

Leveraging Technological Proficiency for Effective Financial Management among Principals in Kenya: Evidence from Makueni County Public Secondary Schools

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ABSTRACT

The ever-raising demand for financially efficient schools by educational stakeholders and the general public the world all over not be overemphasized. Financial management in public schools is one of the key functions of the school principal and revolves around the sourcing and utilization of all school funds in order to meet the school goals. This study established the relationship between principals' level of training and financial management of public secondary schools in Makueni County, Kenya. This article is an extraction study that was carried out in Makueni County and anchored on the Agency Theory as postulated by Jensen and Mackleng. The study used a descriptive survey and a target population of 391 public secondary principals, 391 bursars, 391 parents and school auditors. Data was collected using questionnaires for both principals and bursars, observation checklists for PA chairpersons and interviews guides for sub-county school auditors. The collected data was analyzed using ATLAS-ti software. The quantitative data analyzed was presented using frequencies, percentages, and tables to give meaning while qualitative data was interpreted in the form of themes and narratives. The study established that there is a positive relationship of $r = (84) = 0.622$, $p < 0.05$ between principals' technology proficiency and financial management. The findings therefore implied that, although most of the principals in Makueni (52.9 %) had attended ICT proficiency training, there exists a good number of 47.1% who did not possess any form of ICT skills for use in financial management of school finances. This points to the conclusion that the proportion of principals that did not train on ICT skills use in performing financial management were not able to confidently undertake such financial management tasks in public secondary schools in Makueni County of Kenya. Based on these findings, the study therefore concluded that the TSC should make it mandatory for all principals to undergo technological proficiency training prior to their being promoted to become principals.

Keywords: Leveraging, Technological Proficiency, Financial Management, Principals, Public Secondary Schools

INTRODUCTION

The ever-rising demand for education provision among individuals, societies, and governments has led to increased education expenditures in educational institutions. This phenomenon has led to increased desire for financially efficient schools among education stakeholders, all over the world. In the recent past, since the adoption of the Sustainable Development Goal (SDG) number 4 on access, equity and quality education, the education sector has attracted a big share of many governments' budgets worldwide (Education Aid Watch, 2015). This paradigm shift is aimed at achieving the global standards of allocating between 16-20% of each government's Gross Domestic Product (GDP) to education, hence, the increased concern by every stakeholder for school finances to be prudently managed (Yunas, 2014).

Principals' administrative characteristics are the personal features exhibited by school chief executives as they engage in their daily administrative tasks. These administrative features of the principals include; the principal's level of training, length of administrative experience, technology proficiency and selected demographic factors of age and gender all of which may influence the manner in which principals carry out their school financial management practices.

On the other hand, school financial management entails the utilization of all the school funds to meet school goals which is the duty of the school principal. According to the Basic Education Act of 2013 (Republic of Kenya), principals' key financial management functions include; preparation of annual estimates of revenue and expenditure, receiving all grants and other public funds, incurring approved expenditure on behalf of the school, managing school debts and cash balances, and presenting account of expenditures before Boards of Management (Republic of Kenya, 2013). Principals also maintain and submit books of accounts to the auditor general or any other appointed auditor for audit. Sources of school finances include fees, government capitation, grants from Ministry of Education, donations, income from school assets and income-generating activities (Okumbe, 2007). It is therefore expected that principals should have the necessary financial management skills needed for establishing an internal audit system, yet such skills are not taught to principals, creating a functional gap.

In Chile, schools used to experience financial management challenges. The Chilean government implemented a policy on allocating equal capitation to all schools, hire highly qualified teachers and streamline pre-service teacher training to be offered by universities to meet the needs of teachers' administrative duties. The policy also included placing all public secondary schools under municipal authorities and allocation of extra funds based on each school's unique needs, closely supervise school finances and stating to whom school management authorities would present their books of account (Crouch and Winkler, 2008). However, the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2009) notes that finance management related challenges continued because in-service training for principals was poorly structured and provided. The training also lacked central government's input.

Incidences of financial mismanagement in United Kingdom, dominated public schools especially with regard to budgeting and accounting for residue expenditure arising from previous years' financial deficits (Allen et al., 2011). A policy was enacted in 2013 which ensured that teachers who hold postgraduate education would be appointed to head public schools. UNESCO (2014) notes that about 44% of the principals had masters degrees, while 20% had doctorate degrees in education. The policy led to reduced incidences of financial mismanagement. In some incidences, the most successful principals were placed in charge of more than one school. This shows that adequate training equips school heads with financial management skills besides others. Hence the need for more training for school principals in Kenya.

In Saudi Arabia, Albugami and Ahmed (2015) did a study to establish whether ICT use in Saudi Secondary Schools contributed to successful financial management and found that financial management challenges in public secondary schools were rampant. The study established that 90% of the financial mismanagement cases resulted from principals' lack of technology proficiency skills in budget preparation. Hansraj (2007) did a similar study in Malaysia and established that principals are trained on financial management in the initial teacher training. Therefore, financial management challenges are minimal in Malaysia. Principals' training on management of school finances is in question in Kenya, hence the need for this study. The current study will establish whether school principals in Kenya receive adequate training on management of school finances.

Atunde et al. (2014) did a study on information and communication technology (ICT) and administrative performance of principals: a survey of public secondary schools in Ilorin Metropolis, Kwara State of Nigeria. Using descriptive survey design, a target population of 45 principals and 90 vice-principals (making a total of 135 respondents), the study established that there exists a significant influence of ICT use on the performance of principal's general management duties including financial management. The study, however also pointed out that public secondary school principals in Nigeria were not adequately prepared for the technological advancement due to low training levels on ICT use. While the study was done in an urban centre with the use of structured questionnaires and a small sample of 45 school principals and 90 deputy principals, the current study was done in a rural area using a total sample of 391 respondents and will employ the use of two sets of questionnaires with both closed and open-ended items, interview guides and observation checklists to collect

data from the respondents.

In Kenya, Wango and Gatere (2016) established that secondary school teachers are trained on general school management at university level before being employed. Karani (2013) points out those school principals receive other trainings after initial professional preparation. Initially, for one to be deployed as a principal, a teacher should have a Master's degree in education, and have served as a deputy principal for at least three (3) years (Teachers Service Commission, 2018). However, this policy was changed later to accommodate even candidates who held undergraduate degrees in education in response to complaints of teachers' trade unions. But a closer look at Kenyan university curriculum reveals that financial management is given very little attention at both undergraduate and master's level, implying that not all head teachers have skills in financial management. However, despite Kenya Education Management Institute (KEMI) offering diploma training in financial management with topics such as 'Finance and Accounts' and 'Procurement Plans' and 'Records', it is not a requirement for appointment to headship (Kenya Education Management Institute, 2018). Hence, by 2013, out of 7,686 principals, only 3,855 had been trained in school financial management according to a study by Karani (2013) and Musembi (2016). This means that majority of principals in Kenya have not undertaken this crucial training, hence complicating the need for effectively trained school managers.

