FACTORS INFLUENCING BOARD OF MANAGEMENT’S GOVERNANCE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN PUBLIC SECONDARY SCHOOLS IN KAPSERET DIVISION, UASIN GISHU COUNTY

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A Research Project Report Submitted in Partial Fulfilment for the Degree of Master of Education in Corporate Governance in the Department of Educational Administration and Planning.

University of Nairobi

2015
DECLARATION
This research project is my original work and has not been presented for a degree in any other university.

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ACKNOWLEDGMENTS

I am most grateful to God for His unparalleled guidance and provision throughout my study. I am grateful to my parents, family, and friends for their support. This research report would have been in vain without the scholarly guidance, discussion, critique, and advice I received from my research supervisor Dr. Rosemary Imonje and Dr D. P. Matula. In addition, I appreciate my spouse Humphrey Eric Munambo for his understanding, support and encouragement throughout the study. I also appreciate my lecturers, fellow Master of Education in Educational Planning and Administration students for their encouragement. Finally and not the least, I want to appreciate all the respondents, individuals and organizations for contributing to my study and research.
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<th>Description</th>
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<tr>
<td>BOGs</td>
<td>Board of Governors</td>
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<tr>
<td>BOM</td>
<td>Board of Management</td>
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<tr>
<td>CG</td>
<td>Corporate Governance</td>
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<tr>
<td>GICT</td>
<td>Governance of Information and Communication Technology</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<tr>
<td>IT</td>
<td>Information Technology</td>
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<tr>
<td>ITG</td>
<td>Information Technology Governance</td>
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<tr>
<td>ITGI</td>
<td>Information Technology Governance Institute</td>
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<tr>
<td>KEMI</td>
<td>Kenya Education Management Institute</td>
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<tr>
<td>KESI</td>
<td>Kenya Education Staff Institute</td>
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<tr>
<td>MoE</td>
<td>Ministry of Education</td>
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<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations</td>
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<td>PTA</td>
<td>Parents Teachers Association</td>
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ABSTRACT

The purpose of this study was to investigate the factors influencing Boards of management’s governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County, Kenya. The study was guided by four objectives namely: To establish the extent to which the BOM’s capacity for provision of facilities influences governance of ICT resources; to establish how the BoM’s attitude towards ICT influences governance of ICT resources; to determine the extent to which the BOM’s management experience influences governance of ICT resources; and to determine the extent to which training on management of BOM members influences governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County. The study adopted the descriptive survey design and the main tool for data collection was a questionnaire triangulated with an observation guide. The target population constituted all the 224 Board of Management members and 16 principals in public secondary schools in Kapseret division of Uasin Gishu County, Kenya. The sample size comprised of 5 principals and 23 BOM members. The data analysis was done by use of SPSS where the Chi-square was used to establish the relationship between variables. Through data analysis the study established that budgets on ICT resources are not received or passed on time hence weaknesses in the implementation of ICT programs in the schools especially with regard to maintenance and repairs of ICT resources. It was also established that the BOM’s attitude towards ICT had a significant influence on governance of ICT resource and BOMs in Kapseret make great effort to provide ICT facilities. With regard to BOM’s experience with respect to age, education level and profession held, only the current profession was important as far as ICT staff development was concerned and did not have an effect on other ICT governance evaluation factors such as ICT facilities to student ratio, effective ICT facilities maintenance and effective ICT utilization. The other outstanding results shows that the training of the BOM members plays a key role on the capability of the BOM members to manage ICT resources which the management bodies in Kapseret division largely lacked especially on financial and monitoring and evaluation. Based on the findings of the study the researcher recommends that induction of BOM members especially on their role in the procurement committee be carried out in time before members can assume office and that sensitization programs for members of the BOM on the relevance of ICTs in schools be regularly scheduled. Incentives should also be instituted so as to attract BOM members of various high ranking professions as it has a direct significance on governance of ICT resources. Lastly, since training/workshops have a significant relationship with ICT management, there is need to intensify the training/workshop attendance of BOM members to sharpen their skills especially on financial and monitoring and evaluation aspect.
CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Education is considered as a first step for every human activity, especially in this era of globalization and technological revolution. The role played by education in the development of human capital is critical and its inter-linkages with the well-being and provision of opportunities for better living cannot be overlooked (Battle and Lewis, 2002). According to Saxton (2000) education enables individuals to increase their productivity and improve the quality of their life.

The Education for All Framework (EFA) provides acceleration to the momentum for growth of secondary education. Globalization, industrialization and general increased demand for higher education and more skilled labour force combined with the growth of knowledge – based economics gives a sense of urgency to the heightened demand for secondary education (World Bank, 2008). Internationally, many reforms in secondary education are being provoked by the incompatibility between a secondary education system developed in an industrial 19th century and the demands of the technological 21st century. The growing demand for education and the pressure for greater access, equity and quality are also evoking the development of education reforms. These pressures for change combined, are affecting the governance, management, effectiveness and efficiency in secondary education (World Bank, 2005).
Globally, the number of computers in secondary education has greatly increased. In United States, the computer to student ratio increased from 1:9 in 1996 to 1:4 in 2001. According to Market data Retrieval (2001), access to internet improved from 70% in 1997 to 92% in 2001. In New Zealand, the computer to student ratio is 1:6 in secondary schools (Lari, Pratt and Trewern, 2002) while 98% of all schools have internet connections (Mallard, 2003). Information Communication Technology is therefore prominent as education instruction tool in the world.

Many African countries (for example South Africa, Nigeria and Ghana) and Latin American countries (for example Paraguay, Costa-Rica and Brazil) reported inadequacy of physical and material resources due to increased student enrolment in schools. As a result, in 2000, countries ratified the harnessing of ICT at the world education forum held in Dakar Senegal to help solve these problems (UNESCO, 2007). However, there are still many factors that are posing challenges in ICT in education. For instance in South Africa lack of ICT access where (73% do not have access), 20.9% lack computer laboratory and 37% cited lack of internet access (Lundall and Howell, 2000).

Historically Kenya has always prioritized education and training at all levels as it is considered the foundation for social and economic development. The goal of education and training is to build the human resources necessary for national development and wealth creation. However, the government is faced with many challenges in realizing this goal; challenges which may be broadly categorized under the banners of access, quality, equity and relevance (Republic of Kenya, 2013). Despite having made tremendous
progress in providing access to education to more Kenyans through free primary (started in 2003) and secondary education (started in 2008), access continues to remain a challenge. Maintaining and improving quality in a rapidly expanding sector pose considerable challenges. Most institutions are not equipped to handle the substantial increase in enrolments in terms of physical space, teachers (shortages and inadequate preparation) and instructional materials and equipment. Other factors cited as impinging on quality are poor resource management in institutions and inadequate quality assurance mechanisms (Kinuthia, 2009).

The government is well aware of the potential of Information and Communication Technologies (ICTs) to help address some of these challenges and of ICTs broader roles in human development and in the development of a knowledge-based economy.

This is clear from official statements and documents such as the national plans (Kenya Vision 2030, Poverty Reduction Strategy, and National ICT4D Policy) and education sector plans and policies (KESSP, Sessional Paper No. 1 of 2005, National ICT Strategy for Education and Training) which all emphasize the role of ICT in education and national development. The situational analysis by Swarts and Wachira (2009) confirms that there is evident interest and concerted effort on the part of the government, the Ministries responsible for education and training, and development partners to use ICTs to tackle the complex challenges faced by the sector.
Despite the evident interest and commitment, the availability and use of ICTs at various levels is still patchy. About 1,300 secondary schools (out of more than 6,000) have computers although other reports suggest that “most” secondary schools have some form of ICT. Of those with computers, 213 schools received the equipment from the Ministry of Education and the rest from private and civil society organizations. Most secondary schools are also reported to use less than 40% of the available infrastructure and very few actually use ICT as an alternative method for the delivery of the curriculum (Swarts & Wachira, 2009). According to prior analytical reports like the ICT in Education Options Paper, this state of affairs can be attributed to inadequate ICT equipment, lack of content, lack of guidance on how best to leverage the existing infrastructure and lack of maintenance and technical support structures to keep the existing infrastructure operational (Kessy, Kaemba and Gachoka, 2006). Without regular maintenance and technical support systems, institutions experience long downtimes for ICTs equipment leading to teacher and student frustration in using ICTs and ultimately a wasted investment in ICTs. This is one of the main reasons why ICTs are not currently optimally used. It is estimated that 60% of ICTs in schools are not being used (Swarts and Wachira, 2009). This is despite the fact that all schools have established a Board of Management that is mandated by the Basic Education Act 2013 to manage such resources on behalf of the government.

Internationally, other countries have similar bodies (to Boards of Management in Kenya secondary schools) that are mandated to carry out management duties in secondary schools, for example, High School Education Boards (HSEB) in Zambia whose major
duty is to link both upper and lower secondary schools with ministry offices and the local civil administration. According to World Bank Working Paper (2008) in Senegal, the recently created School Management Councils (SMCs) for upper and lower secondary schools oversee the material and activities that go on in secondary schools, ranging from academic administrative to financial matters.

In Kenya, it is the responsibility of the Ministry of Education, through Kenya Education Staff Institute (KESI); now Kenya Education Management Institute (KEMI); to educate and upgrade skills of BOM members in order to acquire substantial competence on skills of late, nevertheless, training is offered to school principals only with the assumption that they (principals) will subsequently, train BOM’s. Failure to this, BOMs will remain untrained thus lack requisite skills. This leaves the school heads with the responsibility of running the affairs of the school single handed, a precedence that creates a gap between the actual performance visa-vis the expected performance of the BOMs (Sadker and Sadker, 2008).

Sadker and Sadker (2008) also observe that due to lack of training and experience, BOM members do not often participate in the management of schools. Most often, they are controlled by a few members who may be familiar with education policies from Ministry of Education. According to Kindiki (2009), many members of BOM in public secondary schools in Kenya are insufficiently educated and lack enough exposure and experience in educational administration and resource management as is mandated by the Education Act 2013 to manage schools on behalf of the Ministry of Education.
A task force under the then Director for education Naomi Wangai (Republic of Kenya, 2001) noted that most of board members are interested in procurements procedures and have no interest in school management. In order to carry these management processes effectively and efficiently, Aduda (2001) says that BOM members should have technical skills to apply knowledge through education, training and experience. Management board members are expected to be well aware of the management processes. These include planning, organizing, coordinating, staffing, directing, budgeting, controlling and evaluating.

