

**EFFECTS OF FINANCIAL RESOURCES' ACCOUNTABILITY ON VALUE
DELIVERY IN SECONDARY SCHOOLS: A SURVEY OF SCHOOLS WITHIN
NAKURU COUNTY, KENYA**

KAMAU JOHN GATHII

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DECLARATION AND RECOMMENDATION

Declaration

I declare that this research thesis is my original work and has not been presented for the award of a degree in any other University.

Signature.....

Date.....

Kamau John Gathii

Recommendation

This research thesis has been submitted for examination with our approval as University supervisors

Signature.....

Date.....

Prof. Dankit Nassiuma

Vice Chancellor and Professor of Statistics

Africa International University, Nairobi, Kenya

Signature.....

Date.....

Prof. Omboi Messah

Assistant Professor of Accounting

United States International University-Africa

DEDICATION

This research thesis is dedicated to my wife, Eliza Wangeci and my children; Kamau, Njoki and Ngubia, who made this work possible.

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ABSTRACT

Contribution of financial resources to value delivery in secondary schools has not been clearly established. Opinion on the formers' importance is divided. The problem addressed by this research was to find out whether factors like financial leakage, governance, accounting and audit controls, can be used to establish the link between resources and value delivery. The population of the study comprised of all the 336 registered secondary schools in Nakuru County of which 33 were randomly sampled. The County was stratified into administrative Districts, and the schools into public and private schools. Pre-tested questionnaires and observation guides were used to collect information from the respondents. Cronbach's alpha was used to establish the reliability and validity of the data collected. The collected data was collated, cleaned, coded and entered for analysis using Kolmogorov Smirnov test, Spearman's correlation coefficient, goodness of fit test, simple and multiple regression tests and principle factor analysis, to establish the links among the variables. The study found that the income of the school, text books provided to students, accounting, audit controls and governance are major factors in determining the performance of schools in national examinations. Physical facilities, head teacher's and bursar's demographic and professional scores, perceived provision of resources, perceived leakage levels and ownership structures were found not to be significant in determining academic performance. Prices at which schools bought goods in the market were also found not to be influenced by the ownership structures. The study thus concluded that accountability as measured by accounting, governance and audit control is an important link in ensuring value delivery from financial resources. The study therefore recommends that the aforementioned variables be deeply entrenched in the school culture. This can be achieved by adopting an Integrated Secondary Schools Management Information System (ISSMIS). The system will enhance availability of information to the schools' stakeholders about institutional assets, personnel and academic management of the school. The stakeholders can as a result be able to evaluate, control and follow audit trails which will in total ensure accountability. In response to this need, this study has developed an ISSMIS which may be customized to the needs of individual schools in the country.

Key words: Academic Performance, Accountability, Resource leakage, Governance, Value delivery, Procurement,

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LIST OF ACRONYMES AND ABBREVIATIONS

| | | |
|--------|---|--|
| ANOVA | - | Analysis of Variance |
| BOG | - | Board of Governors |
| FIFO | - | First In First Out |
| GOK | - | Government Of Kenya |
| HIFO | - | Highest In First Out |
| IFR | - | International Financial Reporting Standards |
| IFRSB | - | International Financial Reporting Standards Board |
| IPSAS | - | International Public Sector Reporting Standard |
| KASNEB | - | Kenya Accountants and Secretaries Examinations Board |
| KESSP | - | Kenya Education Sector Support Program |
| LIFO | - | Last In First Out |
| MOEST | - | Ministry of Education Science and Technology |
| PERs | - | Public Expenditure Reviews |
| PETS | - | Public Expenditure Tracing Surveys |
| PIRs | - | Public Investment Reviews |
| PIRPs | - | Public investment Review Program |
| POBW | - | Percentage of optimal birth weight |
| PPB | - | Public Procurement Board |
| PTA | - | Parent Teachers Association |
| ROK | - | Republic of Kenya |
| SBM | - | School Based Management |
| SWA | - | Sector Wide Approach |