A principal's level of training is the highest educational qualification that a principal has attained. In a study done in Canada, by Council of Ministers of Education and the Canadian (CMEC) (2008), initial teacher training was found to be inadequate in equipping principals with financial management skills. The Canadian government, through the teacher training strategic plan, 'Building on Our Successes 2005-2015', introduced a 1 year in-service training for head teachers to equip principals with financial management skills. Principals would also be mentored by a team of successful principals drawn from the Retired Head teachers Association so as to alleviate financial management challenges. Each principal would be offered a five-day off in a calendar year to undergo a professional improvement training run by the Ministry of Education in partnership with teachers' professional bodies and the Federation of Teachers. The acquired financial management skills led to decline in financial management challenges. This shows that training and incentives were successful in ensuring good school financial practices in Canada and hence this study sought to establish the influence of principal's level of training on financial management of schools in Makueni County, Kenya.

ZXXXXCZXCC add technology proficiency in Kenya ZZXZXCC Technology proficiency is the ability and extend to which a principal has employed the help of electronic gadgets in managing school funds. Muturi (2013) and Cheplonga (2015) investigated the use of ICT gadgets in managing school schools including the management of school funds in Nakuru North District and Nairobi County, Kenya, respectively. Using purposive sampling technique, Muturi (2013) used a sample size of 84 respondents from a total population of 393 and found that head teachers lacked adequate ICT skills. On the other hand, Cheplonga (2015) examined the relationship of ICT access of principals and their influence on the integration of ICT in management of public secondary schools in Nairobi County. Unlike Muturi (2012), Cheplonga (2014) just like the current study employed the use of descriptive survey design and a small target population of 75 school principals from whom simple random sampling technique was used to draw a sample of 68 principals out a total of 75 was selected for the study. While Cheplonga (2015) used questionnaires as the only data collection tool on Principals, the current study used only questionnaires for 68 principals as compared to the current investigation that used a variety of research instruments namely, questionnaires on 118 principals and 118 bursars, checklists for 118 PA chairpersons and interview guides for 2 auditors of schools making a total sample of 356 respondents. Although the study concluded that there existed a significant relationship between a principal's education level and ICT integration in public secondary schools in Kenya, these findings indicate that principals lack adequate technology proficiency skills leading to low employment of technology proficiency in not only financial management but general school management. The current study will use descriptive survey design, stratified sampling, simple random and purposive sampling techniques to arrive at a sample of 356 elements from a total population of 1,180.

As one of the principal's selected demographic factors, gender refers to a person's state of either being male or female. The Ministry of Education's policy on management of schools in Kenya is that girls' schools shall be headed by female principals while male head teachers shall administer boys' schools (Teachers Service Commission, 2007). The policy gives equal opportunities to deputy principals of both genders to be considered

for appointment as school administrators. It is expected that principals, irrespective of their gender, are able to fully manage school financial resources to meet the school's educational goals. Chinwe et al., (2018) investigated gender differences in personal and financial administrative competencies needed by principals in public technical secondary schools in South East of Nigeria. The study established that a principal's gender was not a contributing factor to effective management of school finances. In a study done by Matheri (2015) on the relationship between principal's gender and effective management of school finances, it was found that there exists no relationship between gender and management of school finances. On the other hand, Owan et al., (2021) carried a study in the Cross State of Nigeria to investigate the demographic qualities of principals and the abuse of school material capital in secondary schools. The study used quantitative approach, questionnaires as research instruments and a sample size of 647 secondary school administrators and established that while older principals were more experienced and especially those who had post graduate degrees in education, were efficient managers of school material capital, the younger and inexperienced principal's were most prone to higher cases of misuse of school material capital making it imperative that age as a principal's demographic quality may have an impact on the management of school finances. The current study will use descriptive survey design, a target population of 356 and questionnaires, an interview guide and observation checklist to establish the influence of principal's selected demographic factors of gender and age on school financial management among public secondary school head teachers.

In Kenya, professional secondary school teacher training takes place in universities at bachelor's and master's degree levels (Wango and Gatere, 2016). Further to this, a look at the Commission for University Education, 2015 outline of common educational units for undergraduate and post-graduate courses indicates that not many universities prepare teachers for school financial management. Management of finances is only introduced at doctoral level in education (Commission for University Education, 2016). For holders of non- educational degrees but with two teaching subjects, universities offer a one year post graduate diploma in education in which teaching methods and educational courses are taught and only 1 out of the total 19 units is learnt (Commission for University Education, 2016). This implies that most public secondary school principals in Kenya may not have studied management of finances but only get introduced to it after initial training. Sessional Paper No. 14 of 2012 on training and research recommends the need for principals to undergo in-service on management of finances for quality education (Republic, 2012). Additionally, Kenya Education Management Institute (KEMI) (2018) brochure on 'Finance and Accounts,' outlines the contents of the course offered on Open and Distance Learning mode as : "preparation of financial records, management accounting, budget preparation, book keeping, submission of books of accounts for external auditing, finance and supply chain management, and preparation of financial procurement plans and records." However, the course is voluntary and most principals in Kenya and more so in Makueni County have not undertaken the course. This implies that such head teachers lack the required skills to manage school finances. Hence the need for this study to provide policy recommendations on training of head teachers for their assigned tasks.

Financial mismanagement in Kenyan public secondary schools is very rampant due to many principals' inability to perform their financial management task effectively as revealed by the Auditor General's report of 2018/2019 (Government of Kenya, 2019). The report pointed out that in some public secondary schools, goods and services that were not included in the budgets were procured. Other mismanagement cases related to failures to follow set procurement plans, embezzlement of funds since purchases were not supported with proper documentation, irregular composition of tender committees or failure to adhere to tendering procedures were also mentioned. The report further observed that principals never advertised for local labour whose cost exceeded the set threshold, failed to present books of accounts for audit or had unresolved previous years' audit reports. In some other instances, schools were sued by suppliers over long outstanding bills or had school assets attached by auctioneers. Such cases of financial mismanagement in Makueni County occurred despite the principals' level of training, length of administrative experience, having employed technology proficiency in financial management, and principals being of varied ages and genders. Hence this study investigated principals' administrative characteristics and financial management in public secondary schools in Makueni County.

Statement of the Problem

One of the administrative roles of principals as provided for in Basic Education Act (Republic of Kenya, 2013) is to prudently manage school finances. The function includes, collecting fees, mobilizing resources, preparation

of budgets, managing cash expenditures, preparation of procurement plans and budget implementation. The Act further provides that principals should also record expenditure, account for expenditure through reporting on budget implementation, and presenting books of accounts to the Ministry of Education's auditors of schools for audit.

According to Makueni County Education Office (2024), the schools auditors report indicates that 146 out of the 391 Makueni public secondary schools had cases of financial mismanagement translating to nearly 37%, which has been constant over the previous two years. There were 102 warnings, and 46 transfers to other secondary schools. There were no demotions since any head of public institution is substantively appointed and is only liable for summary dismissal upon sufficient proof of any inefficiency (Teachers Service Commission, 2017).