The Commission of Inquiry into the Education System in Kenya, Koech report, (1999) pointed out lack of quality management capabilities because of political influence in the appointment to boards, low levels of education, limited exposure, lack of commitment and dedication on part of most of BOMs as the big cause of mismanagement of secondary schools. The Koech Report recommended that BOM members be appointed from amongst persons who are committed, competent and experienced as this would enhance management and development of educational institutions. BOM members have been in school boards for many years and have ceased to be innovative and resourceful whereas other members serve in more than one board which eventually makes them ineffective because of chronic absenteeism and consequent lack of quorum in board meetings. A provision was made on the limitation of the number of schools and years one can serve as a member in a board or boards in order to address this phenomenon (Republic of Kenya, 2004).
According to Uasin-Gishu county report, 2013, the County has a total of 129 secondary schools with a GER of 65% which does not compare well with the national average standing at 78%. This calls for more efforts to raise enrolment, retention and completion of rates. This ultimately involve making additional investment in secondary education infrastructure especially in ICT yet it was observed that there were no regular submission of books accounts in most schools and that procurement committee and education stakeholders in the region were not in a position to evaluate whether funds had been used for the right purpose or not (Oloo, 2009; Odhiambo, 2001). Kapseret division in particular has a low use of information and communication technology as depicted by the few TSC computer teachers, low number of schools using ICT facilities and offering computer studies at K.C.S.E. level of education. Computer to student ratio is at 1:60 as compared to Counties like Kiambu which has a ratio of 1:22, (Oloo, 2009 and Kariuki, 2013).

Furthermore, about 50% of the ICT facilities available in public secondary schools in the division lie dormant due to lack of maintenance and repair yet each school has constituted a BOM to ensure that all the resources including ICTs in their schools are optimally utilised. Kapseret division was thus chosen for this study due to the above issues that raises doubts on BoMs competence in ICT resources management. Secondly, the division is in a rural – urban setting and host to several communities and lies in a rich agricultural setting. Most other studies on BoM have been in rural setting. Kathini (2013) did a study on the challenges facing Board of Management in the management of public secondary schools in Kitui Central Division of Kitui District, Kenya. Lastly, these BoM are managing over Kshs.200m annually, sourced from the government payment of the free
day secondary education and parents in addition to frequent donations in kind and cash from donors, NGOs and well-wishers. Given the importance of resources in the entire education process against the questionable ability of BoM to be effective in resources management there was need for immediate attention and proactive approach to provide a comprehensive and long term solution. It was therefore the intention of this study to investigate the factors influencing the Boards of Management’s governance of ICT resources in public secondary schools in Kapseret Division in Uasin-Gishu County, Kenya.

1.2 Statement of the Problem

Incorporation of ICT in education has been hailed as a panacea for the growing demand for education and the pressure for greater access, equity and quality. The government has thus embarked on strategies to increase the acquisition and use of ICTs in secondary schools through collaboration with non-governmental organizations and development partners who provide donations in cash and kind.

This situation means that the School Board of Management is expected to manage the ICT resources as part of the mandate by the Basic Education Act 2013. This calls for some skill in resource management on the part of the BOM. However, their effectiveness in performance of various tasks has been questioned by many stakeholders. Kuria (2007) noted their lack of involvement in budgeting for resources leading to misappropriation of funds. According to Uasin Gishu County Integration Development Plan 2013-2018, use of computers for teaching and learning remains dismal with a 7.14% performance despite
all the government and development partners’ efforts to facilitate acquisition of ICT facilities for use in public schools. Kapseret division in particular has a low use of information and communication technology (Oloo, 2009 and Kariuki, 2013). Furthermore, about 50% of the ICT facilities available in public secondary schools in the division lie dormant due to lack of maintenance and repair yet each school has constituted a BOM to ensure that the ICT resources in their schools is optimally utilised.

Most studies on BoMs have been on institutional management in general, for instance the study by Ngigi (2007) on BoM effectiveness in management did not analyse the competencies in ICT resources management neither did the study by Kariuki (2012) on challenges facing ICT integration in teaching and learning. Resource management role of the BOM and especially ICT resources has largely been disregarded or treated as second fiddle to student and school performance especially in national exams. Hence, the knowledge gap in which the researcher wished to address by conducting this study to investigate factors influencing Boards of Management’s governance of Information and Communication Technology resources in public secondary schools in Kapseret division in Uasin Gishu County.

1.3 Purpose of the Study

The purpose of the study was to investigate the factors influencing Boards of Management’s governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County, Kenya.
1.4 Objectives of the Study

This study was guided by the following objectives:

a) To establish the extent to which the BOM’s capacity for provision of facilities influences governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County.

b) To establish how the BoM’s attitude towards ICT influences governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County.

c) To determine the extent to which the BOM’s management experience influences governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County.

d) To determine the extent to which training on management of BOM members influences governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County.

1.5 Research Questions

This study sought to answer the following research questions:

a) To what extent does the BOM’s capacity for provision of facilities influence governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County?

b) How does the BOM’s attitude towards ICT influence governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County?
c) To what extent does the BoM’s management experience influence governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County?

d) To what extent does training of BOM members on management influence governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County?

1.6 Significance of the Study

The findings of this study may be significant to the Ministry of Education, the National Education Board, the County Education Board and sub-county education board as they may be enlightened on practices that enhance ICT governance in secondary schools. In addition, the Kenya Educational Management Institute (KEMI) may use the study to identify the training needs for the Boards of Management (BoM) especially on ICT governance.

Furthermore, the research findings may be of interest to school principals, Boards of Management, scholars and educational interest groups like Kenya National Union of teachers (KNUT), Kenya Union of Post-Primary Education Teachers (KUPPET) and Kenya Secondary School Heads Association (KSSHA).

1.7 Limitations of the Study

According to Mugenda and Mugenda (2003), limitation is an aspect that may influence the results negatively but the researcher has no control over. The study relied heavily on
the respondent’s attitude and perception. Some of the study respondents may have
overrated their level of involvement in ICT governance while others may have felt
apprehensive about their identities being revealed since the research dealt with factors
influencing ICT governance of which some of them were the major implementers. It was
thus be difficult to control the respondents’ attitudes and perceptions since these are
subjective.

1.8 Delimitations of the Study

The study investigated factors influencing the BoM’s governance of ICT resources in
public secondary schools. These factors included; the capacity of the BoM for provision
of facilities, the BoM’s attitude towards ICT, the BoM’s management experience and
training on management. The study was carried out in public secondary schools in
Kapseret division of Uasin Gishu County and majorly involved the school principals and
the members of the Boards of Management.

1.9 Assumptions of the Study

In this study, it was assumed that the respondents would cooperate and return the
questionnaires in time and that they would give honest and truthful responses to the
questions in the study instruments. It was also assumed that the schools in which research
would be done were in session. The research also assumed that schools have computers,
internet connectivity and other ICT devices which were being utilized by teachers and
students. Finally, the study assumed that all secondary schools had put in place Board of
Management as policy dictates.
1.10 Definition of Significant Terms

**Governance** refers to the set of responsibilities and practices exercised by the board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the enterprise's resources are used responsibly.

**ICT** refers to Information and Communications Technology which is a diverse set of information, communication, and technological resources used to transmit, store, create, share or exchange information. Also referred to as Information Technology.

**ICT governance** refers to the system by which the current and future use of ICT is directed and controlled. Also referred to as Information Technology Governance (ITG) or Governance of Information and Communication Technology, (GICT)

**Board of Management** refers to the body that is legally mandated by the government of Kenya to govern public secondary schools.

1.11 Organization of the study.

This study is organized and presented in five chapters: Chapter one comprises the background to the study, statement of the problem, and purpose of study, objectives of the study, research questions, significance of the study, limitation of the study, delimitations and basic assumptions of the study and definition of significant terms.

Chapter two focuses on the literature review divided into different relevant subheadings. These include the BoM’s capacity for provision of ICT facilities, BoM’s attitude towards ICT, BoMs’ management experience and training on management and how these factors influence governance of ICT resources.
Chapter three describes the research methodology. This includes: the research design, the target population, sample size and sampling procedure, research instruments, instruments’ validity and instruments’ reliability. The section concludes with data collection procedures and data analysis techniques.

Chapter four, deals with data analysis, interpretation and discussion. Chapter five comprises the findings, summary, conclusions and recommendations for further research. The reference comes after chapter five followed by appendices.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter focuses on relevant literature on factors influencing BoM’s governance of ICT resources in public secondary schools. This includes the BOM capacity for provision of ICT facilities, the BoM’s attitude towards ICT, management experience and training. Research gap is identified in the summary of Literature review. Lastly, the theoretical and conceptual framework is given.

2.2 Influence of BOM’s Capacity for Provision of Facilities on Governance of ICT Resources.
Using recent hardware and software resource is key to future diffusion of technology (Gulbahar, 2005). Efficient and effective use of technology depends on the availability of hardware and software and the equity of access to resources by teachers, students, and administrative staff. According to Vannatta and Beyerbach (2000), technology infusion in the classroom was still difficult to implement in American schools because of inadequate computers and software. According to Clark (2000) the issue of access to technology and software is still vital in the effective utilization of computers in the classroom.

From the literature review, one of the most frequently cited barrier for lack of ICT integration is lack of technical support (Pelgrum, 2001). Technical barriers impeded the smooth delivery of the lessons or natural flow of the classroom activity (Sicilia, 2005). Such technical problems take much of the teachers time needed in achieving lesson
objectives. If there is no technical support available, then it is most likely that technical maintenance of broken or faulty ICT tools will not take place. Without regular maintenance and technical support systems, institutions experience long downtimes for ICTs equipment leading to a wasted investment in ICTs. (Swarts and Wachira, 2009).

The need for the school management in the planning committee thus remains crucial for funding purposes especially for budgeting and procuring ICT facilities. In the event that the school organization is willing to meet the demands of ICT, there is the likelihood that teachers may take up the opportunities afforded by ICT (Kennewell, 2000).

