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Influence of ICT Integration on Performance of Digital Literacy Project in the Public Primary Schools in Nakuru County, Kenya

Catherine Ingongo Salim
Masters Student, College of Human Resource Development,
Jomo Kenyatta University of Agriculture and Technology, Nakuru, Kenya
Dr. Caleb Odhiambo Onjure
Lecturer, College of Human Resource Development,
Jomo Kenyatta University of Agriculture and Technology, Nakuru, Kenya

Abstract:
The Government of Kenya has put in place many initiatives to enhance ICT integration in primary education in order to address equity, access and quality of education offered by schools. Such Initiatives include provision of digital literacy laptop programme for class one (Ministry of Education, 2019) and provision of digital content to schools among others. Despite all these initiatives, studies show that ICT has not been fully adopted in most public primary schools especially in Nakuru County, Kenya. They have not been able to reap the benefit of Digital literacy program even after the government of Kenya introduced the new Learner digital devices; therefore, there is still poor performance on the use of digital literacy devices. The general objective of the study was to determine the influence of ICT integration on performance of digital Literacy project in the public primary schools in Nakuru County. Specifically, the study sought to determine the influence of training, infrastructure and stakeholder's management on performance of the digital Literacy project for public primary schools in Nakuru County. The study was informed by resource-based approach theory, technology acceptance model and stakeholder theory. The study adopted a descriptive survey design with a target population of 681 public primary schools in Nakuru County. Sample size 246 was used. The study used both primary and secondary data. Questionnaires were used to gather the primary data for the study. The secondary data were collected from both published and unpublished information resources that relate to influence of ICT integration. The pilot study was carried out. Quantitative data was analyzed using SPSS. The study revealed that there exist a positive and significant relationship between training and performance of Digital Literacy Program (r=0.363; p<0.01). The findings of the study also revealed that there exist a positive and statistically significant relationship between infrastructure and performance of Digital Literacy Program (r=0.679; p<0.01). Further, the study indicated that there exist a positive and significant relationship between stakeholder management and performance of digital literacy program (r=0.865; p<0.01). This study concluded that the key issues and challenges found to be significant in using ICT tools by teachers are: limited accessibility and network connection, limited technical support, lack of effective training, and lack of teachers' competency. The study also concludes that availability of a well-equipped computer Laboratories, a steady electrical power supply and internet will improve on performance of Digital Literacy Program positively in schools. The study recommended that teachers should be well-equipped in preparation with ICT tools and facilities which is one of the main factors in success of technology-based teaching; and that the internet to be available, accessible, and adequate to enable participation in the digital world.

Keywords: Training, infrastructure, stakeholder management, and performance

1. Background of the Study

Information and Communication Technology (ICT) is used as an umbrella term that includes any communication device or application, including: radio, television, cellular phones, computer and network hardware and software, satellite systems, as well as the various services and applications associated with them, such as videoconferencing and distance learning (Ang'ondi, 2016). The digital revolution has altered conceptions of time and distance. It has created a wealth of information that is available, (Delen & Bulut, 2017). Technology makes learning to be learner centered unlike traditional methods that are teacher centered by providing the learners with variety of involving activities, which provides the platform for pupils to explore hence, construct knowledge. Technology is flexible thus assisting teachers to easily make use of the information to achieve learning goals and meet every learner's educational needs (Centre for Digital Education Report, 2018).

The demand for Information and Communication Technology (ICT) integration in the curriculum has become a global concern and of great significance towards achieving the Millennium Development Goals (MDGs) and Education for

All (EFA) goals. Kler (2014) described ICT as an effective medium with ability to improve instructive communication between the teacher and the learner in a classroom furnished with appropriate educational technologies. ICT is viewed as a major tool for building knowledge (UNESCO, 2016) and particularly as a mechanism at the school education level that could provide a way to rethink and redesign the educational systems and processes thus leading to quality education for all. According to Dede (2011), integration of technology into the curriculum and assessment is vital to improving education. Students and teachers alike must be fluent in the language of modernity and employ the tools of the digital age with ease.

According to (Spires & Lee, 2010), it is vital to integrate technology into the curriculum to improve performance in the classroom. Students need to be exposed to and familiar with current technologies in order to compete in a world marketplace. Children today need a global awareness and new economic and public literacies to work seamlessly with various technologies and integrate those in dynamic social environments and also Customer demands and business operations are changing dramatically. In 21st century companies redefining their strategies on leadership, talent, and diversity, while assessing their working effectiveness through human resources management. Voogt (2013) also assessed that Organizations' are making decisions by relying to human resources and seeking whether it enhances the firm's competitive advantage by adding real, measurable plans among their competitors.

Through globalization and advancing technologies, new digital technology and multimedia tools are providing facilities to people for communication. Hence, to have basic literacy skills is not enough to adapt this new social and technological era. However, people have to have new literacy skills to be aware of the social, global, and technological changes in the world. The ICT in this study was used to refer to the use of computers in learning as compared to the Ministry of Education (MoE) definition of ICT as a range of technological tools and resources used to communicate, create, distribute, store and manage information (GOK, 2010) and the definition of ICT by Kafyulilo (2010) as all products that can store, retrieve, manipulate, transmit or receive information electronically in a digital form.

Digital Literacy program is one of the technology projects that have greatly transformed different aspect of the human life globally, in today's worldwide, adoption of technology has become important in schools, governments, education systems, researchers, school leaders, teachers and parents all consider technology to be a critical part of a child's education. In other countries, it is acknowledged that advances in technology have an influence on the way people create, share, use and develop information in society, and that young people need to be highly skilled in their use of information and communications technologies (Bertot & Hansen, 2012). Global investment in ICT to improve teaching and learning in schools have been initiated by many governments. For example, in United Kingdom, the government spending on educational ICT in 2008 to 2009 in the UK was £2.5bn (Nut, 2010), in United States, the expenditure on K-12 schools and higher education institutions was $6 billion and $4.7 billion respectively in 2009 (Nut, 2010) and in New Zealand, the government spends over $ 410 million every year on school's ICT infrastructure (Johnson, Calvert & Raggert, 2009).

Despite all these investments on ICT infrastructure, equipment and professional development to improve education in many countries, Gulbahar (2017) claimed that huge educational investment has produced little evidence of ICT adoption and use in teaching and learning especially in African countries. Research show that education sector is investing heavily on ICT but ICT adoption in education sector lagged behind (Leidner & Jarvenpaa, 2016), providing students an opportunity to study personally (Newhouse, 2012). This study found this particular implication of great input as a form of ICT integration in learning especially in regard to interactive benefit of ICT integration in classes. In order to develop digitally literate teachers, the U.S. Department of Education National Education Technology Plan, emphasized on the importance of professional development for teachers' digital literacy. Although training increases teacher literacy knowledge (Mahmud & Ismail, 2010), knowledge of digital literacy does not guarantee its integration into the classroom. In a study of middle school science teachers, (Wang & Runco, 2013) found that the participants had high information and communication technology (ICT) literacy confidence and were moderately familiar with new literacy skills, but rarely practiced new literacies in their classrooms. Integration rests with the educational and personal beliefs of teachers.