This is despite the Kenya government having organized a financial management diploma training at the Kenya Education Management Institute (KEMI) but only 3,885 out of the total principal population of 17,864 had attended by 2018 (Kenya Education Management Institute, 2018). In Makueni County, only about 23% of the principals have undergone the KEMI school management course although the majority of the principals (89.7%) having been recently appointed to the level of principal have not attended the course (County Director of Education's Office, Makueni, 2024). This therefore shows that majority of the principals still lack training on management of school finances. Studies have been done on aspects of educational management in Makueni County, but none has been conducted on principals' administrative characteristics and financial management, which is a key factor in management of schools. Hence the need for the current study.

Study Objective

The objective of the study was to determine the influence of principal's technology proficiency on financial management of public secondary schools in Makueni County, Kenya.

STUDY LITERATURE REVIEW

Principals' Technology Proficiency and Financial Management

Technology proficiency is the ability to utilize modern telecommunication equipment while executing school financial management tasks by the school principal and all the other related staff. Past studies have revealed that schools should have the necessary ICT tools like computers, laptops, printers, office telephones and mobile phones for use in managing finances. The computers used for this function should have the required software such as Microsoft excel that is helpful in balancing income and expenditure for various school accounts and managing workers' payrolls. By making use of IT skills in schools, work becomes easier, fast and more accurate. Therefore technology proficiency further enables the ease of sharing financial and other information among stakeholders through school websites, e-mails and internet connections.

A report by UNESCO (2016) indicated that head teachers in Indonesia underwent various post-initial trainings on the use of ICT on preparation of school financial documents like cashbook, financial statement, and procurement document among others. However, the report indicated that the training should have been broadened to include budget preparation, the use of authorized and unauthorized expenditure, fiscal policy changes, book keeping and financial reporting so as to cover all aspects of school finances. This scenario in Indonesia implied that likewise head teachers in Kenya not only needed to integrate ICT but also equip their ICT infrastructure with relevant programmes to undertake all tasks in managing school finances.

In Malaysia Alias and Nor (2018) did a study on financial management of Malaysian principals. The study found that a policy by the Ministry of Education made it compulsory for all prospective principals to undergo a financial management training at the Centre for National Professional Qualification for Educational Leaders (NPQEL). Moreover, the study established that few management challenges still exist as principals lack adequate technology proficiency skills for use in managing school finances. This implies that ICT skills and high level of principal's training are important in enhancing good school management practices. While the study by Alias and Nor (2018) was conducted in Malaysia, this study was done in Makueni County, Kenya and sought to establish how principal's technology proficiency use has impacted on school financial management.

Further to this, Vida (2022) explored Trinidad and Tobago Secondary School Principals' Perspectives of Implementing a Laptop Initiative using case study research design and e-mailed interview guides as research instruments. The study targeted all the Caribbean country's 197 public and 63 private secondary schools' principals and vice-principals. Chain sampling together with purposive sampling techniques were used to select only 6 principals and 6 vice-principals to form the sample on whom the interview guides were administered. The six (6) schools picked were only those which had a known history of employing the use of computers. The study found that principals in Trinidad and Tobago Secondary Schools were not able to fully incorporate ICT proficiency in their administrative duties due to insufficient ICT training. Unlike Vida's investigation that was done in Trinidad and Tobago, the current study was carried out in Kenya using a sample size of 356 respondents who were selected using stratified sampling and purposive sampling techniques and was drawn from a larger target population of 1,180 to establish whether schools in Makueni County utilized technology proficiency skills among principals in the preparation of financial documents.

In Nigeria, Atunde et al. (2016) examined the impact of ICT on secondary schools' Principals' administrative performance in Ilorin Metropolis, Kwara State. The study revealed that the use of technology proficiency skills in school management led to improved administrative performance. The results further noted that there was low availability of ICT equipment in Ilorin Metropolis leading to moderate application of technology proficiency skills by principals in their management tasks including financial management. The study adopted descriptive survey design similar to the current study but while the current study targeted a population of 1180 from 391 rural public secondary schools and 7 sub county auditors of schools, and a sample of 356 respondents, while Atunde, et al (2016) had a target population of 292 drawn from only 75 urban public secondary schools and a sample of 135 respondents.

A study by Ligondo (2019) in Cameroon sought to examine the impact of Principals' use of Information Communication Technologies (ICTs) for effective administration in public secondary schools in Faxe Division of Cameroon using descriptive survey research design. The population of study targeted all the 41 public secondary schools in the division comprising of 41 principals and 171 vice-principals totaling to a population of 212. Using simple random sampling technique, 21 schools were selected to participate in the main study and a total sample 136 respondents was selected who included 26 principals and 110 vice principals. Questionnaires were used as data collection instruments. The study established that about 89% of the 136 public secondary school principals in Faxe Division employed made use of technology proficiency skills in their daily financial management operations leading to a positive influence on financial management effectiveness of schools. However, various financial management activities were faced by challenges of inadequate computers and lack of appropriate software although not limited to principals. The current study was conducted in an area that had 391 public secondary schools and had a target population of 1,180 and a sample size of 356 respondents compared to Lingodo's study that had a target population of 212 and a sample size of 136 respondents, and employed the use of various research instruments such as questionnaires, interview guides and checklists to establish whether principals in Makueni County experience similar situations with regard to technology proficiency skills in financial management.

In Uganda, Ziraba (2015) investigated the integration of ICT in managing school funds in Kampala City schools. The findings of the study was that there were decreased cases of financial mismanagement as debts owed to suppliers and school creditors had decreased and low amounts of uncollected fees. This study was carried out in city schools and implied that financial errors of commission and omission were low but the current study while being conducted in a rural setting sought to establish whether school principals in Makueni used technology proficiency in their schools for financial management.

In Kenya, Miranji (2017) did a study on ICT and financial management of public secondary schools in Nairobi County. The study used descriptive survey design and a target of 51 public and private schools with a sample of 171 respondents and found that about 51 % of principals in Nairobi County lacked ICT skills for use in financial management. This is despite schools having the required ICT equipment. Similarly, Muriithi (2017) studied management challenges of using ICT for administration of Kirinyaga County schools. The findings were that only about 41.2 % of the principals had been trained in technology proficiency compared to the majority 58.8 % who had no training on ICT proficiency leading to challenges in using ICT skills in secondary schools. This was despite the numerous benefits of technology proficiency in schools including preparing financial

statements, managing school accounts, budget preparation and forecasting, fees collection management, easy data management and saving time.

According to Mwanthi (2022) who conducted an assessment of the influence of principals' characteristics and the use of Information Technology in school management in public secondary schools in Machakos County, principals' attitude and possession as well as the application of technology proficiency skills were useful for effective school management. The findings of the study further noted the importance of principals to fine tune their technology proficiency skills. Unlike the current study that adopted descriptive survey design, Mwanthi (2022) used correlational research design and used a sample of 194 respondents drawn a total target population of 926 while the current study used a sample size of 356 respondents selected from a population of study 1,180 members. From the studies done by Miranji (2017), Muriithi (2017) and Mwanthi (2022), there exists a research gap in relation to the study since no similar study had been conducted in Makueni County.

