MANAGEMENT RELATED CHALLENGES THAT INHIBIT THE INTEGRATION OF ICT INTO SECONDARY SCHOOLS’ FINANCIAL ACCOUNTING SYSTEMS IN KENYA
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ABSTRACT
Information communication technology (ICT) is a major drive in global economies. It has been used in most sectors of the world economies. In most developed countries it is yet to be optimally incorporated in the education sectors as a tool for Education management. The purpose of this qualitative study was geared towards establishing management related challenges that inhibit the integration of ICT into secondary schools financial accounting systems in Kenya, taking North rift region of rift valley as case. The study sampled 60 from the targeted 1200 schools and by extension, the respondent using purposive sampling technique. Generic qualitative design and interpretive research methodology were adopted. Data collected was analyzed using descriptive statistics and presented using frequency tables, percentages and bar graphs. The findings showed that the major managerial challenges included among others; secondary schools’ leadership ignorance of ICT policy in education, absence of ICT strategy, ineffective co-ordination between government officials at lower levels and school managers, institutional leadership little understanding of ICT in relation to financial management, schools limited capacity to plan and implement ICT integration and capital and operational cost and budgetary constraints in ICT integrations. Based on these findings it was recommended that hardware and software resources should be cost shared between schools and government. As was discovered in this study, high capital and operational cost of hardware is a big challenge that can impede ICT integration into secondary school accounting systems.

Introduction
Kenya’s vision 2030 is the country’s blueprint covering the period 2008 to 2030. Its objective is to help transform Kenya into a “middle” income country providing high quality life to all its citizens by the year 2030. Developed through an all-inclusive and particularly stakeholder consultative process the vision is based on three pillars “the economic, the social and political. The social pillar includes among others modernization of education. A modernized education cannot escape the use of information and communication technology in management (ICT). Rapid developments in ICT have led to drastic changes in Education. This leads to the need for preparing managers of schools for these changes in information society. In all levels of education, technology becomes key to functioning effectively in the environment generated by the information age. With the continuing advances in Educational technology, it is incumbent upon schools to
look critically at how technology is integrated into their management practices (Parker 1997). Information technology in the 21st century will see management practices rapidly change. The role of education technology in education management is rapidly becoming one of the most important and widely discussed in contemporary education policy, Rose & Well, (1995), Thierer (2000). Most experts in the field of education agree that when properly used information and communication technology holds great promise to improve management tasks in schools. One of the Key management tasks in educational institutions in Kenya and the world over is management of resources (Finances included). There is no doubt that computer can aid the management of resources especially finances in accounting processes such as preparation of accurate accounting reports, safe storage of accounting documents and authentic auditing. Many studies have found that there are positive effects associated with technology aided management, (Burnet 1994).

In a rapidly changing world of global market competition automatic and increasing democratization, basic integration of ICT is necessary for educational institutions in Kenya to have capacity and capability to access and apply information technology in their administrative tasks such as financial management. If Kenyan schools want to be major players in the regional and international stage in provision of better educational services and for betterment of today and in the future, schools must not only embrace ICT for teaching and learning or a course of study but most importantly for educational management. It is now evident than ever before that the need for technological input in educational management and more so financial management has become a fundamental necessity.

This study shall hold as its vision that financial management in schools in the 21st century should be geared for automation. As a new and more sophisticated information and communication technologies impact on all sectors of society, they will entirely change the very way schools manage their financial and other resources. The emerging impact of these new information and communication technologies know no boundaries, it impacts with profound effects on industrialized society and yet again in society considered least developed, Agalo (2002). If this is true then we envisage the educational management, and financial management for this case that emulates the way its resources are managed in a normal society that as continued to be impacted upon by the effects of the great advances in information and communication technology. Evidently an information society is in the making and this will revolutionize our concept of education management

