

Determining the extent of ICT implementation and use in financial management of Secondary Schools in Kajiado County, Kenya

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Abstract

The objective of the study was to determine the extent of ICT implementation and use in financial management of Secondary Schools in Kajiado County, Kenya. Descriptive survey design was adopted for this study. The target population for this study was the 61 public secondary schools' principals, 1220 teachers, 610 students, 25 ICT teachers, 6 Sub-county Directors of Education in the 6 Sub-counties and 1 County Director of Education in Kajiado County. The study used 30% of the accessible population as sample size. The sample size for this study was 18 principals, 366 teachers, 8 ICT teachers, 183 students, 2 Sub-county Directors of Education and 1 County Director of Education. This study used questionnaires, Observation schedules and interview schedule as tools for data collection. The questionnaires were administered to Principals, teachers and ICT coordinators while interview schedules were administered to the students, Sub-county Directors of Education and the County Director of Education. The pilot test was carried at the schools with similar characteristics to those sampled through random sampling. Instrument reliability was determined through test-retest method. Cronbach alpha was used to test the internal reliability of the measurement instrument. The study concluded that most of the public secondary schools in Kajiado County had not embraced ICT in various areas of administration. Based on the findings, the study recommends that proper technology should be put in place by purchasing of the required ICT facilities in schools to enhance management of schools using the current technology.

Key Terms: ICT infrastructure, ICT implementation, management, public secondary school

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Introduction

Information and Communication Technology is rich and has new knowledge likely to keep school managers versed with technological techniques in problem solving and as part of injecting the best management practices. In addition, Information and Communication Technology is rich and has new knowledge that is likely to keep school principals versed with problem solving techniques and as part of injecting the best management practices. According to Okumbe (2001) the principal is charged with the task of managing curriculum and instruction, staff personnel, student personnel, school plant, finances and school community relations. Thus, the principals are charged with the responsibility of planning and utilizing the available resources in the school to achieve institutional goals (Chepkonga 2015). This should also be the case in public secondary schools in Kajiado to make the school produce competitive knowledge and centres of excellence.

There is a growing demand on the need for school principals to effectively to integrate ICT in all their administration and management endeavors as well the existing environment to enhance professional output (Muchiri, 2014). School principals; therefore have no option but to embrace the use and integration of ICT in their schools. According to Okumbe (2011) the principal is charged with the task of managing curriculum and instruction, staff personnel, student personnel, school plant, finances and school community relations. Thus, the principals are charged with the responsibility of carefully planning and utilizing the available resources in the school to achieve the institutional goals.

School administration has an essential role in ascertaining that education is put across to students as recommended (Sang et al., 2013). The school administration is also tasked with the responsibility of overseeing student enrolment in the school, finance availability to sustain the daily school activities, educational resources availability to the school,

as well as human labor to facilitate school administration (Meador, 2011). Additionally, the school administration has to monitor and record all the school activity details manually in the school books and records (Alexis, 2003). However, it has been noted that technology has great prospects to provide new kinds of school administrative opportunities (Fleming-McCormick, Nyre, Schwager & Tushnet, 2014). In a survey carried out in Sweden, it was established that ICT provide a positive impact on school administration when it is integrated in the management of schools (Swedish National Agency for School Improvement, 2015). In Kajiado County, the Public secondary schools can also leverage on the positive impact of ICT implementation to enhance school administration, which will boost effectiveness.

Uwadia (2009) emphasizes that ICT serves as a tool for increased productivity and effective decision-making. For instance, the knowledge of ICT can be explored by the secondary school managers to ensure effective delivery of services, enhanced communication, proper maintenance of students' record system and maintaining academic planning among others. He further observes that in the school system today, it seems impossible to ignore the place of ICT hence school managers are faced with the challenge of incorporating ICT into the management of schools in meaningful and productive ways. Information communication technology can improve or enhance management duties of a school principal (Agabi, & Uche, 2006). For instance, computer as one of the ICT facilities can provide better management results. It is also the duty of the school management to monitor the enrollment of students in the school, availability of educational resources, human labor and availability of finance to sustain the daily activities of the school. Alexis (2003) argues that school management has to monitor all these records of the school activities by entering the details manually on the books and records of the schools. Therefore, with the introduction of ICT in public schools in Kajiado County various programmes

can be used to monitor daily activities in the school by click of a button.