2.3 Influence of BoM’s Attitude towards ICT on Governance of ICT Resources

Attitude refers to individual's positive or negative feeling about performing the target behaviour (e.g., using a system). The skill and attitude of the Board is a key determinant in the effectiveness of IT governance (Bitner and Bitner, 2002). The attitude of the management in supporting the process of ICT use is viewed as influential to teachers’ use of computers (Schiller, 2003). According to Baylor and Ritchie (2002), regardless of the amount of technology and its sophistication, technology will not be used unless members have skills, knowledge, and attitude necessary to infuse it into curriculum.

Although school heads generally support ICT use, they do not seem to have a particular vision and strategy of ICT integration into education (Gakuu and Kidombo, 2010). Some literature has delved into the crucial role of leadership in ICT integration in education, and shows how school leadership can hinder or facilitate school’s adoption of ICT (Fullan, 2003 and Elmore, 2000). For instance, the cost of ICT is high and its provision is
in competition with other requisitions. Hence, if the BOM perceive that the benefit of using ICT does not warrant the cost, then acquisition of the ICT facilities will be shelved. Research also reveals that the level one’s technological expertise and confidence on use of ICT influence their attitude towards ICT (Nut, 2010) and consequently, governance of ICT may be influenced by such hence the need for more studies.

2.4 Influence of BOM’s Management Experience on Governance of ICT Resources

Long term practice and use of acquired knowledge provides the user with capacity to use and generalize whenever a challenge arises. This is called experience. For the execution of the roles that the BoM of secondary schools are supposed to undertake as outlined in the Basic Education Act (2013) the members should have administrative experience. This implies that a long serving BOM member might have acquired knowledge, skills and attitudes that equip one with the requisite capacity for institutional management. The better one becomes in managing of institutions, the better the management of resources in secondary schools.

Education changes individuals, behaviour and decision making in several ways; through increasing financial literacy and cognitive skills, or by affecting social networks, job opportunities and believes and attitudes (Cole and Shastry, 2009).With adequate education mixed with management experience and training puts a manager in a better position to make tough decisions and fore castings under conditions of uncertainty which in turn with those competencies making these particular managers perform better than untrained individuals.
Wangai (2001) report observed that policy formulation and implementation posed a big challenge to BOMs. This is because they lacked adequate knowledge to articulate the policies correctly in order to enable them achieve the goals and objectives of education in general and their roles in particular. Mwiria (Daily Nation Newspaper July 31st, 2005) also observed that problems in management are heightened by vested interests among BOMs, PTAs and church sponsor who present unqualified person to be part of BOMs and PTA thus posing a challenge to management of resources.

Odhiambo, (2010) while investigating the influence of financial management factors on quality of education in public secondary schools in Kimilili-Bungoma District, Kenya, stated that management organs such as governors are constituted with no set criteria enumerating the skills a person should poses to qualify for appointment into the board. Service in school boards is not remunerated and consequently most professionals opt to stay away from it. This results in most public schools being managed by old unenergetic retirees, semi-illiterate business people or other semiskilled non-professionals. The old managers cannot cope with the rapid social, technological, economic and cultural changes in our country (Odhiambo, 2010).

The Basic Education Act 2013 does not specify the occupation background for BoM members but Literature review indicate that it may influence the ability of BOM to govern. Mwangangi (2006), in a study on factors affecting effectiveness of school board in Makueni noted that in terms of professional orientation out of 13 BoM members only 8 had occupation related to education. There were about 8 different occupations among the
BoM. This means that some had little information on school issues. During BoM nominations professional background of the nominees is not the main criteria as the key objective is to meet the number per category. (Basic Education Act 2013).

Drucker (1973) observed that a management group comprised of workers of the same age is a management group headed for crisis. Yet, he also noted that a management group that is uniformly old may not be preferable to the one that is uniformly too young. He suggested that perhaps a mix is ideal. In a study carried out by Glasscock (1991), it was discovered that age did not affect school managers’ performance of their administrative responsibilities. Okolo’s (2001) research on primary school managers’ performance, however, showed that age tended to affect the head teachers’ administrative performance. Older participants had generally spent more years on the job, attended more seminars, and participated in relevant professional discussions that exposed them to new techniques of administration.

In Nigeria factors such as age, qualification, sex, and experience have been considered in appointing members to school boards positions with the belief that some individuals would be more effective than others. (Ibukun and Oyewole, 1997). The relationship between personality factors and administrative effectiveness seems unclear as there are variations and contradictions in empirical results.
2.5 Influence of Training of BOMs on Governance of ICT Resources in Schools.

Cole (2002) defines training as any learning activity which is directed towards the acquisition of specific knowledge and skills for the purposes of an occupation or task. The focus of training is the job or task while the aim is to have efficiency and competent management in the organization.

According to Okumbe (2001), it is not possible to appoint all members of the school board who are well educated and knowledgeable in educational management. The education management should therefore put in place machinery which will upgrade management skills of the board members. This could be done through in service training seminars and workshops either by the school or the ministry of education.

Thody (1992) points out that the governing bodies once appointed must attend the training courses available during the evenings and the weekends. There is no salary or reimbursement for loss of earning and time. They are supposed to attend a course on public relations, finance, personnel, equal opportunities and special needs in order to improve their managerial skills. Thody (1992) also indicated that training enables Board of governors to learn strengths and weaknesses affecting management of school hence make suggestions for development because schools would certainly want to provide the best quality of education (Okumbe, 1999).

In Kenya sessional paper No. 1 of 2005 indicate that the government intends to undertake regular reviews of various education and modalities for entrenching professionalism to
enhance their management and co-ordination capacities (MOEST, 2005) through KEMI management programs. However, training BOM is voluntary and many schools and governors side-line this hence have not benefitted from it. Koskei (2004) pointed out that lack of training in management skills has been responsible to a great deal of inefficiency and ineffectiveness community observed on the performance of many educational systems in Africa. The researcher recommends that the best way of improving school committee in their management role is to strictly consider their educational levels during the selection and also regular workshop and seminars to outsize them on education policies and equip them with managerial skills.

According to Magiri (2005) members of Boards of Governors were not fully aware of their roles in management of school human and financial resources which eventually leads to over-reliance on the deliberations of the school heads. This is majorly because they lack substantial education and training on management. Wangai (2001) did a study in Meru Central District and found out that all the members were not inducted after appointment and were therefore performing most of their duties through trial and error which calls for all the time direction from the principals.

Cave and Wilkinson (1990) noted that some BoG members ratified and adopted budgets they were not conversant with, meaning that they could not fully monitor implementation. Cave and Wilkinson (1990) recommended that for BoGs to realize their full potential they should be trained to enable them discharge their responsibilities competently. Continuous monitoring and evaluation is an essential component in
management of school resources. It serves purposes such as decision making, remaining on track with schedules, cost controls, value for money, lessons learned among others.

On monitoring and supervision of approved school projects, Wangatho, (2007) indicated that “this function means that BOGs must make sure that the projects they approved in their meetings must be monitored to completion. Delegating this function to principals alone provides a loophole that in many cases is exploited by unscrupulous heads to embezzle, misappropriate or divert funds budgeted for completing projects. This calls for training of the BOG members on various aspects of management including monitoring and evaluating of implementation infrastructure projects which is one of their core functions.

2.6 Summary of Literature Review.

Nzovu’s (2004) study in Taita Taveta showed that majority of members of Board of Management have substantial competence in school management; partly due to the fact that most of the Board of Management comprise retired teachers who have a wealth of experience.

However, another study done by Ngware (2006) showed that though Boards of Management are instituted in many schools, majority of them lack necessary skills to adequately carry out their roles without hiccups. The research showed that the management bodies largely lacked a sufficient training on management skills or their level of academics is still wanting.

Review of literature also showed that the BOMs have a role to ensure transparency and accountability in all affairs of the schools (Wango, 2009). The BOM members are
therefore involved in the financial management of the schools’ monies and hence the resources. Various factors affect the efficiency of the BOG in resource management; some of these factors are external to the group such as policy and funding while some are inherent to the group (Sang and Sang 2011) such age, academic achievement and experience of the BOM members.

Most studies (kinyua, 2013; Muturi, 2013 and Chitu, 2013) have focused on the element of financial management in a public institution such as a secondary school which is of utmost importance especially in a country such Kenya where corruption among civil servants is rampant. Other studies have explored on factors influencing ICT integration in secondary schools (Nairobi, Omufwoko -2009 and in Vihiga District, Ombajo -2010). It is against this backdrop that the researcher seeks to study the factors influencing the Boards of Management’s governance of ICT resources; an area which has not fully been explored. This may be attributed to the novelty of technology in developing countries and as such has not fully permeated all aspects of the economy especially the education sector as compared to the developed countries. Lastly, in Kapseret division, Uasin gishu county no recent study has focused on the BoM’s governance of ICT resources. Thus, the need to undertake this study to find out the situation in the division.

2.7 Theoretical Framework

The study was guided by Henry Fayol (1840-1925) Administrative Management theory. His major aim was to improve management ability by increasing managerial activities in which managers are involved. Fayol discovered that in any organization there were
technical and managerial activities being carried out. He further argued that managerial activities increased in importance and technical activities decreased in importance as one moves from the lowest level to the highest level of the organization (Muturi, 2013; Nyongesa, 2007). Further Fayol outlined several managerial processes sometimes referred to as functions of an administrator. He stated management would involve planning or forecasting which is deciding the course of action that will lead an organization to achieve its goals. Planning can be long term, middle term or short term. Secondly we have coordinating, this is making sure that the resources and activities of an organization are working harmoniously to achieve organizational objectives. While controlling is assessing the extent to which the organization has achieved its objectives.