Statement of the Problem
Computer technology to a limited extent is evident in a number of schools in timetabling, preparation of curriculum delivery (lesson plans and schemes of work) and assessment records of students. However, it is possible that the improved quality of education management associated with such limited technological innovations has not been enjoyed in the whole school management tasks, Partial integration in the school management systems or inappropriate adoption of technologies. The conventional/traditional accounting practices are slow and prone to error. Owing to the pivotal role played by finances in a school set up and the importance of financial management in the overall school management system, therefore, this became a problem worth investigating, to identify the management related challenges militating against technology adoption and utilization in secondary school accounting systems. This study shall hold as its vision that financial management in schools in the 21st century should be geared for automation. As a new and more sophisticated information and communication technologies impact on all sectors of society, they will entirely change the
very way schools manage their financial and other resources

Purpose of the Study
The purpose of this study was to establish the management related challenges that hinder information and communication technology integration into the financial accounting systems of secondary schools in Kenya. The specific objective of the study was

To establish the management related challenges inhibiting the integration of ICT into secondary school financial accounting systems.

Research Question
Which management related challenges militate against the integration of ICT into secondary school financial accounting systems in Kenya?

Significance of the study.
This study may contribute to the related stakeholders on the following aspects. Firstly, this study produces new knowledge and insight to specific challenges in integrating ICT into secondary school accounting systems and possible enablers.

Secondly, the results of this study can be used by policy makers, Ministry of Education science and technology, secondary school teachers and other stakeholders to reexamine the current status of ICT integration into financial accounting systems and revise related polices and strategies for successful integration.

Thirdly, this research study has the potential to contribute to existing research in relation to challenges and obstacles preventing ICT integration in management processes. This research is expected to benefit educators by extending the knowledge base that exists already, as it presents interpretive evidence in relation to these challenges.

Fourthly, these research findings will have implication on staff development programs for secondary school principals and accounting personnel in relation to ICT knowledge and skills and provide relevant case study background information of designs for staff development programs.

Fifthly, this study collected and synthesized considerable body of literature regarding ICT integration in secondary schools which may be useful in helping school administrators and teachers to determine their response to the government drive to integrate ICTs in their management systems.

Finally this study bears significance for its relevance at a time when the aim of technology integration is aggressively pursued as a government aim.

Theoretical framework that was adopted for this study was derived from the systems theory of organizations which reflected Kast and Rozenweig (1985) view of organization: that the school, like other organizations, is composed of five major overlapping sub-systems. These sub-systems were identified by Barta and Telem (1995) as managerial, technical, structural, Psychosocial and competency, goals and values. Plomp and Pelgrum, (1993) subscribed to this view of organization and added that an educational system was a complex of sub-systems.

This study sought to assess managerial related challenges encountered in the process of integrating and utilizing ICT into financial accounting systems in secondary schools.

Literature Review
The core business of schools is teaching and learning. As Drake and Roe (1994) confirm, schools exist so that students can learn. The central activity of schools is instruction. The efficiency and effective management of fiscal and physical resources can enhance instructional programmes. Principals’ major role as the education manager is to create an environment in the school that will facilitate
effective and successful teaching and learning. This is done through effective management of the school’s human, material and financial resources. It is therefore, important to stress that financial management is one of their major functions as education managers. Haig (1997) supports this view when he states that

“Those who have been promoted and run departments or year groups, or who are heads and deputy heads, must, whether they like it or not, be manager sand they must know about budgeting”.

Financial management is, therefore, an integral part of principals responsibility as education managers because, without good financial management practices, schools would find it difficult to achieve their goals. Drake and Roe (1994) confirm this point:

“…..the efficiency and effective management of fiscal and physical resources can enhance instructional programs”

As indicated in the above, financial management is a key responsibility such that schools may find it difficult, if not impossible, to achieve their goals. Management in education is a “process of relating resources to objectives required in organizations which explicitly exist to provide education” (Paisely, 1992). This is to ensure that the desired goals or outcomes are achieved. Therefore, financial management means seeing to it that the school has the funds it requires to meet its goals and that such fund are used for the purposes for which they were meant. Financial management covers such areas as the securing of funds, their allocation, monitoring their use in the interest of accountability and producing financial reports for the relevant stakeholders. Integration of ICT will enable school managers to effectively manage school funds. The use of ICT in the management environments has become unstoppable force in the recent years (Cohen et al 2004; Laubsch 2006). ICTs impacts on a large section of education from record keeping and school websites to the creation of integrated financial accounting systems (IFS) (Bishop 2007) Educational institutional can use ICTs specialized websites to make learning resources available online at any time.

