%
The institution has invested in	5.60%	11.21%	19.83%	37.07%	26.29%	3.67	73.4%

hardware used to run ERP systems.							
The institution heavily invests in Information Security Management Systems (ISMS).	8.19%	9.48%	16.38%	36.21%	29.74%	3.7	74%
The institution has invested in training staff who operate the ISMS.	9.91%	7.33%	17.67%	34.91%	30.17%	3.68	73.6%
The institution has invested in hardware used to run the ISMS.	13.79%	12.07%	12.07%	31.90%	30.17%	3.53	70.6%
The institution heavily invests in business telephone systems	12.50%	17.24%	21.12%	27.59%	21.55%	3.28	65.6%
The institution has invested in training staff who operate the business telephone systems.	2.59%	8.19%	13.79%	42.24%	33.19%	3.95	79%
The institution has invested in hardware used to operate the business telephone systems.	9.91%	10.78%	15.09%	34.05%	30.17%	3.64	72.8%

Further, the principals and bursars who were interviewed were also requested to give their opinion with regard to administrative tasks;

The 70% of the principals confirmed that the trainers view ICT integration as an efficient mode of teaching that is convenient and efficient to them and their students. Whereas, 80% of the bursars agreed that more than 10% of the total institutional budget is allocated to budget for the ERP, ISMS and business telephone systems used in administrative tasks.

ii). Results of Test of Hypothesis on ICT Integration in Administrative tasks

A t-test analysis was computed to test the stated null hypotheses; H_{01}: There is no difference between the level of ICT integration in Administrative Tasks in TTIsinNyeri and Nairobi Counties in Kenya. The aggregate results with respect to the ICT integration in performance of administrative tasks indicated that Nyeri had 41.91% while Nairobi scored 58.16% (Figure 1). The results in table 3 also revealed that the t-statistic value for TTIs in Nyeri county was 0.087 and that for Nairobi county was 0.113, while the p-value was (0.000) which was less than the alpha value of 0.05. This implied that there is a significant difference between the level of ICT integration in administrative tasks in TTIs in Nyeri and Nairobi County. The null hypothesis was hence rejected.

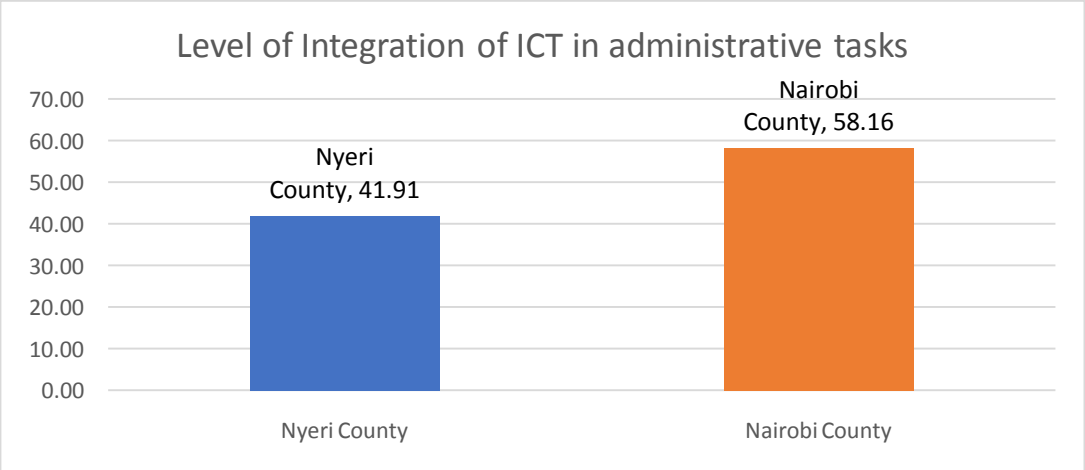

Figure 1: Level of ICT Integration in Administrative Tasks inTTIsin Nyeri and Nairobi Counties

Table 3: T-test analysis for ICT Integration in Administrative Tasks

Variables	Counties	Percent %	Mean	T-statistic	P-value
Av_Administrativetasks	Nyeri	41.91	2.464158	0.086959	0.000
	Nairobi	58.16	3.419753	0.11304	
	Total	100	5.88	0.076753	

VI. CONCLUSION

The study concluded that the level of ICT integration in administrative tasks was higher for TTIs in Nairobi County than in Nyeri Counties. The study also rejected the null hypothesis .

VII. RECOMMENDATIONS

From the findings of the study, the following recommendations are made;

i. There is need for the government to strengthen the ICT policy in order to enhance resource allocation by the ministry and respective institutions required to deepen integration ICT in Kenya.
ii. There is need for government to make it compulsory through the ICT policy for all institutions to integrate ICT in all their operations in order to promote effectiveness and efficiency in governance and teaching and learning process.
iii. Through the ICT policy, the government should have an annual performance target for every institution to file reports on their levels of ICT integration on all their operations.

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