This theory is applicable to this study since BoM are faced with the enormous task of managing institutions. Most BoMs strive to improve their managerial abilities through various ways for instance, training, team building and benchmarking. Board of Management in the course of their responsibilities undertake both managerial and technical activities for instance, monitoring educational programmes and checking accounts. The functions outlined by Fayol are related to BoM responsibility of resource management for instance budgeting and monitoring and evaluation of projects. e.g. the construction of computer laboratory and acquisition of ICT resources to improve learning. Boards of Management are also allowed to decide on the support staff eg computer technician to be hired and also allocate funds for ICT staff development among other duties. To undertake this role effectively BoM must be well educated, experienced and well trained.
2.8 Conceptual Framework

According to Mutai (2000) conceptual framework is the relationship between variables in a study showing them graphically and diagrammatically. A conceptual framework is research tool used to develop awareness and understanding of a study. It helps the researcher to communicate how independent variables and dependent variables relate to each other using arrow directed diagrams (Riechel & Ramey, 1987). The relationship between the variables of the study is shown in figure 2.1
In figure 2.1 above, capacity for provision of ICT facilities, BoM’s attitude towards ICT, management experience and training have been seen to influence BoM’s governance of ICT resources. For instance capacity for provision of resources through formation of
procurement committee is directly affected by the government policy outlined in the Basic Education Act, 2013 that mandates the same. If the committee carries out its duty diligently in the tendering for ICT resources, effective ICT resource governance will be achieved which can be measured on the factor of low ICT facilities to student ratio. Again if the BOM’s attitude towards ICT is positive which can be gauged on the relevance they place on ICT, the effective ICT governance is achieved. Lastly, if the BOM is trained on aspect like financial and resources management then ICT governance will be more effective.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses research design, target population, sample size, sampling techniques, research instruments, instrument validity, instrument reliability, and data collection procedures and data analysis techniques.

3.2 Research Design

A research design is a plan showing how the problem of investigation will be solved (Mugenda and Mugenda, 2003). The study utilized the descriptive survey research design as it enables one to gather data at a particular point in time with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared or determining the relationship that exist between specific events (Cohen and Marion, 2007).

Orodho and Kombo (2004) suggest that descriptive survey can be used when collecting information about people’s attitudes, opinions, habits or any of the variables of education or social science. Hence this research design was appropriate because the study involved obtaining information, explaining, interpreting and examining the factors influencing BoM’s governance of ICT resources in public secondary schools.
3.3 Target population

Target population is a complete set of individuals, cases or objects with some common observable characteristics (Mugenda and Mugenda, 2003). The study targeted all the sixteen public secondary schools within Kapseret division in Uasin Gishu County. The total number of respondents was thus 16 principals and 224 members of the Boards of Management.

3.4 Sample Size and Sampling Procedures

A sample is a small proportion of the target population (Best and Kahn, 2000). Sampling is the process of selecting a suitable representative part of a population for the purpose of determining parameters or the characteristics of the whole population.

Thus any statement made about the sample should also be true of the population (Orodho, 2004). Simple random sampling for principals and BOM members was used so that all members of the population had the same chance of being selected. By this way, the results were less likely to be biased and generalization to the larger population of individuals was possible (Schumacher and McMillan, 1993). According to Mugenda and Mugenda (2003) a sample size of between 10% and 30% is adequate when the population is not more than a thousand. It is however agreed that the larger the sample, the smaller the sampling error. Thus, a sample size of 30% was selected proportionally from the key respondents (the principals) and 10% from the members of BOMs.
Table 3.1: Sampling Frame

<table>
<thead>
<tr>
<th>Category</th>
<th>Total No.</th>
<th>Sample Size (n=30%)</th>
<th>Sample Size (n=10%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals</td>
<td>16</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>BOMs members</td>
<td>224</td>
<td>-</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>240</strong></td>
<td><strong>5</strong></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>

Source: Education County Director, Uasin Gishu County (2013)

As indicated in the table, five principals and 23 members of BOM were randomly picked from the total population.

3.5 Data Collection Instruments

In the study, required data was collected from primary and secondary sources. Structured questionnaires, document analysis and observation schedule was used. Questionnaires were administered to sampled principals and members of the BOM. The aim of using the three instruments was to allow for triangulation in order to enhance reliability validity of the data collected (Schumacher and McMillan, 1993).

The commonest method of data collection in survey design is the questionnaire as it requires less time, is less expensive and allows collection of data from a wide geographical area (Kothari, 2004). The study thus made use of questionnaires that were administered to key respondents and the sampled members of the BOM of public secondary schools in Kapseret division, Uasin Gishu county.
The questionnaire was divided into several parts. Part one had questions on demographic factors of the respondents like age, gender, years of service and qualification. Part two, three, four and five of the questionnaire concentrated on the independent variables that influence governance of ICT resources in public secondary school.

According to Schumacher and McMillan (1993), document analysis involves the analysis of written or visual content of a document (Gall, 1996). The researcher used it to collect recorded data about computers and other ICT resources available in the school, to get student computer ratio and number of schools within the division supplied with the ICT resources by the government and donors.

Marshall and Rossman (1989) define observation as the systematic description of events, behaviours, and artefacts in the social setting chosen for study. Observations enable the researcher to describe existing situations using the five senses, providing a "written photograph" of the situation under study. Data obtained through participant observation serve as a check against participants’ subjective reporting of what they believe and do. Observation schedules were done at the school level to get information on the number of computers and other related ICTs available.

3.6 Validity of the Research Instrument

Validity is the accuracy and meaningfulness of inferences which are based on the research results (Mugenda and Mugenda, 2010). Validity is the degree to which results obtained from analysis of the data actually represent the phenomenon under the study. It
is the correctness and reasonability of data. It refers to getting results that accurately reflect the concept being measured.

Content validity is a measure of the degree to which data collected using a particular instrument represents a specific domain of indicators or content of a particular concept (Groves, 2009). In order to ascertain content validity, experts’ judgment was used where the designed instruments were handed to the supervisors in the School of Education, University of Nairobi for analysis and the provision of feedback.

3.7 Reliability of the Research Instrument.

Reliability is the ability of a research instrument to consistently measure the characteristic of interest over time. Reliability is influenced by random error, thus, as error increases, reliability decreases. The error may arise at the time of data collection and may be due to inaccuracy by the investigation or inaccuracy of the instrument (Best and Khan 2004; Mugenda and Mugenda 1999).

A pilot study was conducted to find the instruments reliability and the procedures of administration. The instrument was administered twice to the same group of subjects at an interval of two weeks; these subjects did not participate in the main study. The researcher used test-retest to ascertain the coefficient of internal consistency or reliability. Pearson product-moment correlation coefficient formula given below was used to determine the extent of correlation.
Where:  \( r \) = Pearson’s coefficient of reliability

\( N \) = number of subjects

\( \Sigma \) = the sum of

\( x \) = scores on one test

\( y \) = scores on the other test

A correlation co-efficient of 0.7 or above deems the instrument reliable according to Mugenda & Mugenda (2003). The results showed that the principals’ questionnaires had a reliability co-efficient (\( r \)) of 0.805, BOM members 0.783. The analysis showed that the instruments had on average, a reliability co-efficient (\( r \)) of 0.794 hence reliable enough to collect data.

3.8 Data collection procedures

Data collection procedures refer to the protocol that must be followed to ensure that data collection tools are applied correctly and efficiently. Data collection began after the approval of the proposal by the university supervisors. The researcher then obtained a permit to carry out research from the National Council of Science and Technology.

Permission was then sought from the County Education Board of Uasin Gishu. After permission was granted, the researcher applied to the various schools in the division of
Kapsaret through the principals in order to be allowed to use their institutions for the study. The researcher then proceeded to hand-deliver the questionnaires to the respondents after being granted permission by the principals.

3.9 Data Analysis Techniques

Data analysis techniques is the process of summarizing the collected data and putting it together so that the researcher can meaningfully organise, categorize and synthesize information from the data collecting tools. Data was coded for analysis after editing and checking out whether all questions have been filled correctly. In order to answer the four research questions, different sections of the questionnaire were analysed separately to generate suitable results attributed to each research question.

Data collected was quantitative in nature hence descriptive statistics was carried out in order to produce summaries and present data in a more meaningful way. Frequency tables generated from descriptive analyses was used to show measures of central tendencies, namely means and standard deviation. Standard deviation was used to indicate the spread of the scores from answers given by different respondents. Percentages generated out of frequency tables were also used to indicate the proportion of items or components as required. Column graphs and pie charts were also be generated out of the frequency tables in order to create pictorial summaries of data where it was deemed necessary. Statistical package for social sciences (SPSS) version 20 was used for inferential statistics as it is able to handle large amount of data and wide spectrum of statistical procedures purposefully designed for social sciences.
CHAPTER FOUR
DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This Chapter reports the study findings based on quantitative and qualitative data obtained from Board of Management members in public secondary schools in Kapseret division of Uasin Gishu County, Kenya. Raw data was coded and entered in SPSS (Statistical Package for Social Scientists) version 20. Data analysis and presentation is in form of descriptive statistics such as frequencies, mean and percentages. Chi-square test of independence was also used to test the association between key variables and results presented in form of alpha statistic, having been worked out at the significance level set at 0.05. The study sample was 28 respondents.

4.2 Questionnaire Return Rate

The questionnaire return rate refers to the number of questionnaire that has been returned after they are administered to the respondents. After the collection of the questionnaires that had been distributed to 28 respondents, the results were as shown in Table 4.1.

Table 4.1: Return Rate of Questionnaires.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Delivered</th>
<th>Collected</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals</td>
<td>5</td>
<td>5</td>
<td>100.00</td>
</tr>
<tr>
<td>BOM members</td>
<td>23</td>
<td>23</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>28</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Uasin Gishu County Education Board (2014)*
The questionnaires that had been issued to principals and BOM members in five secondary schools in Kapseret division in Uasin Gishu County were all collected after several follow-ups, attaining 100 percent return rate. The return rate was therefore considered very good to provide required information for the analysis purpose. All the returned questionnaires were checked and edited per school to avoid mix up of facts as observed by the researcher before being analysed as a division. All the collected questionnaires were useful in shedding light on governance of ICT resources.

4.3 Demographic Characteristics of Study Participant

The study sought to establish the characteristics of the respondents such as age, gender, academic qualification and professional qualifications of the respondents.

4.3.1 Age of the respondents

The study sought to establish the age of the respondents with the aim of establishing whether age of an individual influences BOM governance of ICT resources as shown in Table 4.2.