However, the benefits of ICT in financial management depend on the success with which it has been integrated (Condie and Munro 2007). Dawes (2001) asserts that new technologies could support education across board providing opportunities for effective communication. ICT in education has undoubtedly potential to be influential in changing management practices. Computer use can result in effective financial management. Managers who are having difficulties with their practices can be motivated and engaged through the use of ICTs. Kozma and Anderson (2002) Claim that ICT is transforming education by introducing new management practices, providing different tools to enhance management and providing managers with opportunities for feedback and reflection. Thuree (2005) argues that education reform is occurring throughout the world and one of its tenets is the introduction and integration of ICTs in the education system. The successful integration of ICT into financial management/accounting systems warrants careful planning and depends largely on how well policy makers understand and appreciate the dynamics of such integration.

Integration of ICTs in education management systems has been a contentious issue (Thuree 2005). Thuree (2005) observes, some people argue that technology will change the educational landscape forever and in ways that will engender a dramatic increase in management performance. Unlike these extreme advocates there are others who adopt a balanced approach. They are convinced that ICTs, if properly integrated have a potential to enhance management outcomes (UNESCO 2003; Commission of the European Communities, 2001).Hepp, Hinostroza, Laval and Rehbein (2004) note that in order to have long lasting effects, an ICT policy should preferably not be designed in isolation. Rather
it should be part of a more comprehensive effort towards improving the equity and quality of an education management system. Similarly, Levine (1998) emphasizes the importance of having a plan that is based on real school management needs and one that is realistic achievable and effective. The plan should be produced not for the sole purpose of putting technology in the accounting office but to reflect the real needs of schools in order to make effective technology deployment and to produce enhanced financial management environment. Hepp, Honotroza, Laval and Rehbein (2004) have been cautious to emphasize that there is no advice that can be directly applied without considering each country’s reality, priority and long term budgetary prospects and commitment in developing countries. ICT should be combined with more traditional technologies to achieve better effectiveness (Pelgrum & Law, 2003).

Methodology
Following careful consideration, interpretive or qualitative methodology was employed. The research chose to do interpretive research because he wanted to understand management related challenges that have inhibited schools to integrate ICT into their financial accounting systems. The interpretive social science paradigm was highly suitable for this research to help the researcher to identify the challenges and opinions held by education officials and school managers about integrating ICT into their schools financial accounting systems. The research design that was used to carry out this research was generic qualitative research. Sampling refers to the selecting a small number of people from a large population allowing conclusions to be made about the population. In order to get a good representative number of respondents and to reduce bias and effect on reliable data, only three schools per district were selected using simple random sampling and districts with few schools purposive sampling was used because the researcher expected to select schools which had embraced ICT. The respondents were selected using purposive sampling. This data came from 60 secondary schools five purposively selected counties in North Rift Region of Rift Valley.

Findings

Budgetory Constraints
The principals and BOG chairpersons were asked whether Budgetory constraints mitigated against the integration of ICT into Secondary school financial accounting systems. Their responses are given in the chart below.
From the findings, 40 (60.6%) Principal and 35 (or 58.3%) agreed that Budgetary constraints posed a challenge to ICT integration into secondary school accounting financial systems. 13 (or 21.7%) and 17 (or 28%) disagreed. Those who reserved their comments included 7 (or 11.7%) and 12 (or 20%) principals and BOG chairpersons respectively.

The financial cost for ICT acquisition in schools seems to be one that requires a major focus or attention as is revealed overwhelmingly by principals and BOG chairpersons. This response was further reinforced by the interview feedback. The principals noted that it was not only the cost of acquisition but as school managers they were also forced to budget for the recurring costs of maintenance. They confessed that maintenance and support account for about a third to half of the initial investment in computer hardware and software. Some said even computers may be acquired for free in the case of donated computers but the biggest challenge was that they required substantial investment for maintenance and support.