The Government of Kenya has put in efforts to supply computers, construct computer laboratories, train teachers in some schools and mobilize support from development partners. The spirit behind the ESP-ICT programme was to enhance school management including monitoring attendances, performance, and staff training and recruiting of the staff (Richard, 2015). To ease the many ills bedeviling the country's public secondary school administration including rising cases of student indiscipline highlighted by among other cases, increasing student strikes and indulgence in alcohol and drug abuse; budgeting, curriculum and co-curricular activities management (Richard, 2015). The education of today requires that both teacher and learners should implement ICT in the learning processes to enhance competitive of the learning process. This should also be the case in public secondary schools in Kajiado to make the school produce competitive knowledge and centres of excellence.

According to the Kajiado County Education Office (2016), out of the 61 public secondary schools in the County, only 15 of them, (12%) implemented ICT in school administration (Kajiado County Education Office, 2016). According to the report, Integrated Financial Management Information System (IFMIS) is never used, emails are rarely used and ICT technology is ignored in performance of most of the administrative tasks (Hove & Wynne, 2010). Failure to take full advantage of the opportunities offered by technological advances to education represents a drastic lag in skilled innovative manpower (GoK, 2010).

It is important to evaluate the implementation and use of ICT in secondary school's administration in the county for two main reasons. Firstly, there has been massive investment in buying ICT infrastructure. Information communication and Technology in education has been

implemented in many countries around the world. Such plans reveal that educational innovations in ICT have been increasingly embedded within a broader framework of education reforms that aim to develop students' capacities for self-learning, problem solving, information seeking and analysis, and critical thinking, as well as the ability to communicate, collaborate and learn, abilities that figured much less importantly in the curricula.

LITERATURE REVIEW

Use of ICT in Financial Management of Secondary Schools

ICT management systems assist in financial management through customized management information systems (MIS) which enhances financial transactions in schools. The exact nature of financial management varies from school to school in light of local circumstances. The financial manager in the school (bursar) will take responsibility of implementing the finance policies of the school, financial processing and monitor the budget on daily basis as well as relieving the head teacher from the necessity of having to carry out some other financial and resource management tasks. Victoria (2002) asserted that ICT can provide means for communicating financial information to the governing body (administration) to help them with decision making.

Additionally, the Application of ICT in financial transactions made by the school helps in creating transparency. This prevents most of the school administrators from misusing the financial resources that are available in the school and thus channeling the resources to their appropriate designations. The increase in transparency in the financial management referred to by the World Bank is one of the central elements in the assumed democratizing role of ICTs. According to Almiron-Roig, (2007), this greater transparency would have been possible by means of two factors that usually characterize the digital revolution, and a third aspect far less explained. ICT application has efficient and safer ways of carrying out financial transactions over a short period. School administrators can

adopt the use of ICT in paying of their staff members, making orders for school supply (Cheryl, 2005). This enables the school administration to be able to keep record of all the transactions done. Thus they are able to gauge themselves based on the amount spend and the amount received. This in turn gives the school administrators a chance to gauge how sustainable they are in terms of finance.

A study by Razae, Elam and Sharbatoghlie (2009), entitled “Continuous Auditing: the Audit of the Future Manage”, it can be observed that the records of purchases, budget, grants administration, cash flow, audits and other financial transaction carried out by institutions needs proper documentation for reference purposes. The study noted that in various institutions, these records were kept in hardcopies before the introduction of ICTs. Fortunately, the availability and accessibility of ICTs and their integration in financial sector makes it possible and easy for accountants and financial administrators to process all transaction on-line via the system called an e-accounting. Electronic accounting (e-accounting) as the name implies, makes it possible for transactions to be captured, measured, recognized and reported electronically.

Bertot, Jaeger, and Justin (2010) urges that application of ICT offers a wonderful potential for increasing school accountability, transparency and participation among various stakeholders. Various activities ranging from monitoring campaign finance spending to reporting election fraud in through SMS messages have adopted the use of ICT. This underscores ICT’s ability to empower stakeholders in civil society, government, and the broader population to achieve better outcomes in transparency and anticorruption efforts (Olabe, & Kahn, 2012). With specific reference to the administration of school financial resources among other things, information and communication technology can help solve the centralization/decentralization dilemma by making relevant

revenue and expenditure data easily available at all school levels. It can also be used to facilitate budget analysis and school programming and thus improving the timeliness of the school budget information.