Table 4.2: Age of BOM members

<table>
<thead>
<tr>
<th>Age bracket (Years)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-30</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>31-35</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>36-40</td>
<td>11</td>
<td>39.3</td>
</tr>
<tr>
<td>41-45</td>
<td>6</td>
<td>21.4</td>
</tr>
<tr>
<td>46-50</td>
<td>4</td>
<td>14.3</td>
</tr>
<tr>
<td>51 and above</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
The results in Table 4.2 show that majority of Board of Management (BOM) members who responded (through questionnaires) were 36 years and over and made 86 percent of the respondents. Only few (about 14 percent) fell in age bracket of between 25-35 years. In order to establish the relationship between the age of the BOM members and ICT resource management, the chi-square test was carried out and the results are as in Table 4.3 below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pearson</th>
<th>Chi-Square</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of age on ICT facilities to student ratio</td>
<td>0.687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence of age on effective ICT facilities maintenance</td>
<td>0.646</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence of age on ICT staff development</td>
<td>0.633</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence of age on effective ICT utilization</td>
<td>0.744</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results shows that when age is tested against ICT governance evaluation factors by use of Chi-square, the results of the relationship at 0.05 level of significance are as shown in Table 4.3 above. The relationship between age and ICT facilities to student ratio was at value (0.69), effectiveness in ICT facilities maintenance (0.65), strategies of ICT staff development (0.61) and effective ICT integration (0.74). These results show that none of the ICT governance evaluation factors has any significant relationship with the age of BOM members because they all have an alpha value of more than 0.05 significant. This can be interpreted to mean that age of the
BOM does not influence the management of ICT resources in secondary schools. These results are similar to a study carried out by Glasscock (1991), which discovered that age did not affect school managers’ performance of their administrative responsibilities.

4.3.2 Gender of the Respondents

The study also sought to establish the gender of the respondents. This aimed at establishing whether the view of all gender was accommodated in the study. The results on gender of the respondents is as in table 4.4

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20</td>
<td>71.4</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>32.6</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.4 shows that majority (about 71 %) of the BOM members are males. This implies that even though women are given minimal chances to be members of the board there was compliance to the basic education Act on gender representation in BoM.

4.3.3 Membership Status

The study also sought to establish the membership status of the members of BOM. This aimed at establishing whether the views of non-executive members were accommodated. The result on membership status of the respondents is as in table 4.5 below.
Table 4.5: Membership Status of BOM members

<table>
<thead>
<tr>
<th>Membership status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>16</td>
<td>57</td>
</tr>
<tr>
<td>Non-executive</td>
<td>12</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The results in Table 4.5 show that 57% Board of Management (BOM) members who responded were executive while about 43% were non-executive. This can be interpreted to mean that the decisions made concerning the ICT resources had input from the non-executive members, who can be a source of expertise which executives can draw upon, both in the form of specific skills as well as advice and counsel in relation to strategy and its implementation.

4.4 BOMs capacity for provision of resources and Governance of ICT Resources.

One of the objectives of the study was to establish the influence of BOMs capacity for provision of resources on governance of ICT Resources. The study therefore sought to establish the BOMs capacity for provision of resources.

4.4.1: Procurement Committee

First, the study sought to know if schools had established procurement committee and the results are as indicated in table 4.6 below.
Table 4.6: Formation of Procurement Committee

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Yes</td>
<td>28</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

From Table 4.6 above, all participants (100%) agreed that their school’s BOM had formed a procurement committee where all investment in ICT is approved by a procurement steering committee. This implies that all schools were in compliance with the Basic Education Act(2013) which stipulates mandatory formation of procurement committees. This is because the need for the school management in the planning committee remains crucial for funding purposes especially for budgeting and procuring ICT facilities.

However, a greater percentage of them disagree that budgets on ICT resources are received and passed on time by the committee as indicated in figure 4.1 below.

**Figure 4.1: Institutional Investment in ICT**
A greater percentage of 80% disagree that budgets on ICT resources are received and passed on time by the BOM while only 4% Strongly Agree another 16% Agree. From these results, it can be inferred that requisitions for ICT resources are delayed and inherently its effective use affected. In addition, it implies that members of Board of Management are unable to clearly study and monitor the budgets they approve as they are time constrained as a result in the delay in receiving the budgets. The BOMs can therefore approve budgets for ICT resources that are obsolete and not cost effective. Cave and Wilkinson (1990) noted that some BoM members ratified and adopted budgets they were not conversant with as they are delayed meaning that they could not fully monitor implementation.

4.4.2 Computers and ICT resources received from the government, donors or NGOs.

A crosstabulation of the computer and other ICT resources acquired had the results as shown below in table 4.7.

Table 4.7: Crosstab of Received and operational computers

<table>
<thead>
<tr>
<th>Count</th>
<th>Operational Computers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Half of them</td>
</tr>
<tr>
<td>Received Computers</td>
<td>Below 10</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Above 25</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>27</td>
</tr>
</tbody>
</table>
Many computers (Above 25) were received by most schools (n=18) from the government, NGOs and other donors. Of the received computers, half of them are still operational. Ten (n=10) schools had received a few computers (Below 10), most of which are no longer operational. This implies that about 50% of schools are relying on the government and donors to stock up on their ICT facilities yet the maintenance and repair of the same resources has not been prioritised by the BOMs resulting to about 50% being non-operational.

Table 4.8: Crosstab of Procured and Operational Computers

<table>
<thead>
<tr>
<th>Count</th>
<th>Operational Computers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Half of them</td>
</tr>
<tr>
<td>Below 10</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Procured Computers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above 25</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>27</td>
</tr>
</tbody>
</table>

A few computers (Below 10) were purchased from PTA funds and just like the received computers; half of them are still operational. Nineteen respondents (n=19) indicated that over 25 computers had been purchased by the school from PTA funds but still have half of them operational. This implies that BOMs in Kapseret division have made an effort to avail ICT resources using the school’s PTA funds but still are wanting on maintenance and repair of the same resulting to about 50% of the ICT equipment not being operational. Without regular maintenance and technical support systems, institutions
experience long downtimes for ICTs equipment leading to a wasted investment in ICTs (Swarts and Wachira, 2009.)

4.4.3: ICT workshop/seminars for Teachers

The study sought to establish the number of ICT workshops/ seminars for which teachers had been sponsored for the previous two years. The results are as indicated in figure 4.2 below.

**Figure 4.2: ICT seminars/workshops sponsored for the last two years.**

Most schools sponsored at most two teachers to train in ICT within the previous 2 years before the study.

The study then sought to find out the number of non-ICT workshops attended by teachers in order to establish a baseline on the commitment of BOMs towards ICT. The results are as shown in figure 4.3 below.
There are more teachers who get sponsored in other seminars other than ICT, thus explains the reason why a small percentage of the schools in Kapseret division have utilized ICT in teaching and school management, where office managers are most engaged. These results are in tally with Fullan, 2003 and Elmore, 2000 who opine that school leadership can hinder or facilitate school’s adoption of ICT. For instance, the cost of ICT is high and its provision is in competition with other requisitions and hence recruitment and development of ICT staff depends on the prioritization of school needs by the leadership organs.

In order to establish the relationship between the BOM’s capacity for provision of resources and ICT resource governance, the chi-square test was carried out and the results are as in Table 4.9.
Table 4.9: The relationship between BOM capacity for provision of resources and ICT resources governance

<table>
<thead>
<tr>
<th>Statement</th>
<th>The Pearson Chi-Square Asymp. Sig. (2-sided)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of capacity for provision of resources on ICT facilities to student ratio</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Influence of capacity for provision of resources on effective ICT facilities maintenance</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Influence of capacity for provision of resources on ICT staff development</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Influence of capacity for provision of resources on effective ICT utilisation</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>

The results show that when BOM’s capacity for provision of resources is tested against ICT governance evaluation factors by use of Chi-square, the results of the relationship at 0.05 level of significance are as shown in Table 4.9. The relationship between BOM’s capacity for provision of resources and ICT facilities to student ratio was at value (0.02), effectiveness in ICT facilities maintenance (0.03), ICT staff development (0.02) and effective ICT utilization (0.04). These results show that all of the ICT governance evaluation factors have a significant relationship with the BOM’s capacity for provision of resources because they all have an alpha value of less than 0.05 significant. This can be interpreted to mean that the BOM’s capacity for provision of resources influences the governance of ICT resources in secondary schools. These results are in tandem with Vannatta and Beyerbach (2000) and Clark (2000) who assert that efficient and effective use of technology depends on the availability of hardware and software and the equity of access to resources by teachers, students, and
administrative staff. According to Vannatta and Beyerbach (2000), technology infusion in the classroom was still difficult to implement in American schools because of inadequate computers and software.

4.5 Board of Management’s Attitude towards ICT and Governance of ICT Resources.

The second objective of the study was to investigate the BOM’s attitude towards ICT and how it influenced the governance of ICT resources. The attitude was pegged on BOM’s exposure to ICT, their perceived confidence in using ICT and the relevance they place on the use of ICT in schools.

Figure 4.4 below indicates the BOMs exposure to ICT as perceived by the principals.

Figure 4.4: Principal’s rating of the BoM’s current exposure to ICT.

According to most principals (64%) BoM’s current exposure to ICT is between 25% to 50% while another group (36%) rated their exposure as between 51% and 75%. This can be interpreted to mean that the BOMS in Kapseret have a little exposure(between 25% and 50%) to ICT .According to Nut (2010) The level of one’s technological expertise
influences their attitude towards ICT and consequently, governance of ICT resources. Hence it can be inferred that the BOM’s attitude towards ICT is negative with regard to exposure to ICT.

The study also sought to establish the BOMs confidence in the use of ICT as it is a factor in determining the attitude towards ICT. Figure 4.5 below shows the results on BOM’s rating on their confidence in using ICT.

**Figure 4.5: BOMs rating on their confidence in using ICT**

The BOMs respondents, (46.6%) rated themselves as having little confidence while (53.3%) indicated that they had good confidence in the use of ICT and its resources. This can be interpreted to mean that the BOM’s confidence in use of ICT is fair hence the attitude is positive.

Finally, the study sought to establish the relevance that is placed on ICT by the BOMs as a factor to gauge the attitude of the BOM towards ICT. Table 4.10 below shows the relevance that is placed on ICT in schools by the BOMs.
Table 4.10: BOMs rating of ICT relevance in schools

<table>
<thead>
<tr>
<th>ICT Relevance</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Importance</td>
<td>7</td>
<td>25.0</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Of some Importance</td>
<td>10</td>
<td>35.7</td>
<td>35.7</td>
<td>60.7</td>
</tr>
<tr>
<td>Quite Great Importance</td>
<td>5</td>
<td>17.9</td>
<td>17.9</td>
<td>78.6</td>
</tr>
<tr>
<td>Very Great Importance</td>
<td>6</td>
<td>21.4</td>
<td>21.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The respondents were asked to give a rating of the importance the Board of Management places on the relevance of ICT in schools. Most of the BOMs (about 75%) considered the use of ICT as having some importance while a few (25%) considered ICT as having no importance at all as indicated in Table 4.10.