THEORETICAL FRAMEWORK

The study was anchored on the Agency Theory which was advanced by Jensen and Meckling (1976). The theory holds that in any organization that deals with monies, there exists an agency and principal relationship between the person (here known as the 'principal') who hires another (the 'agent'). It is the agent who undertakes specific tasks on behalf of the hirer, the 'principal'. The proponents of Agency Theory further argue that during the process of executing the assigned activities, a conflict arises between the 'principal' and the agent. The misunderstanding emanates from the conflict of interests between the two parties. The agent strives to maximize any rewards arising from their effort if the reward is given or minimize their effort if the rewards are denied. On the other hand, the 'principal' tries to reduce the costs of hiring the agent or maximizes the output of the 'principal'. The resultant conflict of interest between the two parties further fuels the agency problems. Jensen and Meckling (1976) further point that these agency conflicts are often severe and common in public institutions including schools.

Agency theory was suitable for use in this study because public secondary schools receive government capitation grants, fees from parents and other financial support from donors. Such financiers are the 'principals' as referred to in the theory. Principals of school and bursars are the 'agents' because they carry out the day to day management of school finances. The government of Kenya through the Teachers Service Commission (TSC) and the parents through the Boards of Management (BoM) of various public secondary schools hire the services of head teachers and bursars, respectively to carry out the task of prudently managing school finances for which they get salaries and allowances. The theory examines the conflicts that arise between the school owners (the parents and the government) and the managers (school principals and bursars) and seeks to resolve the conflicts.

However, several scholars observe that Agency theory has some weaknesses. Turley and Zaman, (2013) argued that one of the underlying weaknesses of the theory is that the agent has a lot of information on matters on the ground compared to the Principal. This is illustrated by the fact that even when the organization is subjected to the routine external audit exercises, there seems not to be any significant difference between its results and those of the internal audit committee that exists within the organization. The resultant asymmetry of information complicates the ability of the principal to monitor the effective execution of the interests of the organization's stakeholders by the agent. The agent while performing duties and making decisions may hide or manipulate information to suit own needs. This results into conflict of interests between the agent and the principal referred to as 'Agency Problem' or 'Agency Dilemma'. The resultant conflict may negatively affect the motivation levels of both the workers and learners leading to reduced output and general decline in the overall school performance.

The agency theory has been used in several studies. Sikobe, Mwambia and Were (2017) studied an evaluation of factors affecting management of public funds in the Country Government of Nairobi, Kenya using agency theory. Additionally, Munge, Kimani and Ngugi (2016) used the same model to carry out a study on the factors influencing financial management in public secondary schools in Nakuru County, Kenya.

STUDY METHODOLOGY

The study used descriptive survey research design in order to generate both qualitative and quantitative data.

Descriptive survey enables the researcher to collect data on a specific prevailing condition (Greenfield, 2002, and Best and Kahn, 2005). Secondly, according to Creswell and Plano (2011), descriptive survey and mixed sampling approaches are both useful in exploring experiences and explaining perspectives of respondents on relationships between the objectives and variables of study without any manipulation. This was done by examining the study objective namely, establish the relationship between principal's level of training and financial management of public secondary schools in Makueni County. Additionally, the use of descriptive survey design was of critical importance in examining the role played by principals' level of training in enhancing financial management of public secondary schools in Makueni county, Kenya. The study used a target population comprising of 391 principals, 391 bursars, 391 PA chairpersons, and 7 sub-county auditors of schools. A total sample size of 356 respondents was selected comprising of 118 principals, 118 bursars, 118 PA chairs, and 2 school auditors. The study used questionnaires and bursars, observation checklists for parents association chairpersons and interview guides for school auditors for data collection. The validity and reliability of the research instruments was ascertained before carrying out the study by use of piloting and the test-retest technique and computing a correlation coefficient value of 0.8 (Kothari and Garg, 2018). Such a coefficient indicated that the research instruments were highly reliable since according to Mugenda (2019) a coefficient value of 0.7 or higher than 0.7 indicates a high degree of instrument validity. Considering this coefficient from the test therefore the instruments were highly credible for use in the study. Data was analysed using the ATLAS-ti computer software. Qualitative information obtained from the interview guides and observation checklists was put into topics and reported in the form of stories in line with the objective of the study. Quantitative data got from the respondents was put into frequencies, percentages and tables for easier interpretation. Using ATLAS-ti software, a Pearson's Moment Correlation Coefficient (PMCC) denoted by (r) was computed to establish the level of relationships at 0.05 level of significance between the research variables in order to answer the research question. From the computation, it was revealed that there exists a strong positive relationship (of $r = 0.879$ and a p value $p < 0.05$) between principals' level of training and financial management of public secondary schools. According to Mueller (2019), the calculation of a p-value was useful in trying to explain relationships between the two variables of the study. A p-value of ($p < 0.05$) or above indicates an acceptable level of relationship.

Study Findings

Table 4. 1: Principals' Responses on Attendance to ICT Skills Training and Financial Management

	Attended training	Frequency	Percent
	Yes	40	47.6
	No	44	52.4
	Total	84	100.0

Table 4.9 shows that most of the principals (52.4%) of those interviewed, had not attended any ICT training on financial management leaving only 47.6% who had attended. The principals who attended ICT training were 39 in number and were requested to indicate the level of ICT training. The results were presented in Table 4.10.

Table 4.2: Principals' Responses on Level of ICT Training Attended and Financial Management

	Level of training	Frequency	Percent
	Certificate	37	92.5
	Diploma	3	7.5
	Total	40	100.0

Table 4.10 shows that majority (92.5%) of the principals indicated that the training on ICT that they attended was at certificate level while only 7.5% had attained a Diploma. The principals were further requested to indicate the relevance of the ICT training attended using a five-point Likert scale, in which 5-for Highly Informative, 4-for Slightly Informative, 3-for Informative, 2-for Of Little Use, and 1-for Of No Relevance to school financial management as shown in Table 4.11.

Table 4. 3: Principals' Responses on Relevance of the ICT Training Attended and Financial Management

Attended training	Frequency	Percent
Highly informative	35	87.5
Slightly informative	3	7.5
Informative	2	5.0
Total	40	100.0

Table 4.11 shows that majority (87.5%) of the principals indicated that the training on ICT that they attended was highly informative, while 7.5 % and 5% stated that it was slightly informative and just informative, respectively.

The bursars were requested to indicate their responses to the statement, "How would you rate the extent of your principal's level of training and its influence on the school's effectiveness?" to which they responded as shown in Table 4.12 using 5 point Likert scale with; (5) for Strongly agree, (4) for Agree, (3) for Undecided, (2) for Disagree, and (1) for Strongly disagree with regard to different aspects of school principals on financial management.