Level of Interest Drive and Openness to Changes

The principals and BOG chairpersons were asked to respond to their level of interest, drive and their openness to changes and their responses are as shown in the chart below:

A total of 26 (or 43.3%) principals and 32 (or 53.3%) BOG chairpersons agreed that low level of interest, drive and not being open to change poses a great challenge to integration of ICT into secondary school accounting systems. 24 (or 40%) BOG chairpersons and 28 (46.7%) principals disagreed while 6 (or 10%) and 4 (or 6.7%) principals and BOG chairpersons respectively expressed uncertainty or had no comment. Top level managers in schools and more specifically the principals and those related to but outside the schools have important influences on ICT applications in their schools. Indeed their role is very crucial throughout the process. The managers and personnel and secondary school level ignore ICT projects perhaps due to incompetency or ignorance. The low level of interest and drive of school managers seemed to negatively influence their motivation in the ICT integration process.

Competency of Managers
The researcher sought information on the level of competency of secondary school head teachers for effective and assured sustainability of ICT integration into secondary school accounting systems. The Deo’s, Emis officers and DSA’S were asked whether the level of competency of head teachers was a hindrance to ICT integration into secondary school financial accounting systems. Their responses are summarized in the chart below.

**Level of feeling**

**Fig.4.20. Competency for effective and sustainability of ICT integration as a challenge**

The findings show that half 10 (or 50%) of both principals and district school auditors together with 12(or 60%) Emis officers agree that the level of competency of secondary school head teacher could hinder integration of ICT into school financial accounting system. 8(or 40%) Deo’s 6 (or 30%) Emis officers and 4 (or 10%) DSA’s disagreed. 2 (or 10%) Deo’s, 2 (or 10%) Emis officers and 6(or 30%) DSA’s reserved their comments or were uncertain.

From these findings, secondary school chief executives could be an obstacle in ICT integration into their financial accounting systems; various competencies must be developed throughout the education system for ICT integration to be successful. Educational administrators fall within the system. Leadership especially at the apex of the school plays a very crucial role in ICT integration. School managers as depicted by the above findings compromise the effectiveness and sustainability of ICT integration programs.

Managers themselves are supposed to be competent in the use of technology and are supposed to have a broad understanding of technical, administrative, financial and social dimension of ICT use in education.

**Resistance to Change**

The Deos, Emis officers and DSA’s were asked whether there was possibility for secondary administrators to resist change and thereby becoming a challenge to ICT integration into school financial accounting systems. The summary of results is as shown below.
Level of feeling

Fig.4.21. Resistance to change as a challenge

The findings reveal that a significant number of District education officers- 18 (or 90%), Emis- 16 (or 80%) and DSA’s- 19 (or 95%) agree that head teachers might resist change hence becoming obstacles in ICT integration into secondary school accounting systems. Those who disagreed included 1 (or 5%) DEO’s and 2 (or 10%) Emis officers. No DSA disagreed 1 (or 5%) DEO’s, and 2 (or 10%) Emis officers had no comment or were uncertain.

The preceding findings show an overwhelming indication that high school leadership can be an impediment to ICT integration into school financial accounting systems. No real progress in ICT integration will be achieved unless and until either the chief executive changes or is ‘changed’. Resistance to change goes along with mindset “As it was, as it is now and ever more will be”. This is used lightly but it cannot be put better. Head teachers may tend to stick to the group necessary to champion change as they are senior and exerts influence on the rest of the school cadre.

Secondary School Head Teacher’s Confidence and Enthusiasm to Use ICT Tools

Deo’s, Emis officers and District school auditors were asked on their opinion on whether school principal had the confidence and enthusiasm to use ICT tools in financial management. The results were summarized below
From the above, 6 (30%) Deos (or 45%) Emis officers and 9 (or 45%) Dsas’s agreed that principals had the confidence and enthusiasm to use ICT. Those who disagreed were 10 (or 50%) Deo’s 9(or 45%) Emis officers and 11 (or 55%) Dsas. 4 (or 20%) and 2 (or 10%) each of Deos, Emis officers and DSA’s had no comment or uncertain.