In order to establish the relationship between the BOM’s attitude towards ICT and governance of ICT resources, the chi-square test was carried out and the results are as in Table 4.11.
Table 4.11: The relationship between BOM’s attitude towards ICT and ICT resources governance

<table>
<thead>
<tr>
<th>Statement</th>
<th>The Pearson Asymp. Sig. (2-sided)</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of BOM’s attitude towards ICT on ICT facilities to student ratio</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Influence of BOM’s attitude towards ICT on ICT effective ICT facilities maintenance</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Influence of BOM’s attitude towards ICT on ICT staff development</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Influence of BOM’s attitude towards ICT on ICT effective ICT utilization</td>
<td>0.02</td>
<td></td>
</tr>
</tbody>
</table>

The results show that when BOM’s attitude towards ICT is tested against ICT governance evaluation factors by use of Chi-square, the results of the relationship at 0.05 level of significance are as shown in Table 4.11. The relationship between BOM’s attitude towards ICT and ICT facilities to student ratio was at value (0.02), effectiveness in ICT facilities maintenance (0.03), strategies of ICT staff development (0.02) and effective ICT utilization (0.02). These results show that all the ICT governance evaluation factors have a significant relationship with BOM’s attitude towards ICT because they all have an alpha value of less than 0.05 significant. This can be interpreted to mean that BOM’s attitude towards ICT influences the management of ICT resources in secondary schools. The findings are in line with Bitner and Bitner, (2002); Schiller, (2003); Baylor and Ritchie (2002) and Nut (2010) who opine that the skill and attitude of the Board is a key determinant in the effectiveness of IT governance. The BOM attitude in the use and management of ICT and its resources
in their schools directly affect the need, procurement, acquisition, use and management of the ICT resources in their respective schools.

**4.6 Board of Management’s Members Experience on Governance of ICT Resources**

The third objective of the study was to establish the influence of BOM’s experience with respect to age, education level and profession held on governance of ICT resources. Table 4.12 below shows the result on the respondents view on the influence of experience on governance of ICT resources.

**Table 4.12: BOM Members’ Influence against Age Bracket, Education Level and Profession Held.**

<table>
<thead>
<tr>
<th>Influencing Factors</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age bracket</td>
<td>3</td>
<td>6</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Education level</td>
<td>12</td>
<td>4</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Profession held</td>
<td>17</td>
<td>6</td>
<td>5</td>
<td>28</td>
</tr>
</tbody>
</table>

Most respondents (n=19) disagree that age bracket is a most influencing factor and only (n=3) strongly agree. Similar opinion (n=12) was raised on those who strongly agree and disagree that education level is an influencing factor on the BOM members’ experience on the governance of ICT and its resources.
Table 4.13: A Cross Tabulation of the Age Factor against the Level of Education and Profession Held.

<table>
<thead>
<tr>
<th>Age</th>
<th>Education Level</th>
<th>Diploma</th>
<th>Degree</th>
<th>Masters</th>
<th>Doctorate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-30 Years</td>
<td>Diploma</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>31-35 Years</td>
<td>Diploma</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>36-40 Years</td>
<td>Diploma</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>46-50 Years</td>
<td>Diploma</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>51 Years and Above</td>
<td>Diploma</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>Diploma</td>
<td>6</td>
<td>18</td>
<td>3</td>
<td>1</td>
<td>28</td>
</tr>
</tbody>
</table>

Most of the respondents (n=17) strongly agree that the profession held by BOM members has an influence on their management capacity of ICT resources.

Majority of the members (n=18) have a bachelors degree qualification out of which 8 are aged between 36-40 years.

A total of 4 BOM members aged between 25-30 Years have Masters and Doctorate degrees while 4 members aged 51 years and above had a bachelors degree. In order to establish the relationship between the academic qualification of the BOM members and ICT resource management, the chi-square test was carried out and the results are as in Table 4.14.
Table 4.14: The relationship between BOM academic qualification and ICT resources governance

<table>
<thead>
<tr>
<th>Statement</th>
<th>The Pearson Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of academic and professional qualification</td>
<td>0.488</td>
</tr>
<tr>
<td>on ICT facilities to student ratio</td>
<td></td>
</tr>
<tr>
<td>Influence of academic and professional qualification</td>
<td>0.652</td>
</tr>
<tr>
<td>on effective ICT facilities maintenance</td>
<td></td>
</tr>
<tr>
<td>Influence of academic and professional qualification</td>
<td>0.641</td>
</tr>
<tr>
<td>on ICT staff development</td>
<td></td>
</tr>
<tr>
<td>Influence of academic and professional qualification</td>
<td>0.615</td>
</tr>
<tr>
<td>qualification on effective ICT utilisation</td>
<td></td>
</tr>
</tbody>
</table>

The results show that when academic qualification is tested against ICT governance evaluation factors by use of Chi-square, the results of the relationship at 0.05 level of significance are as shown in Table 4.14. The relationship between level of education and effectiveness on ICT facilities to student ratio was at value (0.49), effectiveness in ICT facilities maintenance (0.65), strategies of ICT staff development (0.61) and effective ICT integration (0.74). These results show that none of the ICT governance evaluation factors has any significant relationship with academic level of BOM members because they all have an alpha value of more than 0.05 significant. This can be interpreted to mean that education level of BOM does not influence the management of ICT resources in secondary schools. These results contradict the work
of Okumbe (2001) who said that BOM members should have academic qualifications which allow them to interpret parliamentary Acts and other policies which relate to education both directly and indirectly. These include: The Education Act, TSC Act, the BOM management code, The Children’s Act, Public Health Act among others. This study has shown that since the principal is a graduate, the rest of the members of the BOM endorse the decisions of the principal hence making the education level of the BOM not significant when handling ICT resources in schools.

On the professional status of the respondents, the respondents were asked to indicate their professional qualification. The results are as in table 4.15.

Table 4.15: Current profession of BOM members

<table>
<thead>
<tr>
<th>Profession</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountant</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>Business</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>Religious leader</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>Community worker</td>
<td>1</td>
<td>3.57</td>
</tr>
<tr>
<td>Educator</td>
<td>6</td>
<td>21.43</td>
</tr>
<tr>
<td>Medical Practitioner</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>Farmer</td>
<td>8</td>
<td>28.57</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
As Table 4.15 shows, the current profession of majority of BOM members was farming (mentioned by 29 percent) followed by business (25 percent). This implies that on appointment of the BOM anybody can be appointed to be a BOM member. However, the majority are farmers and business people meaning that BOM members are drawn from the community at the convenience of an individual regardless of the professional qualification.

In order to establish whether there is a relationship between the professional qualification and ICT resources governance, a chi-square test was run and the results are as in table 4.16 below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>The Pearson Asymp. Sig. (2-sided)</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of professional status on ICT facilities to student ratio</td>
<td></td>
<td>0.07</td>
</tr>
<tr>
<td>Influence of professional status on effective ICT facilities maintenance</td>
<td></td>
<td>0.28</td>
</tr>
<tr>
<td>Influence of professional status on ICT staff development</td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Influence of professional status on effective ICT utilisation</td>
<td></td>
<td>0.34</td>
</tr>
</tbody>
</table>
On the relationship between the profession status of the BOM members and ICT resource management, the results show that there was only one factor that was found to be significant, which is making strategies of staff development as indicated by statistical significance of 0.02 or 98%. This means the current profession is only important as far as strategies on ICT staff development is concerned but does not have an impact on other ICT governance evaluation factors. The alpha for the rest of the factors is as follows: effectiveness on ICT facilities to student ratio (0.07), ICT facilities maintenance (0.28) and effective ICT utilisation (0.34). This means, all these factors are not significant at all hence they are not affected by the current profession of BOM members.

Most respondents strongly agreed that age bracket is not an influencing factor to the governance of ICT in schools with most BOMs being between the ages of 41 and above. A few BOMs who were below 40 years have up to a master’s degree, yet the education level was considered as having no major influence on the governance of ICT, rather the profession held. Most of the members are business men and farmers, and consider technology as being involving and costly to be used in schools. This majority number overrules the learned few who are educators and would positively influence the acquisition and management of ICT resources in schools. These findings are in line with Odhiambo, (2010) who established that governors are constituted with no set criteria enumerating the skills a person should poses to qualify for appointment into the board and since service in school boards is not remunerated most professionals opt to stay away from it. This results in most public schools being managed by old unenergetic
retirees, semi-illiterate business people or other semiskilled non-professionals who cannot cope with the rapid social, technological, economic and cultural changes in our country. The Basic Education Act 2013 also does not specify the occupation background for BoM members hence during BoM nominations professional background of the nominees is not the main criteria as the key objective is to meet the number per category.

With regard to age, the findings are in line with Glasscock’s (1991), which discovered that age did not affect school managers’ performance of their administrative responsibilities. However the findings contradicts Okolo’s (2001) research on primary school managers’ performance which showed that age tended to affect the head teachers’ administrative performance as older participants had generally spent more years on the job, attended more seminars, and participated in relevant professional discussions that exposed them to new techniques of administration.

4.8. BOM’s Training on Governance of ICT Resources

The last objective of the study was to investigate the influence of BOM’s training on governance of ICT resources.

Table 4.17 below shows the results on the rating of the competence levels of BOM members in finance, resources and monitoring and evaluation respectively.
Table 4.17: Rating of the Competence Levels of the BOM Members in the Respective Areas of Management.

<table>
<thead>
<tr>
<th>Area of management</th>
<th>Very High</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very low</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>13</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>Resource</td>
<td>0</td>
<td>8</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>8</td>
<td>0</td>
<td>28</td>
</tr>
</tbody>
</table>

A good number (n=20) of the respondents said that BOM members have moderate ability in M&E and resource management while another (n=8) indicated High as BOM rating on resource management. A reasonable number (n=13) indicated BOM finance management ability as low. These findings implies that BOM member in Kapseret division have average ability in resource management, and monitoring and evaluation but are poor in financial management hence are in need of training in such key areas. The need for training is paramount as can be inferred from Wangai’s (2001) study in Meru Central District which found out that all the members were not inducted after appointment and were therefore performing most of their duties through trial and error which calls for all the time direction from the principals.