Table 4.4: Bursars' Responses on Principals' Level of Training and Influence on Principals' Financial Management Aspects of:

Statements	5	4	3	2	1
	F %	F %	F %	F %	F %
a) Timely budget preparation	40 47.1	11 12.9	7 8.2	9 10.6	18 21.2
b) Budget implementation	45 52.9	9 10.6	11 12.9	13 15.3	7 8.2
c) Preparation of school accounts	43 50.6	14 16.5	12 14.1	9 10.6	7 8.2
d) Preparation of financial records	35 41.2	19 22.4	12 14.1	8 9.4	11 12.9
e) Timely readiness for annual financial audit	22 25.9	23 27.1	14 16.5	10 11.8	16 18.8
f) Debt control levels	36 42.4	28 32.9	5 5.9	5 5.9	11 12.9
g) Implementation of development projects	24 28.2	37 43.5	6 7.1	12 14.1	6 7.1
h) Ability to integrate ICT skills in managing school finances	43 50.6	18 21.2	11 12.9	7 8.2	6 7.1

Table 4.12 reveals that most of the bursars were in agreement that the principals' level of training influences budget implementation as denoted by 47.1% and 12.9% percent who strongly agreed and agreed combined to make 60%, while 8.2% represented the undecided, 10.6 percent disagreed and 21.2% strongly disagreed. The results implied that bursars had a lot of trust that principals had adequately been trained through going through the initial and in-service training that equipped them to confidently handle school finances compared to a small percentage that did not share a similar opinion. However, on the aspect of principal's level of training and its influence on budget implementation, most bursars (50.6%) seemed to strongly agree followed by 16.5% who agreed implying that most of the bursars (67.1%) for strongly agree and agree, respectively highly supported the assertion that principal's level of training positively influenced a principal's ability to manage school finances. This is as compared to 10.6 percent of the bursars who responded to the questionnaires by strongly disagreeing and 8.2 percent who strongly disagreed while another 14.1 percent who were indecisive. Most of the bursars were in agreement that the principals' training influenced preparation of school accounts as demonstrated by 41.2% who strongly agreed and 22.4 percent who agreed. All the same, 9.4 percent disagreed, another 12.9 percent strongly disagreed and still another 14.1 percent were undecided. A relatively small number of bursars as illustrated by 25.9% for strongly agree and a slightly higher number denoted by 27.1% who agreed. Nevertheless, 18.8% strongly disagreed and another 11.8% disagreed whereas 16.5% were neutral. From the findings, on the item that believed principals' training on financial management influenced principal's debt control levels of schools, a good number of bursars strongly agreed (42.4%) while 32.9% seemed to agree making a total percentage of 53%. This was contrasted by 12.9% who strongly disagreed, 5.9% who disagreed while another 5.9% were unsure of how to respond. Some bursars, who responded to the questionnaires, believed that principals' training on financial management influenced implementation of development projects as

illustrated by 28.2% for strongly agree and another 32.9% of the bursars who agreed. However, 7.1% strongly disagreed, 14.1% disagreed while another 7.1 % represented a group that was undecided. Finally, majority of the bursars were of the view that the principal’s training influenced their ability to integrate ICT skills in managing school finances as pointed out by 50.6 percent who strongly agreed and 21.2 percent who agreed both combined to make a total of 71.8%. However, 8.2 percent disagreed and 7.1 percent strongly disagreed while another 12.9 percent were hesitant to respond.

The researchers further sought to establish the relationship between principal's level of training and financial management in public secondary schools in Makueni County using correlation coefficient. The results were presented in Table 4.13.

Table 4.5: Correlation between Principals' Training and Financial Management

		Principals’ Training	Financial Management
Principals’ training	Pearson Correlation	1	.879 (**)
	Sig. (2-tailed)		.000
	N	84	84
Financial Management	Pearson Correlation	.879(**)	1
	Sig. (2-tailed)	.000	
	N	84	84

** Correlation is significant at the 0.05 level (2-tailed).

The results of the study in Table 4.13 reveal that there is a strong positive relationship $r(84) = 0.879, p < 0.05$ between principals' level of training and financial management in public secondary schools.

Table 4.6: PA Chairpersons' Opinions on Principals' Level of Training and Financial Management

Checklist	4	3	2	1
Principal's with highest level of training have;				
• managed finances well have after In-service training on school management.	50 58.1	20 23.3	8 9.3	8 9.3
• principals trained in ICT in-service training have fewer school financial management challenges.	53 61.6	12 14.0	11 12.9	10 11.8
Such principals experience few or no challenges with;				
• budget preparation.	46 53.4	16 18.8	11 12.9	13 15.3
• preparing procurement plans.	46 53.4	20 23.3	12 14.1	8 9.4
• managing workers' payrolls and expenditure.	40 46.6	29 34.1	7 8.2	9 10.6
• reporting on budget implementation and school fees collection	47 55.3	29 34.1	5 5.9	5 5.9

Table 4.14 reveals that majority of the PA chairpersons were in agreement that the principals who trained in ICT in-service training have fewer school financial management challenges as reported by 61.6 percent who strongly agreed and 23.5 percent who agreed. However, 12.9 percent disagreed, 11.8 percent strongly disagreed. Most of the PA chairpersons were in agreement that the principals managed finances well after In-service training on school management as demonstrated by 58.1 percent who strongly agreed and 23.3 percent who agreed. All the same, 9.1 percent disagreed while another 0.4 percent strongly disagreed. A good proportion of the PA chairpersons were of the view that the principals' training influenced reporting on budget implementation and school fees collection as pointed out by 55.3 percent who strongly agreed and 34.1 percent who agreed. However, 5.9 percent disagreed while 5.9 percent strongly disagreed. Most of the PA chairpersons believed that the principals' training on financial management influenced preparing procurement plans as illustrated by 54.1 percent who strongly agreed and 22.4 percent who agreed. Nevertheless, 14.1 percent strongly disagreed and another 9.4 percent disagreed. A large number of PA chairpersons reported that that the principals' training influences managing workers' payrolls and expenditure as shown by 46.6 percent who strongly agreed and 34.1

percent who agreed. Nonetheless, 10.6 percent of the chairpersons strongly disagreed while 8.2 percent disagreed. These results agree with what was reported by the principals and school bursars.

Principals' Technology Proficiency and Financial Management.

The third objective of this study was to determine the influence of principal's technology proficiency on financial management of public secondary schools in Makueni County. To achieve this objective, the principals were requested to indicate the ICT gadgets they used while performing school financial management tasks. The responses were presented in Table 4.20.

Table 4.7: Principals' Responses on Technology Proficiency and Financial Management.

Type of ICT gadgets often used	Frequency	Percent
Tablets	7	8.3
Laptops	22	26.2
Mobile phones	6	7.1
Desk top Computers	49	58.3
Total	84	100.0

Table 4.20 shows that the most (58.3%) of the principals indicated that they were using desktops, while 26.2 % were using laptops to prepare school budgets, procurement plans, and recording school expenditure, hence positively impacting on financial management. Other 8.3% were using tablets, while 7.1 % were used mobile phones. The principals were further requested to indicate how often in a whole week they used computers to perform school financial management tasks. The responses were presented in Table 4.21.

Table 4.8: Principals' Responses on the Frequency of Computer Use and Financial Management.

Frequency	Frequency	Percent
More than four days	10	11.9
Between three and four days	12	14.3
Between one and two days	40	47.5
Less than 1 day	20	23.8
Never	2	2.4
Total	84	100.0

Table 4.21 shows that most of the principals (47.5%) indicated that they used ICT gadgets between one and two days, while 23.8% used them for less than a day. It was also established that 11.9 % used ICT for more than four days in a week, and 14.3 % used ICT gadgets for between three and four days, while 2.4 % never used any ICT gadgets. The principals were further requested to indicate the factors that the principals attributed to their use or failure to frequently use ICT gadgets school financial management. The responses were presented in Table 4.22.