In Africa, digital literacy is being built through the integration of information and communication technology into schools. Teachers need specific professional development opportunities in order to increase their ability to use ICT for influential learning responsibilities, individualized instruction, accessing online resources, and for encouraging student interaction and collaboration. Such training in ICT should positively impact teacher's general attitudes towards ICT in the classroom, but it should also provide specific guidance on ICT teaching and learning within each discipline. Without this support Whitehead (2014), teachers tend to use ICT for skill-based applications, limiting student academic thinking. To support teachers as they change their teaching, it is also essential for education mangers, supervisors, teacher educators and decision makers to be trained in ICT use. To ensure the digital laptops benefit students, additional conditions must be met; school policies need to provide schools with the minimum acceptable infrastructure for ICT, including stable and affordable internet connectivity and security measures such as filters and site blockers (Jensen & Boshee, 2010).

A number of attempts have been made to improve the economy of Kenya, one of which is the economic blueprint Vision 2030 anchored on knowledge-based economy with ICT as the main driver in all sectors including education. To achieve the Vision 2030 in education, a number of initiatives have been started to introduce computer studies in schools and to integrate ICT in pedagogy. Some of the initiatives included the teacher in-service training (inset programs) aimed to start computer studies in schools and integrate ICT to teaching through training some teachers in secondary schools as trainers of trainers (Wagner & Daniel, 2016).

In Kenya digital literacy program started on 2013, apparently, it was born out of Kenya Government's vision to equip pupils with relevant skills needed in today's digital world (Buckingham & David, 2013). Its objectives were to establish ICT in teaching and learning process, equip public primary schools with appropriate ICT infrastructure to support teaching and learning, to develop capacity of teachers, education managers and other stakeholders with necessary

ICT skills, enable development and accreditation of appropriate digital content to enhance acquisition of 21st century skills, promote universal access to ICT tools in primary schools and lastly, to integrate sustainable and affordable digital programme in Kenyan education system.

The programme was designed to introduce public primary school children to the use of digital technology and communication in learning environment where the illiteracy and low performance in schools were highly experience thus leading the initiative of the digital literacy program in Kenya (Buckingham & David, 2013). Therefore, there is need for the Kenya government to identify the needs of digital literacy program, apparently by integrating technology into each key learning area. With technology now being part of our everyday lives, it is time to rethink the concept of integrating technology into the curriculum and instead aim to integrate technology into education, to support the learning process (Gachoka & Kaemba, 2012).

1.1. Statement of Research Problem

The Government of Kenya has put in place many initiatives to enhance ICT integration in primary education in order to address equity, access and quality of education offered by schools. Such Initiatives include provision of digital literacy Laptop programme for class one (Ministry of Education, 2019) and provision of digital content to schools (KIE, 2019) among others. Despite all these initiatives, studies show that ICT has not been fully adopted in most public primary schools especially in Nakuru County, Kenya. They have not been able to reap the benefit of Digital literacy program even after the government of Kenya introduced the new Learner digital devices; therefore, there is still poor performance on the use of digital literacy devices. According to Nakuru County Government (2015), statistics shows that there are 681 public primary schools in total, 650 schools has digital learning devices, the total number of Digital Laptops given to the primary public school in Nakuru County was 41,157 with 220,100 pupils, (Kennedy, 2013).

Kiptalam (2010) revealed that access to ICT facilities is a major challenge facing most African countries, with a ratio of one computer to 150 students against the ratio of 1:15 students in the developed countries. In Nakuru County public primary schools experience the same challenges an example of some primary schools in Nakuru County, sample where has over 2000 pupils, an only 36 digital laptop devices for the all school, hence, inadequate allocation of digital devices that can accommodate all the pupils, also they lack computer laboratory that offers effective and efficient learning environment to the pupils is a big challenges faced by the schools. Teachers and other personnel have no experience in digital literacy. Despite of ICT integration been commonly embedded policy in private schools, such policies are missing in public schools in Kenya an example of some private schools sampled where it was a mandatory requirement for a teacher applying for a job to be computer literate so as to qualify.

1.2. Objective of the Study

The study objectives are;

1.2.1. General Objectives

The General Objectives was to determine the influence of ICT integration on performance of digital Literacy project in the public primary schools in Nakuru County, Kenya.

1.2.2. Specific Objectives

- To determine the influence of training on performance of digital literacy program for public primary schools in Nakuru County, Kenya.
- To assess the influence of infrastructure on the performance of digital Literacy project for public primary school in Nakuru County, Kenya.
- To investigate the influence of stakeholder's management on performance of the digital Literacy project for public primary schools in Nakuru County, Kenya.

1.3. Hypothesis of the Study

- H_{01}: Training has no significance influence on performance digital Literacy program for public primary schools in Nakuru County, Kenya.
- H_{02}: Infrastructure has no significance influence on Digital Literacy program for public primary schools in Nakuru County, Kenya
- H_{03}: Stakeholder's management has no significance influence on digital Literacy program for public primary schools in Nakuru County, Kenya.

1.4. Significance of the Study

Among those who may find the findings of this study of relevance include the Ministry of education (MoE) officials. The findings of this study serve as a feedback and assist them in strategic planning. To the Kenya Institute of Curriculum Development (KICD) which is the national curriculum development and research Centre, the findings of this study is an important feedback and fundamental basis for curriculum revision especially in following the launching of the Digital Literacy learning content at KICD for schools. To the Teachers Service Commission (TSC) this report may be useful as a source of information from schools about the use of ICT in public primary schools. This may help TSC to be at a better position not only to recognize its resources in terms of teaching personnel but also to be able to advice training institutions on what to train and the practical qualitative skills needed in classroom situation in relation to ICT. The public

primary schools stand a chance to benefit from this study because as key players in the education system, the findings of this study are an essential eye opener since it indicates the performance gaps in ICT integration.

1.5. The Scope of the Study

The geographical scope of this study is on Nakuru County Kenya. The main objective of the study was to determine the influence of ICT integration on performance of the digital literacy project on the 681 public primary schools in Nakuru County. It has specifically focused on the three variables, training, infrastructure, and stakeholder management. The study was conducted between April 2019 and April 2020. The cost of the study is approximately 170,500 Kenya shillings.

1.6. Limitations of the Study

Some respondents expressed reservations due to fear of the unknown regarding the study. To overcome these limitations the researcher used the introduction letter and research permit and further explained to the respondents that the study was only meant for academic purposes and that their information was confidential

2. Theoretical Review

The study reviewed resource-based approach theory, stakeholder theory, and technology acceptance model.
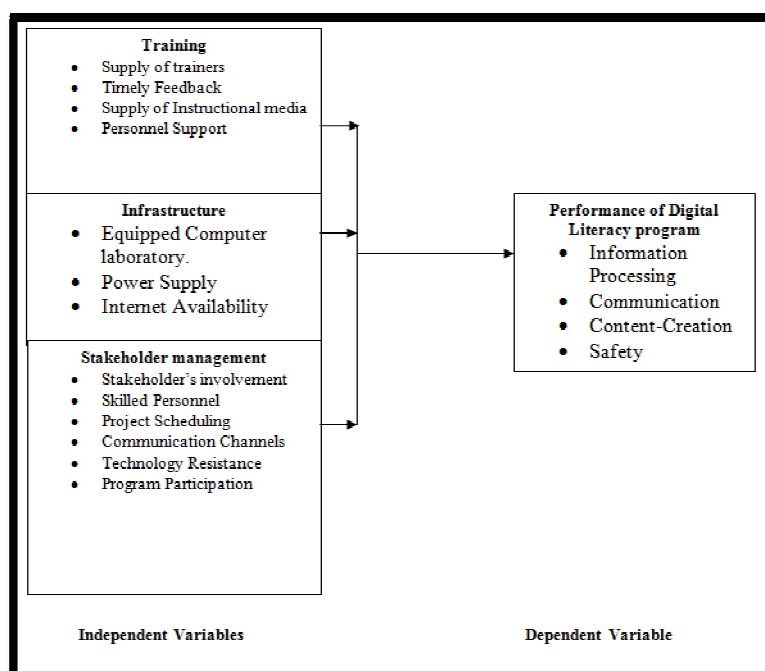
2.1. Conceptual Framework

Figure 1: Conceptual Framework

3. Research Design

A research design is the set of methods and procedures used in collecting and analyzing measures of the variables specified in the problem research by (Creswell, 2014). The study adopted a descriptive survey design. This design helped the researcher to collect quantitative data. The descriptive aspect provided an opportunity for the researcher to probe deep and obtain precise and concise information about the target institutions, which enabled the researcher to gather information about the present and existing condition of phenomena under study (Orodho, 2008).