The study also sought to establish if the board members had ever attended a workshop or training on school management in the previous two years. The results are as shown in figure 4.6 below.
Figure 4.6: BOM Members who have ever attended a Workshop or Training on School Management in the Last Two Years.

The results in figure 4.6 shows that 82% of the BOM members had attended a workshop or training on school management in the last two years while 18% had not attended any workshop or training. On average ones who had attended a workshop or training did so for about day or two days. This implies that effort is being made to train BOMs but the time allocated for the training is not sufficient to exhaustively cover all areas of management like finance, resources and monitoring and evaluation.

The respondents were asked whether the trainings they attended had any significance on their management skills of ICT resources. Table 4.18 below shows the results.

Table 4.18: Training versus Training Impact Cross tabulation

<table>
<thead>
<tr>
<th>Training Impact</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
</tr>
</tbody>
</table>
Most of the respondents (82%) indicated a positive association between training and management skills while a few (n=5, 18%) could not see the importance of training on ICT resource management.

There was a positive association between training and management skills of most BOMs, on their key areas of management. When BOM members were asked how the training helped them, they mentioned various reasons. However majority said the training helped them in management and organization of the school, human resources and finances. This was mentioned by 35 percent of respondents. About 22 percent mentioned the training helped them in knowing the role of stakeholders and how to mobilize them. Other reasons mentioned by the minority of respondents included helping them: to motivate students and teachers and know an area that require immediate intervention in addition to gaining knowledge in procurement and helping them become effective in managing school projects. Those who had attended training also indicated that more of similar trainings would help boost their understanding of ICT relevance, change their attitude and make timely approvals to ICT procurements, just like any other non-ICT equipment and services.

When the BOM training and ICT resource governance was tested through Chi-square to establish the relationship between the two, the results are as in Table 4.19.
Table 4.19: The relationship between BOM training and ICT resource governance

<table>
<thead>
<tr>
<th>Statement</th>
<th>The Pearson Chi-Square Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of student ratio BOM training on ICT facilities to</td>
<td>0.67</td>
</tr>
<tr>
<td>Influence of facilities maintenance BOM training on effective ICT</td>
<td>0.05</td>
</tr>
<tr>
<td>Influence of development BOM training on ICT staff</td>
<td>0.03</td>
</tr>
<tr>
<td>Influence of utilisation BOM training on effective ICT</td>
<td>0.02</td>
</tr>
</tbody>
</table>

When attendance of a workshop or training in resource management was tested through chi-square at significant level of 0.05 the results show that training of the BOM members influences effectiveness in ICT facilities maintenance at significance level of 0.02, ICT staff development at 0.05 and effective ICT utilization at 0.03. This means that the skills gained by a BOM member when attending a workshop or training have an effect on ICT resource governance.

These results are in line with Dessler (2008) who asserted that training is the hallmark of good management and a task that managers ignore at their peril. In addition, BOMs should undergo training on courses such as communication, student achievement and general leadership in the community for the schools to achieve the set goals more particularly resource management.
CHAPTER FIVE
SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction
This chapter focuses on summary of the study, discussion, conclusion, recommendation and suggestions for further studies. The analysis was done in line with the following objective: To establish the factors influencing Boards of Management’s governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County, Kenya.

5.2 Summary of the study
The purpose of this study was meant to establish the factors influencing Boards of Management’s governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County, Kenya. The study was guided by four objectives namely: To establish the extent to which the BOM’s capacity for provision of facilities influences governance of ICT resources; to establish how the BoM’s attitude towards ICT influences governance of ICT resources; to determine the extent to which the BOM’s management experience influences governance of ICT resources; and to determine the extent to which training on management of BOM members influences governance of ICT resources in public secondary schools in Kapseret division of Uasin Gishu County.

The study adopted the descriptive research design and the main tool for data analysis was a questionnaire which was triangulated with an observation guide. Through data analysis the study established that the BOM’s capacity for provision of resources influenced
governance of ICT resources. Capacity for provision of resources was gauged against formation of procurement committees and budgeting for ICT resources. It was established that all (100%) the schools sampled for the study had formed a procurement committee as mandated by the basic education act. However budgets on ICT resources are not received or passed on time hence weaknesses in the implementation of ICT programs in the schools especially with regard to maintenance and repairs of ICT resources. It was found out that half of all computers available in schools in Kapseret division were not operational and lay dormant as a result of lack of technical support and maintenance.

It was also established that the BOM’s attitude towards ICT had a significant influence on governance of ICT resource. Evaluation factors for BOM’s attitude towards ICT included their exposure to ICT, perceived confidence in the use of ICT equipment and the relevance they place on the importance of ICTs in schools. It was found out that the BOM members had little exposure to ICT but were fairly confident in its usage. The members of BOMs in Kapseret division also consider ICT as greatly important in schools and hence make great effort to provide ICT facilities.

With regard to BOM’s experience with respect to age, education level and profession held, only the current profession was important as far as ICT staff development is concerned and does not have an effect on other ICT governance evaluation factors such as ICT facilities to student ratio, effective ICT facilities maintenance and effective ICT utilization. It was established that the academic level of majority of BOM members was
certificate followed by diploma. The chi-square test shows that when academic qualification is cross tabulated with ICT governance evaluation factors none has any significant relationship with academic level of BOM members. This means the education level of BOM does not matter in management of ICT resources in secondary schools. The study also established that majority of the BOM members have certificate as the highest level of education and are farmers which implies that the constitution of the BOM is done without emphasizing on academic qualification or profession as one of the requirement for one to be considered to be a board member.

The research showed that the management bodies largely lacked a sufficient training on financial and monitoring and evaluation skills which are requisite in management of resources in secondary schools. On whether a BOM member had attended a workshop on school management, majority of BOM members said they had. On average, ones who had attended a workshop or training did so for about a day or two days. The cross-tabulation of workshop/training on ICT resource management three out of four factors were found to be significant at 0.05. This can be interpreted to mean that the skills gained by a BOM member when attending workshops or training have effect on ICT facilities maintenance, ICT staff development and ICT utilisation but does not affect ICT facilities to student ratio.

5.3 Conclusions
The study established that the Boards of Management capacity for provision of resources have an influence in the governance of ICT resources in public secondary schools in
Kapseret division. The division still records low levels of ICT use in schools because of limited infrastructure. There are no enough computers, no ideal laboratories and computer studies teachers to the schools that would offer the subject. It was established that all (100%) the schools sampled for the study had formed a procurement committee as mandated by the basic education act. However budgets on ICT resources are not received or passed on time hence weaknesses in the implementation of ICT programs in the schools especially with regard to maintenance and repairs of ICT resources. It was found out that half of all computers available in schools in Kapseret division were not operational and lay dormant as a result of lack of technical support and maintenance.

The study also established that the BOM’s attitude towards ICT influences governance of ICT resources. It was found out that the BOM members had little exposure to ICT but were fairly confident in its usage. The members of BOMs in Kapseret division also consider ICT as greatly important in schools and hence make great effort to provide ICT facilities.

In addition, the study established that most of BOMs are comprised of people with certificate as the highest level of education and that majority of the BOM members are farmers. The study also established that the professional status of the BOM members plays a major role on management of ICT resources especially on making strategies for acquisition, maintenance and monitoring of resources. With regard to age, the chi-square results indicated that it did not have an influence on governance of ICT resources. Hence it can be concluded that BOM’s experience with regard to age, education level and profession has little significance on governance of ICT resources.
The other outstanding result shows that the training of the BOM members plays a key role on the capability of the BOM members to manage ICT resources. The research showed that the management bodies largely lacked a sufficient training on financial and monitoring and evaluation skills which are requisite in management of resources in secondary schools. On whether a BOM member had attended a workshop on school management, majority of BOM members said they had. On average ones who had attended a workshop or training did so for about a day or two days. As such, BOM’s training has a significant influence on governance of ICT resources.

5.4 Recommendations

The following are the key recommendations based on the findings:

i. Induction of BOM members especially on their role in the procurement committee be carried out in time before members can assume office.

ii. Sensitization programs for members of the BOM on the relevance of ICTs in schools be regularly scheduled.

iii. Incentives be instituted so as to attract BOM members of various high ranking profession as it has a direct significance on governance of ICT resources.

iv. Since training/workshops have a significant relationship with ICT management, there is need to intensify the training/workshop attendance of BOM members to sharpen their skills especially on financial and monitoring and evaluation aspect.

v. The researcher strongly recommends that the Ministry of Education, the National Education Board, the County Education Board and sub-county education boards principals, Boards of Management, scholars and educational interest groups like
Kenya National Union of teachers (KNUT), Kenya Union of Post-Primary Education Teachers (KUPPET) and Kenya Secondary School Heads Association (KSSHA) develop strategies on how to better and enhance ICT governance in secondary schools.

5.5 Suggestions for further studies

Based on the finding of this study, the researcher suggests that further studies need to be undertaken in this area to specifically identify the BOMs training needs with regard to procurement.

A study on individual factors influencing Board of Management’s competence in ICT resource management should be carried in other districts in order to compare the results since every area has unique characteristics.
REFERENCES


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Van Wyk H A; (2004); *Perspectives of effective financial management in the public sector:* Journal of Public Administration; Vol 39; 411-9


APPENDICES
APPENDIX A

INTRODUCTION LETTER

University of Nairobi,
P O Box 92, Kikuyu.

Date: ____________

The Principal

School: ____________________________

Dear sir/madam,

RE: PARTICIPATION IN RESEARCH.

I am a post graduate student from University of Nairobi pursuing a Masters of Education Degree in Educational Administration and in the process of conducting a research on governance of ICT resources. The study hopes to examine factors influencing Boards of Management’s governance of ICT resources in public secondary schools in Kapseret Division, Uasin Gishu County.

The study will largely be conducted through a survey questionnaire and an observation guide. The data shall be used for the research purpose and respondents’ identity will be absolutely confidential and anonymous: no name shall be required from any respondent.

Your participation and co-operation will be highly appreciated.

Yours faithfully,

Mary Kareji
APPENDIX B

QUESTIONNAIRE GUIDE FOR PRINCIPALS

You are politely requested to fill this questionnaire that seeks to examine the factors influencing Board of Management’s governance of ICT resources in public secondary school. The information obtained is strictly for research purpose and will be treated with confidentiality.