A study Grey (2000) on ICT application in finance administration in a firm in London revealed that most institutions have accounting software packages to help produce statutory accounts and reports for bankers and management, as well as to help with the day-to-day control of its finances. One very popular package amongst small to medium UK businesses is Sage which also has modules to manage, for example, payroll and debt factoring facilities. The study established that spreadsheets were also widely used by finance departments to help manage cash flow.

According to Grey (2000), use of ICT enables schools to take advantage of electronic banking which allows them to check their bank account records in real time, saving time and helping ensure that payments due have been made and received, and also to operate the bank account within any agreed overdraft limit. Large and overseas payments can be made quickly and securely with on-line banking, as long as the school has its own security checks to protect against theft by staff or by anyone else who managed to obtain account details and passwords. In school set up, ICT has widely been used in financial management.

The use of financial software, therefore, the bursar a good indication about the direction of the business at school and a means of comparing data with previous months, terms and years (Gbenga, 2003). This gives a baseline for effective decision-making, say, about how fees are collected, how salaries are paid and how to carry out other procurement services in the school. Gbenga, (2003) stated that the use of ICT, for accounting purposes, needs a standard software installed on interlinked computers where all transactions can be automatically logged on the computer to assist in fees payments, payrolls,

procurements. A networked ICT environment with information systems can be used in the flow of data and information from one department to another in the school, for example from the bursar's office, to the principal's office which results into improved administrative and operational efficiency of the school. Samer and Sambamurthy (2006) contended that the absence of such systems in the school may result into the following problems; delays in decision making due to high cycle time in business transactions, high Inventory, poor utilization of financial and other school resources.

The development of a standard payroll computer system has made the bursar's role easy. Payroll is a list of employees receiving regular pay. A computerized payroll system includes a defined set of interdependent items and rules that stipulate the pay conditions of a given organization, such as salary structure, tax schedules, benefits and allowances, frequency and pay dates of an employee. A payroll system is a computer system used by an organization to process and pay the wages of employees. In a networked environment, all duties will be easier done automatically with the command from the bursar. From this point of view, it means that ICT will be important to those who are involved in all types of school finance management (Passey, 1999). There have been very few studies or reports into financial aspects of ICT for managers in schools. Accounting software and spreadsheets like MS Excel have widely been used in financial accounting (Karl, 2000). However, the extent to which ICT facilitates financial administration in public schools in Kajiado County remains to be unclear.

METHODOLOGY

This study adopted descriptive survey research design. This study was carried out in public secondary schools of

Kajiado County. The target population for this study was the 61 public secondary schools' principals, 1220 teachers, 610 students, 25 ICT teachers, 6 Sub-county Directors of Education in the 6 Sub-counties and 1 County Director of Education in Kajiado County. The sample size for this study was achieved by taking 30% of the study population. Since the population for the schools was 61 public secondary schools in Kajiado, the sample of the sample was therefore 18 public secondary schools. The study-adopted census in selecting the principals, simple stratified random sampling for selecting teachers and purposive sampling procedure for selecting students. The study used questionnaires, interview guides, observation schedules and document analysis for data collection. The pilot test was carried at the schools with similar characteristics to those sampled through random sampling. Instrument reliability was determined through Cronbach Alpha coefficients. Content analysis was used to analyze qualitative data from the interview guides. Data was also analyzed using mixed model method, which included descriptive statistics. Descriptive statistics used included the frequencies, percentages, mean, standard deviation, cross-tabulation and t-tests.

FINDINGS AND DATA ANALYSIS

The research question of the study was to determine the extent of ICT implementation in financial management of public secondary schools in Kajiado County, Kenya. The study sought to establish whether secondary public schools had adopted the use of ICT in various key functions of the financial management. Table 1 presents the results on the extent of implementation of ICT in financial management among public secondary schools in Kajiado County, Kenya.