Table 4.9: Principals' Responses on Reasons for Failure to Frequently Use Computers and Financial Management.

Frequency	Frequency	Percent
Lack of ICT training	42	50
Long administrative experience	22	26.2
Gender	4	4.8
Lack of support by bursar	16	19
Total	84	100.0

Table 4.22 shows that most of the principals (51.2 %) indicated that they failed to use ICT gadgets due to lack of ICT training, while 26.2% although had long administrative experience in schools as principals, did not employ the use of such ICT tools perhaps because they lacked adequate training in technology proficiency and relied heavily on the support of their bursars. It was also established that 17.9 % failed to frequently use ICT gadgets due to lack of bursars' support, while only 4.8 % indicated that it was due to their gender being perceived as being technophobic this leading to limited use of IT gadgets in financial management tasks.

The principals were further requested to indicate their views on the usefulness of some ICT software in financial management using a scale of 1 to -5, where; 5 = Highly useful, 4=Slightly useful, 3=Useful, 4 = Less useful and 5 = Not useful. The responses were presented in Table 4.23.

Table 4.10: Principals' Views on Usefulness of ICT Software and Financial Management

		5	4	3	2	1	
	Statements	F %	F %	F %	F %	F %	F %
1	School Accounting System (SCHACCS)	39 46.4	25 29.7	11 13.1	7 8.3	2 2.3	84 100.0
2	SAGE Accounting Software.	40 47.6	27 32.1	10 11.9	7 8.8	0 0.0	84 100.0
3	Microsoft Excel.	37 44.0	30 35.7	10 11.9	7 8.8	0 0.0	84 100.0

Table 4.23 revealed that most (47.6%) of the principals indicated that SAGE was highly useful in financial management followed by 32.1% who asserted that it was useful. Other 11.9 % said it was slightly useful and 8.8 % who revealed that it was less useful while none of the principals said it was not useful. This was followed by 46.4% of the principals who indicated that (SCHACCS) was highly useful in financial management followed by 24.7% who said it was useful. Another lot of principals, 12.9% said it was slightly useful and 8.6% who pointed out that it was less useful while 7.1% said it was not useful. Similarly, 44.7 % of the principals indicated that Microsoft Excel was highly useful in financial management followed by 35.7% who said it was useful. Other 11.9% said it was slightly useful and 10% indicated that it was less useful while none said it was not useful. The researcher further sought to establish from the bursars the fee balances from the previous financial year as attributed by use of ICT. The responses were presented in Table 4.24.

Table 4.11: Bursars' Responses on Principals' Technology Proficiency and Uncollected Fees

Uncollected fees 2023/2024	Frequency	Percent
<250,000	12	14.1
250,000-500,000	60	70.6
500,000-1,000,000	6	7.1
Above 1,000,000	7	8.2
Total	85	100.0

According to Table 4.24, majority (70.6%) of the principals had Kshs. 250, 000.00 of uncollected fees for the 2023/2024 financial year, 14.1% had less than Kshs. 250,000.00, 8.2% had over Kshs. 1,000,000.00, while 7.1% indicated that their schools' uncollected fees balance stood at between Kshs. 500,000-1,000,000. The bursars were further requested to indicate the ability of the principals to use ICT to communicate fees balances to parents or guardians. The results were presented in Table 4.25.

Table 4.12: Bursars' Responses on Principals' Use of ICT to Communicate Fees Balances to Parents or Guardians

ICT use	Frequency	Percent
Highly effective	48	56.5
Effective	25	29.4

Slightly effective	10	11.7
Not effective	2	2.4
Total	86	100.0

According to Table 4.25, most of the principals (56.5%) indicated that the use of ICT to communicate fees balances to parents and guardians was highly effective followed by 29.4% who said it was effective, 11.7% indicated that it was slightly effective, while 2.4% said it was not effective. To establish the relationship between the principals' factors and their current school's financial status in relation to the bursars' responses on principals' ICT use, a correlation coefficient was computed and the results were presented in Table 4.26.

Table 4.13: Bursars' Responses on Principals' Factors Contributing to Current School's Financial Status

		Principals factors	Current school status
Principals factors	Pearson Correlation	1	.645 (**)
	Sig. (2-tailed)		.000
	N	84	84
Current school status	Pearson Correlation	.645(**)	1
	Sig. (2-tailed)	.000	
	N	85	85

** Correlation is significant at the 0.05 level (2-tailed).

The results of the study in Table 4.26 reveal that there is a strong positive relationship of $r(85) = 0.645$, $p < 0.05$ between principals' factors and their school financial status.

To establish the relationship between principals' technology proficiency and financial management of public secondary schools in Makeni County, a correlation coefficient test was computed and results presented in Table 4.27.

Table 4.14: Pearson's Moment Correlation Coefficient on Principals Technology Proficiency Factors and Financial Management

		Technology proficiency	Financial management
Technology proficiency	Pearson Correlation	1	.622 (**)
	Sig. (2-tailed)		.000
	N	85	85
Financial management	Pearson Correlation	.622(**)	1
	Sig. (2-tailed)	.000	
	N	85	85

** Correlation is significant at the 0.05 level (2-tailed).

The results of the study in Table 4.27 displays that there is a strong positive relationship of $r(85) = 0.622$, $p < 0.05$ between principals' technology proficiency and financial management of public secondary schools in Makeni County.

PA Chairpersons' Observation Checklist Results on Principals' Technology Proficiency and Financial Management

The researcher used an observation checklist to obtain data from the PA chairpersons using a scale of 1-4, where each indicates as below: 1-Strongly disagree, 2-Disagree, 3-Agree, and 4-Strongly agree.

The researcher used a checklist to obtain data from the PA chair persons using a scale of 1-4, where each indicates as below: Strongly disagree 2- Disagree 3- Agree 4- Strongly agree.

Table 4.15: PA Chairpersons' Results on Principals' Technology Proficiency and School Financial Management

Statements	4	3	2	1
1) The more the principal integrates ICT skills in managingschool finances the fewer the challenges.	46 53.5	24 27.9	11 12.8	5 5.8
2) The more ICT skills use in communicating on school fees toparents, the lower the level of fees balances the school has.	44 51.2	25 29.1	10 11.6	7 8.1

Table 4.28 reveals that majority of the PA chairpersons were in agreement that the more the principal integrates ICT skills in managingschool finances the fewer the financial management challenges they are likely to encounter as reported by 53.5 percent who strongly agreed and 27.9 percent who agreed. However, 12.8 percent disagreed while 5.8 percent strongly disagreed. Further to this, most of the PA chairpersons were in agreement that, the more ICT skills use in communicating on school fees balances to parents and guardians, the lower the level of fees balances the school has as demonstrated by 51.2 percent who strongly agreed and 29.1 percent who agreed. On the other hand, 11.6 percent disagreed while another 5.9 percent strongly disagreed. These results agree with the principals and school bursars who pointed out that principals' technological proficiency influenced principals' financial management.