Section A: Demographic Information

1. What is your age bracket? Tick (√) in the space provided.

   25 – 30 years [ ]   31 – 35 years [ ]   36 – 40 years [ ]

   41 – 45 years [ ]   46 – 50 years [ ]   51 years and above [ ]

2. What is your gender?   Male [ ]   Female [ ]

3. What is your academic and professional qualification?

   Diploma [ ]   Degree [ ]   Masters [ ]   Doctorate[ ]   Any other (specify)

4. What is your school’s classification?   National [ ]   County [ ]   District [ ]

5. What is the population of your school? ________________________
Section B: Influence of Board of Management’s Capacity for Provision of Resources on Governance of ICT Resources.

6. The school’s BOM has formed a procurement committee. YES [ ] NO [ ]

7. All institutional investment in ICT is approved through the appropriate procurement steering committee. YES [ ] NO [ ]

8. Budgets on ICT resources are received and passed in time by the BoM.
   Strongly agree [ ] Agree[ ] Disagree [ ] Strongly disagree [ ] Neutral [ ]

9. a) How many computers and ICT resources has the school received from the government/ NGOs/ Donors?
   None[ ] Below 10 [ ] Between 10 and 25 [ ] Above 25 [ ]

   b) How many computers and ICT resources has the school procured from PTA funds? None[ ] Below 10 [ ] Between 10 and 25 [ ] Above 25 [ ]

   c) Of the number above, how many are still operational?
   None[ ] All[ ] Half of them [ ]

10. How many ICT seminars/workshops has the school sponsored teachers for the last two years? None[ ] Two[ ] More than two[ ] Neutral[ ] Not allowed [ ]
11. There are more teachers attending other seminars than ICT workshops.

Strongly agree [ ] Agree [ ] Disagree [ ] Strongly disagree [ ] Neutral [ ]

12. Which of the following support staff has the school engaged? (Tick all that apply to the school). School cateress [ ] Senior cook [ ] Office manager [ ]

Computer technician [ ] Electrician [ ] Others [ ]

Section C: Influence of Board of Management’s Attitude towards ICT on Governance of ICT Resources.

13. How would you rate the BoM’s current exposure to ICTs?

Below 25% [ ] Between 25% - 50% [ ] > 50 to 75% [ ] Neutral [ ]

14. How would you rate the BoM confidence in using ICT?

Low confidence/ little confidence/ good confidence/ very good confidence

15. How do you rate the importance the Board of Management places on the relevance of ICT in schools?

No importance/ of some importance/ quite great importance/ very great importance

16. The attitude of the BoM towards ICT influences their management of ICT resources. Strongly agree [ ] Agree [ ] Disagree [ ] Strongly disagree [ ] Neutral [ ]
Section D: Influence of Board of Management Members’ Experience on Governance of ICT Resources

17. In the table below, indicate the total number of BOM members against education level, age bracket and profession held.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>No. of members</th>
<th>Age Bracket (Years)</th>
<th>No. of members</th>
<th>Profession Held</th>
<th>No. of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td></td>
<td>&lt;24</td>
<td></td>
<td>Educator</td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td></td>
<td>25-34</td>
<td></td>
<td>Religious leader</td>
<td></td>
</tr>
<tr>
<td>Degree</td>
<td></td>
<td>35-44</td>
<td></td>
<td>Engineer</td>
<td></td>
</tr>
<tr>
<td>Masters</td>
<td></td>
<td>45-54</td>
<td></td>
<td>Business person</td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td></td>
<td>55-64</td>
<td></td>
<td>Farmer</td>
<td></td>
</tr>
<tr>
<td>Any other</td>
<td></td>
<td>&gt;64</td>
<td></td>
<td>Medical practitioner</td>
<td></td>
</tr>
</tbody>
</table>

18. The age of a BOG member influences their capacity for effective ICT resource management. Strongly agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly disagree [ ]
19. The level of education of a BOM member influences their capacity for effective ICT resources management.

Strongly agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly disagree [ ]

20. The profession of a BOM member influences their capacity for effective ICT resources management

Strongly agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly disagree [ ]

Section E: Influence of BOM’s Training on Governance of ICT Resources

21. How would you rate the competence of the BOM members in the following areas of management? Indicate your preferred choice using (√) in the table below

**Key:** 1- Very high 2 - High 3 - Moderate 4 - low 5 - Very low

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Monitoring 
  & evaluation          |   |   |   |   |   |
22. In the table below, indicate the number of BOM members who have ever attended a workshop or training on school management in the last two years?

<table>
<thead>
<tr>
<th>Factor</th>
<th>No. of BoM members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial management training</td>
<td></td>
</tr>
<tr>
<td>Resource management training</td>
<td></td>
</tr>
<tr>
<td>Monitoring &amp; evaluation training</td>
<td></td>
</tr>
</tbody>
</table>

23. If any member has attended a workshop/training, has it helped in management of ICT resources? Yes[ ] No [ ] If YES, explain

24. What can be done to improve the effectiveness of the BOM in management of ICT resources?

........................................................................................................................................................................

Thank you for your participation
APPENDIX C

QUESTIONNAIRE FOR MEMBERS OF BOARD OF MANAGEMENT

You are politely requested to fill this questionnaire that seeks to examine the factors influencing Boards of Management’s governance of ICT resources in public secondary school. The information obtained is strictly for research purpose and will be treated with confidentiality.

Section A: Demographic Information

1. What is your age bracket? Tick (✓) in the space provided.

   25 – 30 years [ ]   31 – 35 years [ ]   36 – 40 years [ ]
   41 – 45 years [ ]   46 – 50 years [ ]  51 years and above [ ]

2. What is your gender?   Male [ ]   Female [ ]

3. What is your academic and professional qualification?

   Diploma [ ]   Degree [ ]   Masters [ ]   Doctorate [ ]   Any other (specify) Any other (specify) Any other (specify) Any other (specify)

4. What is your profession__________________________________________?

5. What is your membership status in the current Board of management?

   Executive member [ ]   Non Executive member [ ]
Section B: Influence of Board of Management Capacity for Provision of Resources on Governance of ICT Resources

6. All institutional investment in ICT is approved through the appropriate procurement steering committee. YES [ ] NO [ ]

7. Budgets on ICT resources are received and passed in time by the BoM.

Strongly agree [ ] Agree[ ] Disagree [ ] Strongly disagree [ ] Neutral [ ]

8. Capacity for provision of facilities influences management of ICT resources.

Strongly agree [ ] Agree[ ] Disagree [ ] strongly disagree [ ] Neutral [ ]

Section C: Influence of Board of Management’s Attitude towards ICT on Governance of ICT Resources

9. How would you rate your current exposure to ICTs?

Below25%[ ] Between25%-50%[ ] >50 to 75%[ ] Neutral [ ]

10. How would you rate your confidence in using ICT?

Low confidence/ little confidence/ good confidence/ very good confidence

11. How do you rate the importance you place on the relevance of ICT in schools?

No importance/ of some importance/ quite great importance/ very great importance
12. The attitude of the BoM towards ICT influences their management of ICT resources. Strongly agree [ ] Agree [ ] Disagree[ ] Strongly disagree[ ] Neutral [ ]

Section D: Influence of Board of Management’s Members Experience on Governance of ICT Resources

13. To what extent do the following factors affect the competence of BoM in effective ICT resources management? Indicate your preferred choice using (√) in the table below.

**Key:** 1 – Very large extent  2 – Large extent  3 – Neutral extent
4 – Small extent  5 – No effect at all

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profession held</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section E: Influence of Board of Management Training on governance of ICT Resources

14. Have you ever attended a workshop/ training on management of school resources?

Yes[ ] No [ ]

15. If yes, has the training helped in management of ICT resources? Yes [ ] No [] If YES, explain

16. What can be done to improve the effectiveness of the BOM in management of ICT resources?……………………………………………………………………………………………………

Thank you for your participation
APPENDIX D

OBSERVATION GUIDE

1. Access to ICT facilities

<table>
<thead>
<tr>
<th>Item</th>
<th>Available</th>
<th>Operational</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Electricity infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Internet/e-mail infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Printer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Scanner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Copier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Fax machine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Projector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Camera</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Computers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Interactive whiteboards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Radio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Television</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. General application of ICT in school operations

<table>
<thead>
<tr>
<th>Description</th>
<th>ICT facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation for lessons</td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td></td>
</tr>
<tr>
<td>Entertainment</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Assessment</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>Other uses</td>
<td></td>
</tr>
</tbody>
</table>

Remarks
APPENDIX E

NACOSTI RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MS. MARY KAREJI
of NAIROBI UNIVERSITY, 0-200
NAIROBI, has been permitted to conduct
research in Uasin-Gishu County

on the topic: FACTORS INFLUENCING
BOARD OF MANagements
GOVERNANCE OF INFORMATION AND
COMMUNICATION TECHNOLOGY IN
PUBLIC SECONDARY SCHOOLS IN
KAPSERET DIVISION, UASIN GISHU
COUNTY

for the period ending:
31st December, 2014

[Signature]
Applicant's

[Signature]
Secretary
National Commission for Science,
Technology & Innovation

Permit No : NACOSTI/P/14/8172/3833
Date Of Issue : 22nd October, 2014
Fee Received : Ksh 1,000
Republic of Kenya

Ministry of Education, Science and Technology
State Department of Education

Telegrams: "Education", Eldoret
Telephone: 053-2063342 or 02031421/2
Mobile: 0719 12 72 12/0732 260 280
Email: cdeuasingishucounty@yahoo.com
        cdeuasingishucounty@gmail.com
When replying please quote:
Ref: No. MOEST/UGC/TRN/9/197

Office of the County Director of Education,
Uasin Gishu County,
P.O. Box 9843-30100,
ELDORET

Date: 11th November, 2014

Mary Kareji
University of Nairobi
P.O. Box 30197-00100
NAIROBI

Re: Research Authorization

This office has received your letter requesting for an authority to allow you carry out research on "Factors Influencing Board of Management's Governance of Information and Communication Technology in Public Secondary Schools in Kapseret Division, Uasin Gishu County".

We wish to inform you that the request has been granted for a period ending 31st December, 2014. The authorities concerned are therefore requested to give you maximum support.

We take this opportunity to wish you well during this research.

Viola Kigen
For: County Director of Education
Uasin Gishu County