Table 1: ICT implementation in the Financial Management

	Never	Rarely	Undecided	Sometimes	Always	Mean
Financial transactions	41.4% (140)	45.6% (154)	8.3% (28)	1.5% (5)	3.3% (11)	2
Students fees register	43.8% (148)	41.1% (139)	9.8% (33)	2.1% (7)	3.3% (11)	2
Procurement document	42.3% (143)	43.8% (148)	8% (27)	1.8% (6)	4.1% (14)	2
Budget Preparation	40.2% (136)	44.4% (150)	10.1% (34)	2.4% (8)	3% (10)	2
Balancing accounts	42.6% (144)	43.8% (148)	8.9% (30)	1.5% (5)	3.3% (11)	2

Source: Survey data, (2019)

The teachers, principals and ICT coordinators were asked to whether their schools had implemented ICT in various aspects financial management such as financial transactions, students fees register, procurement document, budget preparation and balancing accounts. The results presented in Table 1 above show that either majority of the respondents indicated rarely or never on whether their schools had implemented ICT in various aspects of financial management.

The finding confirmed that less than 10% of the public secondary schools in Kajiado had implemented ICT in their financial management. The study findings showed that the

use of ICT in balancing accounts among the public secondary schools was very low as revealed by only 3.3% (11) of the respondent who indicated they always use ICT in balancing accounts. The study results show that many principals (7 out of 16) used ICT in financial management compared to both teachers (25 out of 311) and ICT teacher (0 out of 6). These findings could be justified on the basis that financial management in public schools was the responsibilities of principals hence they understand the extent of implementation of the ICT in this function. However, implementation of the ICT in public schools was still very low as indicated by majority (286) of the teachers.

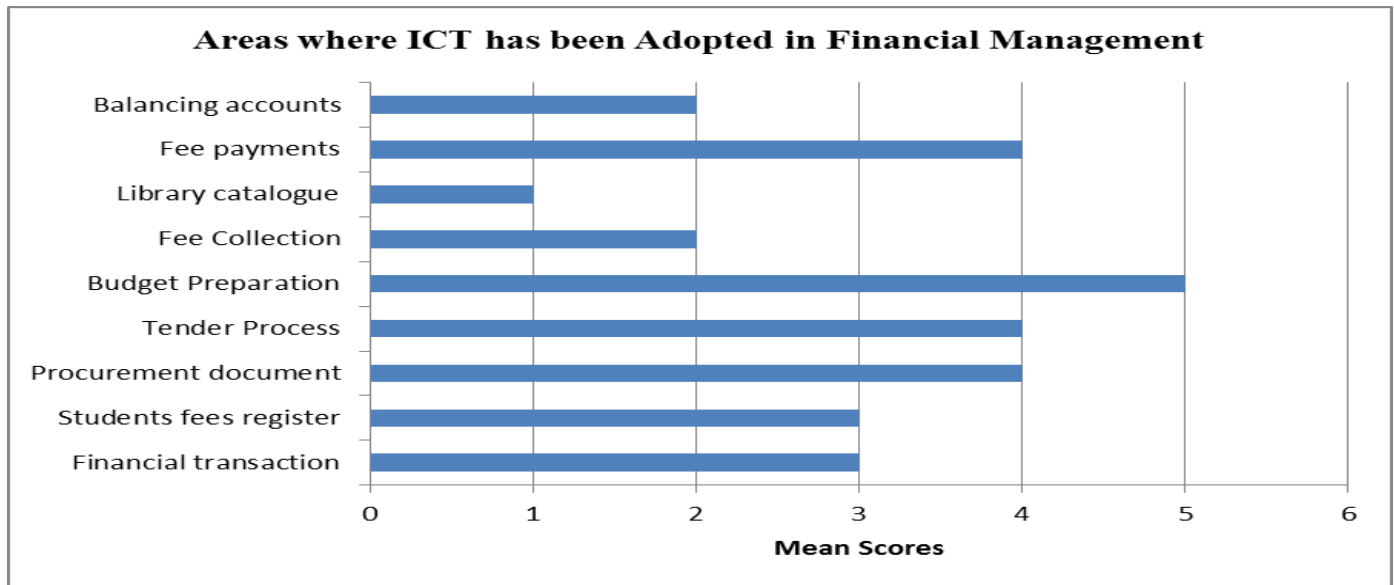


Figure 1: Areas where ICT has been adopted in Financial Management
Source: Survey data, (2019)