Confidence and enthusiasm to use ICT is more likely to determine the amount of time allocated to the use of computer by managers of schools. Enthusiasm and confidence may signal strong motivation to integrate ICT into management practices and more so financial management practice in the case of this study. The results from this study indicate that the education officers are not sure of head teachers confidence and enthusiasm in the use of ICT tools yet confidence is an important perquisite to successful ICT integration. This factor was reinforced by the interview with principals. They were asked to state their feelings about the use of ICT in management of school finances. The results are given in the figure below;
Many principals recognized the value of ICT in financial management. Majority felt it in enhanced overall management of the institution while others felt it made management enjoyable and interesting. 14 principals reported positive incidence arising from use of ICT in management. There are still those who are not confident and it is safe to conclude that this is a factor that can inhibit integration of ICT into financial systems.

**Fear as a Challenge to ICT Integration**

Fear was examined on the extent to which it could militate against integration. The head teachers and B.O.G chairpersons were asked whether fear could undermine the integration of ICT into secondary school financial systems and the results are as follows;

![Graph showing levels of agreement among principals and B.O.G chairpersons](image)

**Level of feeling**

Drawing from the chart minority 3 (or 5%) principals and 10 (or 16.7%) B.O.G indicated that fear was a significant challenge to ICT integration into secondary school financial accounting systems. 54 (or 90%) principals and 42 (or 70%) B.O.G chairperson disagreed and 3 (or 55%) principals and 8 (or 13.3%) B.O.G chairpersons were uncertain.

From the findings, Those who agree with this stated during the interview that it was not the fear of the unknown but fear of doing something and doing it wrong or fear of losing material on the laptop(computer) and according to some principals fear of a junior employee telling them they have done something wrong. Some were so candid like one headmistress who noted that her absolute fear was “fear of looking stupid”!

**AGE AS A CHALLENGE TO ICT INTERGRATION**
The district education officers Emis officers and Dsas were asked to give their opinions on age as a challenge to ICT integration into secondary school financial accounting systems. Their responses are illustrated below.

**Level of feeling**

The findings indicate that majority of the Education officers at District level feel that age is a challenge to ICT integration with 18 (or 90%) each of the principals and District school auditor and 16 (or 80%) Educational management information system officers. The few who disagreed were 1 (or 5%) principal 3 (or 15%) Emis officers and 1 (or 5%) District school auditor. 1 (or 5%) each of principals and DSA expressed uncertainty together with 2 (10%) Emis officers. Surprisingly during head teacher’s interview 86% of head teachers noted that age was not significant in ICT integration. Nevertheless it has featured strongly among District Education officers as a challenge

**Conclusions**

The main conclusions are as follows;

School managers and accounting personnel need further training to engage in ICT related management tasks in financial management. The government should give incentives especially for school managers to ensure high participation levels. Such incentives might range from meaningful certification to reduced teaching time for school managers.

Confidence enthusiasm and positive attitude is essential in the integration process. Secondary school managers and education policy makers need to appreciate the value of ICT in streamlining the financial management in secondary schools. Managers who have low confidence could find it difficult to promote
ICT permeated management. Education and secondary school managers need to clearly understand the rationale for using ICT in Education management. Such an understanding and appreciation of ICT infused management should be integral element of secondary school managers’ professional development. Effective training leads to confidence and competence. The two key factors as was discovered in this research are imperative in successful integration of ICT into secondary school accounting systems and leads to elimination of many other challenges.

**Recommendations**

Based on the findings and discussions, the following recommendations are offered to educational practitioners in Kenya.

The government of Kenya through MOEST should provide funds to train school managers and accounting personnel on the use of ICT in financial management. Such training should be compulsory or have incentives and should consist of short, relevant frequent sessions.

The government of Kenya through the ministry of education needs to increase the Tuition waiver to secondary schools through the affordable secondary school programme to cover hardware and software purchase. Secondary schools should use existing resources to their full potential and should find income generating avenues at their disposal to avoid relying on government for most of their financial needs.

Necessary conditions provided for senior teachers to own personal computers besides training. The researcher believes that encouraging senior teachers and other teaching staff to purchase and use their own computers will increase overall use of ICT and their competence and when they take up leadership responsibility in their schools, their technological orientation will not be an issue.

The Teachers service commission should strictly make it a requirement that all principals must have working computers in their offices linked to those of their accounting personnel, and the government should take the initiative of providing the ICT infrastructure.

**References**


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