3.1. Target Population

The target population for a survey is the entire set of units for which the survey data are to be used to make inferences. Thus, the target population defines those units for which the findings of the survey are meant to generalize (Paul, 2008). Orodho (2008) stated that specifying a population to address an enquiry affects a researcher's decisions on resources and samples. Nakuru County has 11 sub counties namely; Gilgil, Kuresoi North, Kuresoi South, Molo, Naivasha, Nakuru, Nakuru North, Nakuru West Njoro, Rongai, Subukia. The target population was 681 public primary schools in Nakuru County. The Table 1 shows the distribution of this population among public primary schools in the 11 sub counties.

Sub County	No of Public Primary Schools
Gilgil	68
Kuresoi North	42
Kuresoi South	129
Molo	54
Naivasha	70
Nakuru	60
Nakuru North	44
Njoro	95
Rongai	65
Nakuru West	20
Subukia	34
Total	N=681

Table 1: Target Population
Source: (Teachers Online Systems Tsc, 2019)

3.2. Sample Size and Sampling Technique

The sample is the subset of the population and contains elements with similar characteristics to the population (Kombo & Tromp, 2009). Sampling has been described as the process of selecting a representative number of items out of the target population (Orodho, 2005). Krejcie and Morgan (1970) observed that researchers 'chose a representation of a population due to different limitations that may have prevent investigation of the entire population. The sample size was achieved in a two-stage. In the first stage a Krejcie & Morgan formula was used. In the second stage a proportionate stratified sampling was carried out.

The following formula Krejcie and Morgan was used to determine the sample size.

$$S = \frac{x^2 NP(1-P)}{d^2(N-1) + x^2 p(1-P)}$$

Where

S=required sample size

X^2=the table value of chi-square for one degree of freedom at the desired confidence level = 3.841

N=the population size

P= the population proportion(assumed to be 0.5 since this will provide the maximum sample size)

d=the degree of accuracy expressed as a proportion(0.5)

Therefore

$$S = \frac{(1.96)^2(681)(0.5)(1-0.5)}{(0.05)2(681-1+(1.96)2(0.05)(1-0.5)}$$

$$S = \frac{654.0324}{0.0025(680) + 3.8416(0.5)(0.5)1.7 + 0.9604}$$

$$S = \frac{654.0324}{2.6604}$$

Sample size =246

Sub County	Target Population	Sample Size
Gilgil	68	25
Kuresoi North	42	15
Kuresoi South	129	47
Molo	54	20
Naivasha	70	25
Nakuru	60	22
Nakuru North	44	16
Njoro	95	34
Rongai	65	23
Nakuru West	20	7
Subukia	34	12
Total	N=681	N=246

Table 2: Sampling Size

In this second stage, proportionate stratified sampling was used was used to obtain the sample size per each sub county using the following formula, and the results presented in table 3.2.

$$S = \left(\frac{X}{N}\right) xn$$

n= total sample size

N=Target population

S=stratum sample size
X=Target sample in substratum

3.3. Data Collection Instrument

The study used both primary and secondary data to determine the performance of digital Literacy program in public primary schools within Nakuru County. Mugenda and Mugenda (2003), define primary data as the actual raw information collected by the researcher from the field; and secondary data as the information retrieved from storage or existing documents and that which has already been prepared and used by other people.

3.3.1. Primary Data

The researcher used structured questionnaires. The researcher believed that the choice of the questionnaire as a data gathering instrument have allowed her to collect information from the respondents without affecting their day to day schedules because they were able to answer the questionnaires in their own free time. According to Orodho, (2003), questionnaire accord the researcher the advantage to collect sufficient amount of data within the limited time of the study.

3.3.2. Secondary Data

The secondary data were collected from both published and unpublished information resources that relate to influence of ICT integration on performance of digital Literacy program in public primary schools in Nakuru County, with particular emphasis on performance of digital literacy program in the public primary schools. Books and journals from the Jomo Kenyatta University of Agriculture and Technology (JKUAT) Library were vital for the compilation of this study. The researcher also relied on electronic journals, electronic books, articles and the internet to increase her sources of secondary data.

3.4. Data Collection Procedure

Prior to data collection, a permit was granted from the department to carry out the research. Permission was also granted from the National Commission of Science, Technology and Innovation (NACOSTI) to collect data from respondents in Nakuru County. The permit was submitted to the Commissioner Nakuru County and County Director of Education (Nakuru County) to conduct research they issued a Research permit and a letter of authorization. Similarly, permission was also granted from the identified public primary schools in Nakuru County before data is collected. After which questionnaires was administered directly to the selected respondents through drop and pick method. The filled questionnaires were then collected from the respondents after a three weeks duration that was agreed with the respondents.

3.5. Reliability of Research Instrument

According to (Bolarinwa, 2015), Reliability of a research instrument is the ability of the instrument to produce similar results after repeated trials. Reliability of a research instrument explains the accuracy and consistency of the measuring tool. Larsen (2011) noted that, there are different means of estimating the reliability of any measure. Essentially, reliability estimates are employed to evaluate the stability of measure, and internal consistency. A pre-test was conducted after establishing the validity. Twenty-five Nakuru county public primary schools were used in the pre-test to answer the questionnaire. In this study, Cronbach alpha formula was used. The threshold of this technique is a coefficient of at least 0.7, any variable that loads below the threshold will be deemed to be unreliable.

Variable	No. of Items	Cronbach's Alpha coefficient	Conclusion
Training	10	0.797	Reliable
Infrastructure	10	0.823	Reliable
Stakeholder Management	10	0.880	Reliable
Performance of Digital Literacy Program	10	0.863	Reliable

Table 3: Reliability Analysis

3.6. Validity of Research Instruments

According to Orodho (2005) validity comprises the extent to which instruments used to collect data that measure what the researcher wants them to measure from the study objectives. In this case, Content Validity was used to ensure that the instrument is valid. This was done in two stages; first, a set of items was generated and arranged according to the study objectives. Secondly, the items were evaluated by going through each item one at a time to ensure that they are clear, expressed in simple language and that all the objectives of the study were covered. The best items that were believed to adequately measure the targeted construct were retained while some items were modified and some that is not relevant was deleted. This process ensured that the instruments had items, which tapped into specific constructs in question.