Sub-County Auditors of Schools' Interview Guide Report on Principals' Technological Proficiency and Financial Management

The researcher also interviewed the sub-county auditors of schools on principals' technology proficiency and financial management. While responding to the question on, whether principals were integrating the use of ICT skills in managing school finances, it was reported that less than a half of the principals were using ICT in financial management. For this reason the sub-county auditors said that failure to use ICT was negatively impacting on financial management of public secondary schools. Similar results were established from the principals, bursars and PA chairpersons.

Principals' Technology Proficiency and Financial Management

The third objective of this study was to determine the influence of principals' technology proficiency on financialmanagement of public secondary schools in Makueni County. To achieve this objective, the principals were requested to indicate the ICT gadgets they used. Table 4.20 shows that the most (58.3%) of principals were using desk tops for the execution of financial management tasks while 7.1% were using phones. Table 4.21 shows that most principals, (47.5%) indicated that they used ICT gadgets only sometimes, while 23.8% sparingly used ICT, while 2.4% never used ICT skills in managing finances. It was also established that 40% of the bursars provide support to their principals significantly influenced the use of ICT gadgets in financial management. These findings agree with Atunde et al. (2016), who argued that the use of technology proficiency skills in school management led to improved administrative performance. The results further noted that there was low availability of ICT equipment in some schools leading to moderate application of technology proficiency skills by principals in their management tasks including financial management. From the findings, this is a large number of principals which was not trained on ICT and that means that there was need to sensitize principals on the importance of ICT training.

Additionally, the result in Table 4.21 implies that most principals minimally used computers in their management of school finances. Given that most administrative records and all other financial documents have been automated and that schools are expected to make financial returns to MoE through the National Education Management Information System (NEMIS) and other E-platforms such as International Public Sector Accounting Standards (IPSAS). This could therefore explain the financial malpractices that have led to disciplinary action being taken on principals in Makueni County as shown by the county audit report of 2024 in section 1.2 of this report. From the study results, it can also be implied that failure to acquire such useful ICT skills necessary for use in public secondary school financial management disadvantages principals and may be

one of the causes of the persistent financial management challenges experienced in schools. This was likely to negatively affect their financial management practices.

Table 4.23 revealed that most of the principals (50.6%) indicated that the soft wares that were highly useful in financial management are; school accounting system (schaccs) (46.4%), sage accounting software (47.6%) and Microsoft excel (44.7%). These results agree with Ligondo (2019) who argued that public secondary school principals employed the use of technology proficiency skills in their daily financial management operations leading to a positive influence on financial management effectiveness of schools. However, various financial management activities were faced by challenges of inadequate computers and software although this challenge is not limited to principals only.

Table 4.27 illustrates that there is correlation of $r(85) = 0.622$, $p < 0.05$ between principals' technology proficiency and management of school finances. This means that there is a strong positive relationship between principals' technology proficiency and financial management of public secondary schools in Makueni County. These results agree with the opinions of the pa chairpersons as reported in table 4.38 where most of the pa chairpersons were in agreement that the more the ICT proficient a principal is, the fewer the challenges as reported by between 51.2 and 53.5 percent who agreed, while only 5.8 and 8.1 percent strongly disagreed. Similar results were reported by the sub-county auditors of schools who said that, failure to use ICT was negatively impacting on financial management of secondary schools. The results also suggest that a greater number of principals had a positive mindset on the importance of the training compared to the smaller number that had expressed a low opinion on the same training and this could perhaps be the reason for different levels of ICT skills integration in financial management of schools by principals who had been exposed to the same training leading to different levels of success in financial management of public secondary schools. However, it is noted that only 40 principals who represent 47.6% had attended the training meaning that despite ICT knowledge being important in preparation of financial documents, most of the principals (52.4%) did not have the skill as shown in table 4.9. This might therefore imply that majority of the principals were not able to competently utilize the necessary software useful in financial management leading to the occurrence of financial malpractice in some public secondary schools.

These findings also agree with Mwanthi (2022) who conducted an assessment of the influence of principals' characteristics and the use of information technology in school management in public secondary schools in Machakos county and whose findings indicated that the application of technology proficiency skills were useful for effective school management. With regard to principals' response to the question of principals' frequency of computer use in financial management, the results in table 4.21 shows that most of principals (47.1%) indicated that they used ICT gadgets between one and two days, while 23.5% used for less than a day. It was also established that 11.8% used ICT for more than four days in week and 11.2% used computers for between three and four days while 3.5% never used ICT. These results implies that most principals used computers minimally in their management of school finances. Given that most administrative records and all financial documents have been automated and that schools are expected to make financial returns to more online through the nemis system, this could explain the financial malpractices that have led to disciplinary of principals in Makueni county as shown by the county audit report 2024 as indicated in the statement of the study problem in section 1.2.

DISCUSSION OF THE STUDY FINDINGS

Principals' Technology Proficiency and Financial Management

On the influence of principals' technology proficiency on financial management of public secondary schools in Makueni County. The study found that there was a strong association between principal's technology proficiency and financial management of public secondary schools. The study also found that most of the principals used various types of ICT gadgets with 58.8% using desktops while 25.9% used laptops for carrying out different types of financial management tasks such as budget preparation, preparation of procurement plans, and recording of school expenditures. However, the study also revealed that another lot of principals do not use ICT tools frequently as represented by only 11.8% of the principals who used a ICT for above 4 days in management of school finances, while about 30% used ICT for less than a day or less. This implies that there were still several principals who were not using ICT gadgets to manage school finances. Other principals were

relying on their bursars' support entirely. The study therefore concludes that the proportion of principals who could not adequately employ the use of ICT in financial management of public secondary schools at a time when most financial management tasks are supposed to be done through electronic platforms explains the likelihood of facing financial mismanagement of finances in public secondary schools in Makueni County of Kenya.

STUDY CONCLUSIONS

On objective three, the study recommended that;

1. The TSC should make ICT training a mandatory requirement for promotion to headship of a secondary school.
2. The Ministry of Education should constantly in-service principals on ICT proficiency.

Study Recommendations

1. Further research can also be done on a comparative study of ICT integration in management of public secondary schools of Makueni County and in other counties of Kenya.