Figure 1, shown above shows the specific areas of financial management where public schools had very low and moderately adopted ICT. The results in Figure 1, show that a few school had implemented ICT in budget preparation, fee payments and tender and procurement while very few schools had implemented ICT in their library catalogue, fee collection and balancing. The findings in this section, demonstrate that majority of the public secondary schools in Kajiado County had not implemented ICT in financial management. The finding in this section implied that majority of the schools lacked the proper ICT infrastructure, capacity and necessary resources required to implement ICT in financial management. Without implementation of ICT, it implies that public school will continue to use traditional and inefficient financial management practices that may results to embezzlement of school funds and wastages.

The findings of this study conforms with those of Victoria (2002) who asserted that ICT can provide means for

communicating financial information to the governing body (administration) to help them with decision making. Similary, Almiron-Roig (2007) posited that greater transparency would have been possible by means of two factors that usually characterize the digital revolution, and a third aspect far less explained. Razaee, Elam and Sharbatoghlie (2009) also observed that the records of purchases, budget, grants administration, cash flow, audits and other financial transaction carried out by institutions needs proper documentation for reference purposes. Bertot et al. (2010) on other hand, urges that application of ICT offers a wonderful potential for increasing school accountability, transparency and participation among various stakeholders.

A study Grey (2000) on ICT application in finance administration in a firm in London revealed that most institutions have accounting software packages to help produce statutory accounts and reports for bankers and management, as well as to help with the day-to-day control

of its finances. These research findings are in agreement with a baseline survey conducted by Oloo (2009) on implementation and use of ICT in secondary schools in Kenya that established that the use of ICT in schools was low. The survey also established that only a few schools had purchased school's management software, which was used with varying success. Most principals lacked training on use of management software. A study by Ayere, Odera, and Agak, (2010) on E-learning in secondary schools in Kenya reported that a number of teachers in secondary schools had not received any training in ICT use during their formative years at teacher training institutions before joining the profession.

These findings are in line with the MOE (2012) that record management in most learning institutions is weak, which has led to data gaps and poor response of EMIS data submission. This clearly demonstrates that the use of ICT in carrying out administrative tasks in public secondary schools in Kajiado County is quite low. These findings are in agreement with Ncunge, Sakwa and Mwangi (2012) whose study revealed that secondary schools are still lagging behind in the implementation and use of ICT in secondary school administration. Furthermore, the Ministry of Education (2012) recognizes that in most cases the data capture systems in schools are still manual with submission made through paper work. This confirms that utilization of ICT to improve the data flow in educational institutions is very poor. Accordingly, a report by MOE (GOK, 2010) on the implementation and use of ICT by secondary school teachers' indicated that only a low number of secondary school teachers were skilled in ICT. Over a half were reported to have trained on basic computer skills at certificate level, while others had developed ICT training through in-service courses.

CONCLUSION

The second research question of the study was to determine the extent of ICT implementation in financial

management of public secondary schools in Kajiado County, Kenya. The study sought to establish whether secondary public schools had adopted the use of ICT in various key functions of the financial management. The results show that there was moderate implementation of ICT in budget preparation, fee payments and tender and procurement while there was very low implementation of ICT in library catalogue, fee collection and balancing. The findings in this section, demonstrate there was very low implementation of ICT in financial management among the public secondary schools in Kajiado County, Kenya. The study results show that very few public secondary schools had implemented ICT in financial management. The study results show those respondents with diploma as their highest academic qualifications indicated high-level implementation of ICT in financial management compared to those with degrees and postgraduate level of education. The findings confirmed that in public secondary schools, having diploma greatly influence the use of ICT in financial management.

RECOMMENDATIONS

Based on the findings, the study recommended that the government should also increase its supply of computers to schools and make it compulsory for all schools to implement ICT in the administrative tasks as well as build computer laboratories to all the schools. This will enable most schools to acquire computers, which can be used for ICT integration in management of the schools. The school administration should also adopt the resource management practices, which will facilitate the process of monitoring the adequacy and status of the available ICT related resources in the school. Moreover, in this line, rules and regulations should be set to ensure adequate security is provided to the available facilities to prevent them from being stolen or destruction from viruses. Public Secondary schools should be encouraged to use ICT in management of finances.

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