4. Response Rate

A response rate is a mathematical formula that is calculated by survey researchers and is used as a tool to understand the degree of success in obtaining completed interviews from a sample (Lavrakas, 2008). The sample size for the study was 246 respondents. All the questionnaires were distributed and during data collection 192 were collected and checked before coding. This gave a return rate of 78%. According to Fincham (2008) for survey research, a response rate of 70% is representative enough and seen as adequate. This study therefore, surpassed the cut off and was seen to provide a representative data. The results are organized in Table 4.

Total Questionnaires	Frequency	Percentage
Returned	192	78%
Unreturned	54	22%
Total	246	100%

Table 4: Response Rate

4.1. Test for Assumptions on the Variables

4.1.1. Autocorrelation Test

Autocorrelation is present whenever the value of one observation's error term allows us to predict the value of the next. The Durbin Watson Test is a measure of autocorrelation (also called serial correlation) in residuals from regression analysis. A rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal (Stephanie, 2016). Values outside of this range could be cause for concern. Field (2009) suggests that values under 1 or more than 3 are a definite cause for concern. In this study, Durbin Watson Test is 1.605 indicating that random error components are identically and independently distributed. The finding of autocorrelation is presented in Table 5.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.874[a]	.764	.760	.34751	.764	202.917	3	188	.000	1.605

Table 5: Autocorrelation Test
a. Predictors: (Constant), Stakeholder Management, Training, Infrastructure
b. Dependent Variable: Performance of Digital Literacy Program

4.1.2 Normality Test

Frost (2018) suggests that when the data are plotted against the normal probabilities and such that the points form, more or less, a straight line, the data follow the normal distribution. According to Figure 2, the points always track the straight line hence indicating that the data is normally distributed.
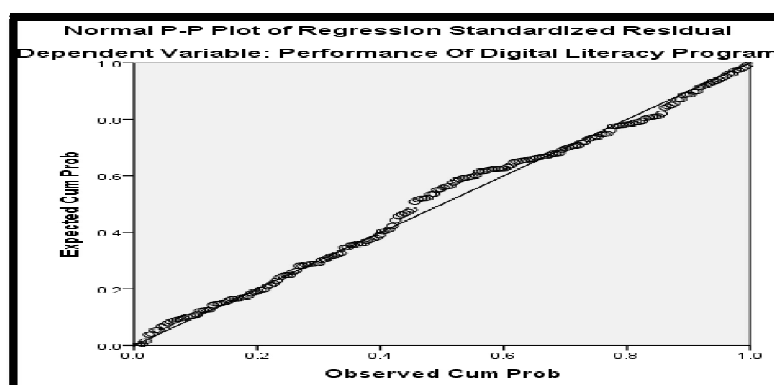

Figure 2: Normal P-P Plot of Regression Standardized Residual

In figure above the independent variables are normally distributed along normal probability distribution. The observed cumulative probability cumulative distribution of the standardized residual shows a normal distribution against the expected normal distribution which is an evidence of normal distribution in the regression model

4.1.3. Multicollinearity Test

Multicollinearity refers to the extent to which independent variables are correlated. It is therefore a type of disturbance in the data, and if present in the data the statistical inferences made about the data may not be reliable (McClendon & McKee, 2002). Multicollinearity can be assessed by examining tolerance and the Variance Inflation Factor (VIF). Values of VIF that exceed 10 are often regarded as indicating multicollinearity (Murray, Nguyen, Yu-Feng,

Remmenga, & Smith, 2012). From the findings of the analysis, it was noted that the independent variables of training, infrastructure and stakeholder Management had VIFs of 1.128, 1.978 and 2.052 respectively. This means that the independent variables were not highly correlated and lacked multicollinearity indicators. The finding is shown in Table 4.10

Model	Collinearity Statistics	
	Tolerance	VIF
Training	.887	1.128
Infrastructure	.506	1.978
Stakeholder Management	.487	2.052

Table 6: Multicollinearity Coefficients[a]

a. Dependent Variable: Performance of Digital Literacy Program

From the findings, the training range had a tolerance of 0.888 and a VIF of 1.128, infrastructure had a tolerance of 0.506 and a VIF of 1.978 and stakeholder had a tolerance of 0.487 and a VIF of 2.052. Since the tolerance for all the variables was more than 0.1 and the VIF was not more than 10 therefore there was no need of further investigations

4.2. Descriptive Analysis

The section entails the findings of the study variables which are presented in form of percentage, mean and standard deviation. The responses were on a scale of five points where 5, 4, 3, 2, and 1 represented strongly agree, agree, not sure, disagree, and strongly disagree respectively.

4.2.1. Influence of Training on Performance of Digital Literacy Program

The study sought to determine the influence of training on performance of digital literacy project for public primary schools in Nakuru County. The findings are presented in Table 7.

Statement	SD	D	N	A	SA	Mean	Std
Teachers have digital skills enhancement training in digital literacy	18.8%	21.9%	19.8%	29.2%	10.4%	2.90	1.29
Our organization usually support training of personnel involved in digital literacy	11.5%	50.5%	9.4%	27.1%	1.6%	2.56	1.05
Teachers and other personnel have adequate hands-on-experience in digital literacy skills	16.7%	24.0%	17.2%	26.6%	15.6%	3.00	1.34
There is adequate supply of trainers involved in training of our staff members	1.6%	31.8%	12.5%	38.5%	15.6%	3.34	1.12
There is timely feedback from Trainers to our staff	5.7%	34.9%	19.8%	29.2%	10.4%	3.03	1.13
Different instructional techniques have improved the needs of the trainees in digital literacy	9.4%	24.0%	29.7%	23.4%	13.5%	3.07	1.17
We have adequate supply of instructional media for trainees in digital literacy	12.5%	35.4%	14.6%	25.0%	12.5%	2.89	1.26
Accessories and other ICT auxiliary devices are adequately supplied in our institution.	15.6%	25.5%	18.2%	28.6%	12.0%	2.95	1.28
Teachers are willing to be retrained on digital literacy	14.6%	20.8%	17.2%	40.1%	7.3%	3.04	1.22
The board of management supports training of our staff	21.4%	14.6%	12.0%	38.0%	14.1%	3.08	1.39

Table 7: Influence of Training on Performance of Digital Literacy Program

From the findings, majority of the respondents (40.7%), disagreed that teachers have no digital skills enhancement training in digital literacy. The finding is in line with that of Ghavifekr, Kunjappan, Logeswary and Annreetha (2016) who concludes that overall, the key issues and challenges found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support, lack of effective training, limited time and lack of teachers' competency.

Further, majority of the respondents, (62%) disagreed that public primary schools do not support training of personnel involved in digital literacy. The findings disagree with Nyaga, (2018) study which found that public primary

teachers and instructors are trained on the basic ICT skills and ICT- based teaching methods to feel comfortable about using the digital equipment. Further, the then Education cabinet Secretary Matiang'i (2016) said that the Government has already trained 62,000 teachers in readiness for the delivery of the first batch of digital learning devices across selected schools under phase one of the laptop project.

In addition, majority of the respondents, (40.7%) disagreed that teachers and other personnel have adequate hands on experience in digital literacy skills. The findings are in agreement with report by Ministry of Education, (GOK, 2010), that majority of teachers trained during school holidays through in-service courses and given the short period they were exposed to the training, few developed the required ICT skills.