REFERENCES

1. Albugami, S. and Ahmed, V. (2015). Success Factors for ICT Implementation in Saudi Secondary Schools: From the Perspective of ICT directors, head teachers, teachers and Students. *International journal of Education and Development using ICT*, 11(1), open campus, The University of West Indies, West Indies. Retrieved March 23, 2022 from <https://www.learntechlib.org/p/151051/>.
2. Alias, B.S., and Nor, M.Y. (2018). *Financial Management of Malaysia Principals* (Published PhD Thesis, University of Kabangsaan Malaysia).
3. Atunde, M., Abdulraheem, B., Tijani, A., Ayoku, O., and Olaifa, A (2019). *Information and Communication Technology (ICT) and Administrative Performance of Principals: A Survey of Public Secondary Schools in Ilorin Metropolis, Kwara State of Nigeria*. (Published PhD Thesis). *International Journal of Academic Research*, ISSN:2520 3088. DOI: 1.21522/TIJAR.2014.07.01. Art001
4. Commission for University Education (CUE). (2016). *List of accredited programmes and courses in Kenya*. Council of Ministers of Education, Canada (CMEC). "The development of education in Canada. Reports for Canada. Report on: The education systems in twenty-first century. Report two: Inclusive education in Canada-The way of the future. October." CMEC, Toronto, ON, 2008, pp.7. Published: *International Journal for Cross-Disciplinary Subjects in Education (IJCDSE) Special Issue Volume 4 Issue 1, 2014*.
5. County Director of Education's Office, Makueni. (2024). *Data on Public Secondary Schools Principals Exposed to KEMI School Management Training in Makueni*.
6. County Director of Education's Office, Makueni. (2024). *Quality Standards and Assurance Office, Data on Public and Private Schools in Makueni County, Makueni*.
7. County Director of Education's Office, Makueni. (2025). *Public Secondary Schools in Makueni County, Makueni*.
8. County Director of Education's Office, Makueni. (2018). *Secondary Schools General Assessment Report, July 2018, Makueni*. County Director of Education's Office, Makueni (2022). *Schools Auditors Report. County Audit Unit (2013-2015), Makueni*.
9. County Director of Teacher Management's Office, Makueni. (2024). *Data on Makueni Public and Private Secondary School Principals, Makueni*.
10. Crouch, A. and Winkler, D. (2007). *Governance, Management and Financing of Education for All: Basic Frameworks and Case Studies*.
11. Education Aid Watch (2015). *Global Campaign for Education*. Johannesburg, South Africa. www.campaignforeducation.org.
12. Government of Kenya. (2019). *Report of the Auditor General for the National Government for the year 2018/2019*. Office of the Auditor General: Nairobi.
13. Jensen, M. C., and Meckling, W. H. (1976). *Theory of the Firm :Managerial Behavior, Agency Costs and Ownership Structure*. *Journal of Financial Economics*, 3(4), 305-360.

14. Kenya Education Management Institute (KEMI). (2018). www.kemi.ac.keKiio, S. J. (2015). Influence of Kenya Education Management Institute Training on Head Teachers' Competence in Management of Primary Schools in Westlands Sub-County, Nairobi. Unpublished MEd Project, University of Nairobi, Nairobi <https://thesisbank.jhia.ac.ke/id/eprint/853>.
15. Kothari, C. R., and Garg, G. (2018). *Research Methodology: Methods and Techniques* (3rd Ed.), New Delhi: New Age International Publishers.
16. Ligondo, M.J. (2019). Impact of Principals' use of Information and Communication Technologies (ICTs) in Effective Administration in Public Secondary Schools in Faxe Division, Cameroon. (Published PhD Thesis, University of Buea, Cameroon, Central Africa. *Trends in Scientific Research and Development (IJTSRD)*. Volume:3/Issue:2/Jan-Feb 2019. www.ijtsrd.com e-ISSN: 2456-6470
17. Miranji, N. W. (2017). *ICT and Financial Management of Secondary Schools in Nairobi County, Kenya*. (MBA -Project) (Unpublished). Nairobi: University of Nairobi.
18. Moser, C.A. and Kalton, G.(1989). *Survey Methods in Social Investigation*. (2Ed.). Aldershot: Gower.
19. Mueller, A. (2019). MAXQDA or ATLAS.ti ? How Software shapes research. *Met-Hodos*. Retrieved: July 22, 2024 from <https://doi.org/10.58079/rehk>.
20. Mugenda, O.M.(2019). *Research Methods: Quantitative, Qualitative and Mixed Approaches*. (3rd Rev.Ed.). Nairobi: Centre for Innovative Leadership and Governance(CCLG).
21. Muriithi, S. N. (2017). *Management Challenges of Using Information Communication Technology (ICT) for Administration of Secondary Schools in Kirinyaga County, Kenya*. (Unpublished Doctor of Philosophy Thesis). University of South Africa, Pretoria.
22. Musembi, P.M. (2016). *The Influence of KEMI Principals' Diploma in Education Management Training Course on Management of Practices of Public Secondary Schools in Matungulu Sub -County*. (Unpublished MEd. Project). South Eastern Kenya University, Kitui.
23. Muturi, F.N. (2013). *Factors Influencing Board of Management Competence in Financial Management in Public Secondary Schools in Nakuru North District, Kenya*. (Unpublished MEd. Project). University of Nairobi, Nairobi.
24. Mwanthi, F.N. (2022). *Influence of Principals' Characteristics and the Use of Information Technology in School Management in Public Secondary Schools in Machakos County, Kenya*. (Unpublished MEd Project Report, Kenyatta University, Nairobi. Access: KU e-repository)
25. Okumbe, J. A. (2007). *Educational Management: Theory and Practice*, Nairobi: Nairobi University.
26. Republic of Kenya. (2013). *Basic Education Act*, Nairobi : Government Printer.
27. Republic of Kenya. (2015). *Ministry of Education, Science and Technology: Education and Training Sector Gender Policy (2nd Edn.)*. Nairobi: Ministry of Education Science and Technology. www.education.go.ke.
28. Sikobe, D., Mwambia, F., and Were, E. (2017). *Evaluation of Factors Affecting Management of Public Funds in the County Government of Nairobi, Kenya*. (Published Project, Kenya Methodist University, Meru). *International Journal of Current Aspects in Finance* Volume iv, Issue 1/10/2017. Received from: www.ijcab.org/journals.
29. Taber, K. S. (2017). *The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education*. (Published online: 7 June 2017). An open access publication. *Res.sci.Educ.* (2018) 48:1273-1296. DOI: 10.1007/s11165-016-9602-2.
30. Teachers Service Commission. (2017). *Policy on Appointment and Deployment of Institutional Administrators*, Nairobi: Retrieved :<https://tsc.go.ke> on 3/19/23
31. Turley, S., and Zaman, M.(2013). *Audit Committee Effectiveness : Informal Processes and Behavioural Effects*. Published in May 2013 *Accounting, Audit and Accountability Journal*20(August):765-788. Doi: 10.1108/095135707107793036 University of Hull.
32. UNESCO.(2009). *Education for All, Global Monitoring Report 2009: Governance, Management and Financing of Educationally Equity-focused Policies in Chile*. Gonzalez, P (Author). UNESCO Digital Library. Documentcode: 2009/BD/EFA /MRT/PI/07 Programme and meeting document.
33. UNESCO.(2016). *Improving School Financing: The Use and Usefulness of School Grants. Lessons from East Africa and the Pacific*. UNESCO Publishing *Management Reform for Education 2050*: Paris .www.iiep.unesco.org
34. Vida, I.(2022). *Trinidad and Tobago Secondary School Principals' Perspectives of Implementing a Laptop Initiative*. (Published PhD Thesis of Walden University. Walden Scholar Works - Walden

Dissertations and Doctoral Studies Collection). <https://scholar.walden-edu/dissertations>.

35. Wango, G. and Gatere, A. (2016). Integrity and Financial Accountability in Schools: Role of Principals of Schools in Kenya University of Nairobi: Nairobi. (Published). International Journal of Education and Research Vol. 4 No. 4 April, 2016.
36. Ziraba, A. (2015). The Role of Information Communication Technology in the Management of Secondary Schools: Implication for Secondary School Head teachers in Uganda. (Unpublished Conference Paper). Islamic University of Uganda, Kampala.