From the findings, majority of the respondents (54%) agreed that the study concluded that there is adequate supply of instructional media for trainees in digital literacy and accessories and other ICT auxiliary devices are adequate supplied in the learning institution. According to the Cabinet Secretary for ICT Mucheru (2019) the ministry has negotiated with manufacturers of DLP devices to supply the tablets to private primary schools at same pricing offered to public schools. Mucheru said children in both public and private schools should get the devices to ensure they are exposed equally to digital skills to prepare them for an information society. Further, the Government of Kenya (2018) also noted that the digital literacy programme (DLP) delivers laptops and tablet devices pre-loaded with interactive digital content in Math, English, Science and Kiswahili, to all primary school teachers and pupils to enhance their classroom experience.

After the analysis majority of the respondents (42.2%) were undecided on whether teachers have adequate hands-on-experience in digital literacy skills and there is timely feedback from trainers to our staff. The findings is in line with that of Chigona (2015) who posits that there is evidence that despite deployment of digital tools to schools and the training of educators on how to use the ICTs, many educators in the province are still not integrating e-learning technologies into their curriculum delivery due to lack of competencies and capabilities when using digital technologies. From the findings, majority of the respondents stated that different instructional techniques have improved the needs of the trainees in digital literacy. Teachers are willing to be retrained on digital literacy and the board of management supports training of teachers. The findings agree with Hayes (2007) opinion that as a leader, the schools principals' commitment to improve the usage of ICT will support the successful integration of ICT in the school. This support can be in the form of improvement of curriculum and establishing technology committee, encouraging teachers to improve their technological skills, providing appropriate resources and continuous monitoring. The technology committee main task is the development of plans and strategies to ensure that ICT integration will work well.

4.2.2. Influence of Infrastructure on Performance of Digital Literacy Program

The study sought to assess the influence of infrastructure on the performance of digital Literacy project for public primary school in Nakuru County. The findings are presented in Table 8.

Statement	SD	D	N	A	SA	Mean	Std
We have a well-equipped computer Laboratory	2.1%	35.4%	21.4%	31.8%	9.4%	3.10	1.06
We have a steady electrical power supply in our Institution	6.2%	28.6%	21.9%	26.6%	16.7%	3.25	1.15
We have a steady supply of internet	14.6%	38.5%	14.6%	21.4%	10.9%	2.75	1.25
We have adequate computers	7.3%	27.1%	20.8%	32.3%	12.5%	3.15	1.16
We have adequate computer accessories	5.2%	21.9%	18.8%	38.5%	15.6%	3.37	1.14
We have adequate revenue from the school to support digital literacy program	16.7%	31.8%	14.6%	31.2%	5.7%	2.77	1.21
There is Adequate time allocation to teachers for digital literacy training	7.3%	28.1%	23.4%	29.7%	11.5%	3.09	1.15
Digital literacy training program is conducted within the stipulated period	5.7%	18.8%	27.1%	30.2%	18.2%	3.36	1.14
There is Adequate resources such as teachers who implement digital literacy program	14.6%	27.6%	16.1%	32.8%	8.9%	2.93	1.24
The government has provided funds towards supporting digital literacy program	4.2%	31.2%	21.4%	34.9%	8.3%	3.11	1.07

Table 8: Infrastructure on Performance of Digital literacy Program

According to Table 8, the finding shows that majority of the respondents (41.2%) agreed that their schools have well equipped computer Laboratory. The findings agree with a study conducted by Hinda (2016) who found out that most public primary schools don't have a functional computer lab which hinders the implementation ICT related programs. Infrastructure is a basic necessity for ICT and since majority of schools doesn't have a computer lab thus implementation ICT program is a major issue as found from the analysis.

In addition, majority of the respondents (43.3%) agreed that their schools have steady electrical power supply in their schools. Power is required to run technological devices. The findings agree with a study by Heinrich (2012) who

found out that more than half of public primary schools in Kenya are not connected to electricity the situation is even higher in the rural areas across the country. The findings also showed that majority of the teachers (53.1 %) disagreed that they have a steady supply of the internet in their institutions. The findings are in line with a study conducted by Warchauer (2010) who found out that Most schools lack Internet access, further limiting how the laptops can be used. According to the IDB evaluation, only 10.5 percent of teachers receive technical support and 7 percent receive pedagogical support for use of the laptops.

Furthermore, majority of the respondents (44.8%) disagreed that they have inadequate computers. The findings agreed with a study by Olakulehin, (2007) who found out that most schools in Kenya do not have functional computers. The GOK has not provided adequate computers to teachers. Therefore, teachers lacked a period to positively assimilate computers in the syllabus. These slowed down adoption and use of digital literacy.

The findings further revealed that majority of teachers (48.5%) disagreed that they have inadequate revenue from the school to support digital literacy program. The findings agree with a study done by Casmar (2014) who found out that the government does not allocate specific funds for the digital literacy project hence making the implementation of digital literacy project, He recommended that funds need to be made available to purchase hardware and software. School budgets must include funds for training and for hardware and software upgrades (TOJET, 2010).

In addition, majority of the respondents (41.2%) agreed that, there is inadequate time allocation to teachers for digital literacy training. Furthermore, majority of the respondents stated that digital literacy training program is not conducted within the stipulated period. The study agrees with Camfield (2017) who found out that majority of teacher preparedness and training is yet to take place in majority of primary schools. The aspect of teacher training and preparedness is very crucial for the implementation of the project due to their role in back stopping the project. According to Pelgrum (2015) lack of adequate training of teachers on the use of computers in classrooms as one of the main challenges to smooth ICT integration in schools

Majority of the respondents (48.4%) agreed that digital literacy training program is conducted within the stipulated period. According to Becta (2004) the issue of training is certainly complex because it involves several components to ensure the effectiveness of the training. Lack of training of teachers in information technology skills is one of the major challenges facing the implementation of ICT education in primary schools.

On the same note majority of the respondents (41.7%) agreed that there are adequate resources such as teachers who implement digital literacy program. According to Mbulankende (2017) continuous training should provide the support from which teachers can continue to keep and update with ICT and its application to subject, in order to enhance their teaching skills. According to Krysa (2014) ICT training should not be limited to teachers who teach computing but to all teachers on the use of computers. The need for ICT training is explained by the fact that most of the presently recruited teachers received little or no training in their formal education concerning use of computers in teaching

The findings also revealed that majority (43.2%) of the respondents agreed that the government has provided funds towards supporting digital literacy program. According to the Maniza Zaman (2017) who is the representative of UNICEF in Kenya, said that Nokia and the Finnish National Committee for the United Nations Children's Fund (UNICEF) and UNICEF Kenya have launched a shared-value partnership with the Kenyan Government to support the digital learning program. The partnership builds on the Government of Kenya's investment in the Digital Literacy Project which provided one million tablets to primary schools with a focus on improving the availability and use of quality digital content.

Infrastructure plays a central role in the implementation of digital learning in schools hence poor infrastructure is likely to hinder the development or integration of ICT in the school curriculum. It was also apparent that infrastructure was one of the main obstacles towards exploitation of ICT in the schools. This finding agrees with that of Ghavifekr and Rosdy (2015) whose findings indicate that teachers' well-equipped preparation with ICT tools and facilities is one the main factors in success of technology-based teaching and learning further the findings agrees with Byrne (2015) who reiterates that aaccess to the internet is hindered by a range of barriers that dissuade, constrain or obstruct children's meaningful participation in the digital world. While there is a notable lack of robust research on whether and how children access and use the Internet, particularly in the developing world, children are likely to face a combination of obstacles to accessing the internet.

4.2.3 Influence of Stakeholder Management on Performance of Digital Literacy Program

The study sought to determine the influence of stakeholder's management on performance of the digital Literacy project for public primary schools in Nakuru County. The findings are presented in Table 9.

Statement	SD	D	N	A	SA	Mean	Std. Dev.
Proper communication channel is established between the institution and stakeholders regarding digital literacy program	100.0%	29.7%	17.7%	25.0%	7.3%	2.69	1.25
Opportunity to stakeholders' involvement in digital literacy program is available	100.0%	54.7%	8.3%	27.1%	0.0%	2.52	0.99
The challenges affecting digital literacy program is communicated duly to the stakeholders	100.0%	27.6%	14.1%	22.9%	15.6%	2.86	1.38
Assessment of personnel skills involved digital literacy program is communicated to the stakeholders	0.0%	32.8%	10.4%	38.5%	18.2%	3.42	1.12
Management of personnel skills involved digital literacy program is done ordinarily	2.6%	38.0%	22.9%	26.0%	10.4%	3.03	1.07
Some Stakeholders are invited to participate in training program	6.8%	22.9%	29.7%	24.0%	16.7%	3.20	1.17
Management of technological changes in our organization is performed constantly	14.6%	40.6%	15.6%	19.8%	9.4%	2.68	1.21
Technological resistance from stakeholders is always addressed	14.1%	22.4%	21.4%	31.2%	10.9%	3.02	1.24
Management of project risks associated with digital literacy program is done regularly	2.6%	21.4%	17.2%	43.8%	15.1%	3.47	1.06
Proper Management of project schedules in digital literacy program is achieved frequently	18.2%	30.7%	14.6%	34.9%	1.6%	2.70	1.17

Table 9: Stakeholder Management on Performance of Digital Literacy Program

From the findings, majority of respondents (100.0%) disagreed that proper communication channel is established between schools and stakeholders regarding digital literacy program. The findings of the study disagree with a survey conducted with Educational Research Service (2016) which found that school communication is a dynamic part of education digital program success. The survey further revealed that good communication is the chief reason why school succeed in the implementation of the digital program. Good communication means having a 'constant flow of quality information from the school board and the ICT officers.' On the other hand, 'an unwillingness to talk candidly' is a major obstacle to a sound relationship.

Further the findings majority of the respondents (100.0%) disagreed that opportunity to stakeholders' involvement in digital literacy program are available. The study findings are in line with Yi Chan and Hellen (2019) study on the conduct, connect, continue: Foster students' digital literacy at a school library for a smart city. The study findings revealed that Yi Chan and Hellen (2019) study found that individual small author of Lam Tin Methodist Primary School got the chance to promote their eBooks on Campus TV. This implies that the stakeholders have an opportunity to participate in the digital literacy program.

 In addition, the findings revealed that majority of the respondents (100.0%) disagreed that the challenges affecting digital literacy program are communicated duly to the stakeholders. Furthermore, majority of the respondents agreed that assessment of personnel skills involved in digital literacy program is communicated to the stakeholders. According to the officer in charge of ICT in Narok County, Ngetich (2019) was in agreement that the main challenge they were facing was physical damages of the devices, power blackouts and some schools not yet connected with power, he further noted that the digital program challenges are duly reported to the immediate stakeholders. Ngetich commended that the ongoing refresher courses for the teachers saying it will improve on their knowledge to handle the   gadgets and the learners.

The findings further show that majority of teachers (48.9%) agreed that the management of personnel skills involved digital literacy program is done ordinarily. According to Kihara (2019) study school leader of technology encourage use of technology in teaching and learning and help teachers establish goals to implementation of technology in achieving their instructional strategies and that school leader's interest; their commitment and championing implementation of ICT programs in schools positively influenced the whole process. The study concluded that school leadership had the greatest influence on implementation of digital literacy project in public primary schools followed by ICT infrastructure, then teacher's ICT competence while teachers' workload had the least influence on the implementation of digital literacy project in public primary schools.

On the other hand, majority of the respondents (40.6%) disagreed that the management of personnel skills involved digital literacy program is done ordinarily. This finding concurs with that of Gichoh (2015) who recommends that

the school management to consider organizing sensitization workshops for all stakeholders; jointly and separately aimed at building team work/synergy for the effective management of the schools. This will help foster the relationship between teachers and parents and foster appreciation of each other's functions.

Furthermore, the finding shows that majority of the respondents (40.7%) disagreed that some stakeholders are invited to participate in training program. According to Ogolla (2018) on the digital literacy programme; the Kenyan government has trained over 91,000 primary school teachers on digital learning. For posterity, ICT and Computer use training was integrated into the teachers training curriculum at the college level.

In addition, majority of the respondents (55.2%) disagreed that the management of technological changes in schools is performed constantly. The findings of the study disagree with the NMC report, (2013) which found that the lack of adequate, ongoing professional development for teachers who are required to integrate new technologies into their classrooms yet who are unprepared or unable to understand new technologies is the constant hindrance to technological changes.

The findings further show that majority of the respondents (42.15) agreed that technological resistance from stakeholders is always addressed. The findings of the study are in tandem with the Nagel, (2018) report which opined that resistance to technology comes in many forms, but one of the key resistance challenges identified in the report is 'comfort with the status quo' Teachers and school leaders often see technological experimentation as outside the scope of their job descriptions.

Furthermore, majority of the respondents (58.9%) agreed that management of project risks associated with digital literacy program is done regularly. According to Potter and McDougall (2017). Noted that the technology provider funded a 'digital classroom' project at the academy school, in the form of a community space where workshops organized for students and their families. The technology providers frequently review the risks associated with digital literacy to facilitate the student's workshops.

Finally, majority of the respondents (36.5%) agreed that proper management of project schedules in digital literacy program is achieved frequently. This finding is in line with that of Agboola and Salawu (2010) who assert that gaining acceptance at the staff level can be a challenge as getting buy-in by the employees' who are going to use the new technology can be difficult to manage. Introducing changes within an organization can cause disruptions in patterns or behaviors that can cause loss of continuity, replace customary social structures and familiar relationships.

4.2.4. Performance of Digital Literacy Program

Statement	SD	D	N	A	SA	Mean	Std
Our learners can look for information online using a search engine	7.8%	30.7%	15.1%	37.0%	9.4%	3.09	1.16
Our learners can save or store files or content and retrieve them once saved	10.9%	25.0%	14.1%	35.9%	14.1%	3.17	1.26
Our learners actively use a wide range of communication tools (e-mail, chat, SMS, instant messaging, blogs, social networks) for online communication.	5.7%	24.0%	28.6%	25.0%	16.7%	3.22	1.15
Our learners can share files and content using simple tools.	15.1%	39.1%	16.1%	20.3%	9.4%	2.69	1.22
Our learners can produce simple digital content (e.g. text, tables, images, audio files) in at least one format using digital tools	13.5%	22.9%	21.4%	31.8%	10.4%	3.02	1.22
Our learners can make basic editing to content produced by others (e.g., adding and deleting).	3.6%	21.9%	17.2%	42.7%	14.6%	3.42	1.09
Our learners can take basic steps to protect their devices (e.g. using anti-viruses and passwords).	17.7%	31.8%	15.1%	33.3%	2.1%	2.70	1.16
Our learners understand the positive and negative impact of technology on the environment.	6.8%	35.9%	19.8%	28.6%	8.9%	2.96	1.12
Our learners can solve most of the more frequent problems that arise when using digital technologies.	8.9%	21.9%	27.1%	29.2%	13.0%	3.15	1.16
I am aware that I need to update my digital skills regularly	10.4%	37.5%	14.1%	29.7%	8.3%	2.88	1.18

Table 10: Performance of Digital Literacy Program

The researcher further sought to examine performance of digital literacy program for public primary schools in Nakuru County. The findings are presented in Table 10. From the analysis majority of the respondents (46.4%) agreed that the learners can look for information online using a search engine. Internet search engines increasingly serve as the first

option for people who want to find information. The findings of the study are congruent with Nuning and Affiful, (2018) study which showed that in learning activities, the respondents used search engines to find the references for college assignments and thesis writing material. The students also use search engines to meet daily information needs, solve problems, increase knowledge, reduce doubts, clarify things, entertain, and fulfill curiosity about others.

Further majority of the respondents (50.0%) agreed that learners can save or store files or content and retrieve them once saved. The findings of the study are in agreement with Rahim and Sujito (2018) study which found that the retrieval technique used by students is by using keywords/queries, Boolean logic, query strategies in the form of a brief search and using the advanced search feature.

In addition, majority of the respondents, (41.7%) agreed that learners actively use a wide range of communication tools (e-mail, chat, SMS, instant messaging, blogs, social networks) for online communication. According to the Baruah (2012) with the world in the midst of a social media revolution, it is more than obvious that social media like Facebook, twitter, Orkut, MySpace, Skype etc., are used extensively for the purpose of communication. One of the most important advantages of the use of social media is the online sharing of knowledge and information among the different groups of people. This online sharing of information also promotes the increase in the communication skills among the people especially among the learners/students of educational institutions.

Moreover, majority of the respondents (54.2%) disagreed that the learners can share files and content using simple tools. In addition, majority of the respondents agreed that learners can produce simple digital content (e.g. text, tables, images, audio files) in at least one format using digital tools. The study findings correspond with the O'Hanlon (2017) study which noted that social media enhanced learning opportunities for middle and high school students by connecting them with one another on homework and group projects. Facebook and other similar social media programs enable students to gather outside the class time and exchange ideas about their assignments. Some of the schools have successfully used blogs as their teaching tools to help students with their learning outside the school time. The implementation of social media, specifically social networking, is what students are using daily and this social networking courage them to use technologies for their learning.

From the analysis, majority of the respondents (57.3%) agreed that learners can make basic editing to content produced by others (e.g., adding and deleting). Further, majority of the respondents also agreed that learners can take basic steps to protect their devices (e.g. using anti-viruses and passwords). The study findings agree with, Owusu (2015) study which found that college students access shared public networks more often than just about any other group of users online. Open networks are great for college campuses and workspaces, but users often install antivirus software to counter the threat of malicious users and malware on unsecured networks.

From the analysis majority of the respondents (42.7%) disagreed that learners understand the positive and negative impact of technology on the environment. According to Bravo (2015) technology has more positive than negative outcomes. It helps children learn in different forms, it allows them to engage in different activities, and it enriches their education by allowing them to collaborate with people from all over the globe. Technology is everywhere, and it allows us to stay connected to one another.

Majority of the respondents (42.2%) agreed that learners can solve most of the more frequent problems that arise when using digital technologies. Finally, majority of the respondents disagreed that they are aware that they need to update their digital skills regularly. The findings are in line with Russell, & Soto (2016) findings which opined that digital skills are not only required for high-skill jobs. They are now required across the full span of the labour market, ranging from entry-level call centre workers to sophisticated information technology roles. Even amongst low-skill jobs, 75% of postings are in digital occupations, increasing to 85% of middle-skill jobs and 83% of high-skill jobs.

4.3. Inferential Statistics

In this study, Pearson correlation and regression analysis were used as the major analytical models.

4.3.1. Correlation Analysis

Pearson correlation was conducted in order to estimate the existence, nature and significance of the relationship between training, infrastructure, stakeholder management and performance of Digital Literacy Program. In this study, the Pearson correlation was tested at 0.01 Alpha Level (2-tailed). The findings are presented in Table 11

		Performance of Digital Literacy Program
Training	Pearson Correlation	.363**
	Sig. (2-tailed)	.000
	N	192
Infrastructure	Pearson Correlation	.679**
	Sig. (2-tailed)	.000
	N	192
Stakeholder Management	Pearson Correlation	.865**
	Sig. (2-tailed)	.000
	N	192

Table 11: Correlations Analysis
**. Correlation Is Significant at the 0.01 Level (2-Tailed)

The study revealed that there exist a positive and significant relationship between training and performance of Digital Literacy Program (Pearson Correlation=0.363; p<0.01). The p-value is less than 0.05 and hence the association was significant. This implies that when teachers acquire digital skills training, coupled with their willingness to be retrained on digital literacy, performance of Digital Literacy Program will be enhanced. The findings agree with European Commission (2010) findings which indicated that a systemic level policy documents often emphasize the need to invest in digital skills enhancement for economic growth and competitiveness.

The findings showed that there exist a positive and statistically significant relationship between infrastructure and performance of Digital Literacy Program (r=0.679; p<0.01). The p-value is less than 0.05 and hence the association was significant. This implies that availability of a well-equipped computer Laboratories, a steady electrical power supply and internet will improve on performance of Digital Literacy Program positively in schools. The finding agrees with (Afshari 2009) who found out that Schools are equipped with different kinds of technological infrastructure and electronic resources available; hardware, software and network infrastructure must be available to integrate ICT in education.

The study indicated that there exist a positive and significant relationship between stakeholder management and performance of digital literacy program (r=0.865; p<0.01). The p-value is less than 0.05 and hence the association was significant. This implies that establishment of proper communication as well as stakeholders' involvement will improve performance of Digital Literacy Program. The findings agree with (Jeffery & Neil, 2015) who found out that Before aiming to engage and influence stakeholders, it's crucial to seek to understand the people you will be working with and relying on throughout the phases of the project lifecycle. Sharing information with stakeholders is important, but it is equally important to first gather information about your stakeholders

4.3.2. Regression Analysis

In order to predict the influence of ICT integration on performance of digital Literacy project in the public primary schools in Nakuru County, regression analysis was applied. The model summary in Table 12 shows that 76% in on performance of digital Literacy project is as a result of Stakeholder Management, Infrastructure, Training variables with a standard error of estimate being 0.34. The remaining 24% could be explained by other factors outside the study variables. The results are presented in Table 12.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874[a]	.764	.760	.34

Table 12: Model Summary
a. Predictors: (Constant), Stakeholder Management, Training, Infrastructure

4.3.1.1. ANOVA

Analysis of variance (ANOVA) was computed in order to test model significance. F-test was used to test the significance of the overall model at 0.05 Alpha Level.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	73.515	3	24.505	202.917	.000[b]
Residual	22.704	188	.121		
Total	96.219	191			

Table 13: ANOVA[a]
a. Dependent Variable: Performance of Digital Literacy Program
b. Predictors: (Constant), Stakeholder Management, Training, Infrastructure

The rule of the thumb is that if the p-value is less than 0.05 then it will be concluded that the model is significant and has good predictors of the dependent variable. According to Table 13, the model is significant in predicting the Performance of Digital Literacy Program at 0.05 level, $F(3, 188) = 202.917$, p< 0.05.

4.3.2. Regression Coefficients

According to Table 4.19, the unstandardized beta coefficients, t-statistic and their significance is presented. In specification of the Model, the following equation was developed:
$Y = 0.414 + \{0.081\, C_1\} + \{0.136 C_2\} + \{0.661 C_3\} + 0.34.$

The study showed that the Coefficients range from 0.081 to 0. 661.The constant (0.414) value is the point at which the regression line cuts the y-axis. On the basis of Unstandardized Coefficients, increase in one unit in Training variable significantly influence performance of Digital Literacy Program by 0.081. Similarly, increase in one unit in Infrastructure and stakeholder management variables significantly influence Performance of Digital Literacy Program by 0.136 and 0.661 respectively. In summary, Stakeholder Management is the highest predictor followed by Infrastructure and finally Training. Generally, all the independent variables have a significant influence on Performance of Digital Literacy Program. The results are presented in Table 14.

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.414	.138		2.992	.003
Training	.081	.038	.080	2.123	.035
Infrastructure	.136	.050	.135	2.718	.007
Stakeholder Management	.661	.045	.743	14.649	.000

Table 14: Regression Coefficients[a]
a. Dependent Variable: Performance of Digital Literacy Program

4.4. Hypothesis Testing

The basis of rejection of the null hypothesis rests in the premise that when the p value is less than 0.05 Alpha Level. Otherwise fail to reject the null hypothesis:

Reject H_0: $\beta x = 0$; if $p < 0.05$,
Fail to reject the H_0: $\beta x = 0$

- H_{01}: Training has no significance influence on performance digital Literacy project in public primary schools in Nakuru County Kenya

Since $p < 0.05$ the study rejects the null hypothesis therefore the study concluded that training has a significant influence on performance digital Literacy project in public primary schools in Nakuru County Kenya

- H_{02}: infrastructure has no significance influence on Digital Literacy Project for public primary schools in Nakuru County Kenya

Since $p < 0.05$ the study rejects the null hypothesis therefore the study concluded that infrastructure has a significant influence on performance digital Literacy project in public primary schools in Nakuru County Kenya

- H_{03}: stakeholder's management has no significance influence on digital Literacy project for public primary schools in Nakuru County Kenya.

Since $p < 0.05$ the study rejects the null hypothesis therefore the study concluded that stakeholder's management has a significant influence on performance digital Literacy project in public primary schools in Nakuru County Kenya.

5. Summary of the Study

The study drew summary in respect of training, infrastructure and stakeholders and on performance of digital literacy program among public primary schools in Nakuru County, Kenya.

From the findings it was revealed that teachers have digital skills enhancement training in digital literacy. The organization usually support training of personnel involved in digital literacy. Further the study found that teachers and other personnel have adequate hands-on-experience in digital literacy skills. There is adequate supply of trainers involved in training of our staff members. The study also revealed that there is timely feedback from Trainers to our staff. The study also revealed that different instructional techniques has improved the needs of the trainees in digital literacy. We have adequate supply of instructional media for trainees in digital literacy.

The study revealed that there exist a positive and significant relationship between training and performance of Digital Literacy Program (r=0.363; p<0.01). This implies that when teachers acquire digital skills training, coupled with their willingness to be retrained on digital literacy, performance of Digital Literacy Program will be enhanced. This findings is in line with that of Ghavifekr, Kunjappan, Logeswary and Annreetha (2016) who concludes that overall, the key issues and challenges found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support, lack of effective training, limited time and lack of teachers' competency.

The findings of the study revealed that the schools have a well-equipped computer laboratory. Further, the schools have a steady electrical power supply in our Institution. The study also revealed that the schools have adequate revenue from the school to support digital literacy program. Moreover, there is adequate time allocation to teachers for digital literacy training. The study finally revealed that digital literacy training program is conducted within the stipulated period. Further the study revealed that there are adequate resources such as teachers who implement digital literacy program. The government has provided funds towards supporting digital literacy program.

The findings showed that there exist a positive and statistically significant relationship between infrastructure and performance of Digital Literacy Program (r=0.679; p<0.01). This implies that availability of a well-equipped computer Laboratories, a steady electrical power supply and internet will improve on performance of Digital Literacy Program positively in schools. This finding agrees with that of Ghavifekr and Rosdy (2015) whose findings indicate that teachers' well-equipped preparation with ICT tools and facilities is one the main factors in success of technology-based teaching and learning

From the findings the study revealed that proper communication channel is established between the institution and stakeholders regarding digital literacy program. Further, opportunity to stakeholders' involvement in digital literacy program is available. The study also revealed that the challenges affecting digital literacy program is communicated duly to the stakeholders. Further, it was also revealed that assessment of personnel skills involved digital literacy program is communicated to the stakeholders. Management of personnel skills involved digital literacy program is done ordinarily.

Moreover, some Stakeholders are invited to participate in training program. Management of technological changes in our organization is performed constantly.

The study indicated that there exist a positive and significant relationship between stakeholder management and performance of digital literacy program (r=0.865; p<0.01). This implies that establishment of proper communication as well as stakeholders' involvement will improve performance of Digital Literacy Program. This finding concurs with that of Gichoh (2015) who recommends that the school management to consider organizing sensitization workshops for all stakeholders; jointly and separately aimed at building team work/synergy for the effective management of the schools. This will help foster the relationship between teachers and parents and foster appreciation of each other's functions.

5.1. Conclusion of the Study

This study concludes that overall, the key issues and challenges found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support, lack of effective training, limited time and lack of teachers' competency. From the finding most of the challenges faced by the schools which has contributed to low performance in schools are lack of training, infrastructure, stakeholder management. Head teacher believed that the digital laptop should be used to enhanced performance of public primary schools thus enhancing their knowledge skills in schools, most of the schools were not adequately equipped with infrastructure, training and stakeholder management and also lack of connectivity to network.

The study also concluded that conclude that availability of a well-equipped computer Laboratories, a steady electrical power supply and internet will improve on performance of Digital Literacy Program positively in schools.
This study concludes that establishment of proper communication as well as stakeholders' involvement will improve performance of Digital Literacy Program. This will help foster the relationship between teachers and parents and foster appreciation of each other's functions.

5.2. Recommendations of the Study

Based on the conclusions, this study recommends that teachers' to be well-equipped preparation with ICT tools and facilities is one of the main factors in success of technology-based teaching and that access to the internet to be available and an adequate to enable participation in the digital world. This finding recommends that the school management to consider organizing sensitization workshops for all stakeholders; jointly and separately aimed at building team work/synergy for the effective management of the schools. This will help foster the relationship between teachers and parents and foster appreciation of each other's functions. The study Recommend that Teachers need to have a mechanism in place to ensure adequate training on digital literacy that leads to enhancement of performance in schools an as well time allocation for training. These findings recommend that proper communication should be established between the institutions and stakeholders regarding digital literacy program. Finally, the study recommends that monitoring of technological changes in the institutions to be done constantly and duly communicated to the stakeholders effectively.

5.3. Suggestion for Further Study

The researcher suggested that further study should be conducted on the effect of ICT adoption on students' academic performance. Since the study only focused on the performance of digital literacy project in public primary schools in Nakuru county, there is the need to conduct a similar study in other counties for generalization of the findings.

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