- SWAP - Sector Wide Approach Program
- SRSWR - Simple random sampling with replacement
- SRSWOR - Simple Random Sampling without Replacement
- TLMSC - Teaching Learning Material Selection Committee
- TLR - Teaching and Learning Resources
- TRSC - Teaching Resources Selection Committee
- TWF - Tuition Waiver Fund
- UNESCO - United Nations Environmental Scientific and Cultural Organization
- UNICEF - United Nations Children's Fund

OPERATIONAL DEFINITION OF TERMS

In this research the following terms were used according to the definitions given below:

Accountability: Accounting controls, auditing control and governance. The meaning will be restricted to accountability for financial resources. How well the management can account for financial resources availed to them by rendering proper accounts, being subjected to frequent audits and being ready to open up for scrutiny thus being transparent in their dealings (Nzomo, 2002)

Accounting: Is used both in the context of recording transactions as and when they occurred and provision of accounting information to stake holders, induction of accounting officers, and the general management of the accounting department to ensure accuracy and reliability of accounting information (Nzomo, 2002).

Academic performance: Cognitive displacement from point of entry to point of exit as measured by performance at national examination.

Adverse selection: Falsification of ability by the agent (Jejodia, Samati & Cimato, 2008).

Agency problem: The problem that arises due to conflict of interest between the principal and the agent because the principal and the agent may have different levels of risk acceptance and the fact that it might be difficult for the principal to verify that the agent has behaved in an appropriate manner due to moral hazard and adverse selection (Jejodia, Samati and Cimato, 2008).

Financial resources: All cash and none cash income of the school including aid, contributions in kind, credit lines and any other benefit that accrues to the school in the course of the year.

Greed: The pursuit of excessive or extra-ordinary material wealth (Katalin et al., 2014)

Governance: The manner in which power is given and exercised in the use of economic and social resources for sustainable human development (Goddard, 2005)

Improvement index: the average score at KCSE over a period of five years less the average entry score over the same period all divided by the average entry score over the same period of five years

Moral hazard: general lack of effort applied by the agent in carrying out his tasks (Jejodia, Samati and Cimato, 2008).

Performance: the average performance over a period of five years at KCSE examination for each school (Ahmed, 2000).

Primary resource: Total resources available to a secondary school (Brian 2006; & UNESCO 2006)

Procurement: Acquisition of the required resources (goods or services) required by an entity (Republic of Kenya, 2005).

Resource leakage: Budgetary variations between budgeted and actual spending and price differences which will be used to represent Diversion of funds from their main purpose to other purposes.

Value delivery: is used in the context of performance in National examinations and improvement index which will be calculated as average performance at KCSE less average entry performance of the same group all divided by the average entry performance of the same group.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Developing countries spend hundreds of billions of dollars each year on schools, educational materials and teachers, but relatively little is known about how effective these expenditures are at increasing students' years of completed schooling and more importantly, the skills that they learn while in school (Glewwe, Hanushek, Humpage & Renato, 2011).

Education is one of the unique avenues through which social, economic and political enablement can be achieved in an equitable way (Avenstrup, Riang & Nelleman, 2004). The main purpose of the education system is to equip the learners with skills and knowledge that would help them face the challenges of life and provide skilled manpower that would provide the engine and the fuel required to meet economic, social and political needs of Kenya (Government of Kenya, 2005). Educational institutions are established to meet these challenges. Factors like family, school, classroom conditions, teaching methodology and the learners circumstances have, through research, been shown to be major determinants of value delivery as measured by academic scores (Fernandez & Rogerson, 1996; Diaz 2003; Avenstrup, Riang & Nelleman, 2004; Hijazi & Naqvi, 2006; and Oduol, 2006).

However, while resources are required to start, run, maintain and provide learning and teaching materials, their contribution towards academic scores has not yet been fully captured by research. In an attempt to establish a link between resources and academic scores through use of multiple linear regression analysis, researchers found no significant relationship (Pincus & Rolph, 1986; Das, Dercon, Habyarimana & Krishnan, 2004; and Dowd & Grant, 2006). Other studies though, have contended that financial resources are important and do influence academic performance (Akinyemi & Akinyemi, 2008; Dancun et al, 2011; Valerie, Lee & Tia, 2014). The current study was designed to find out the reasons that may be attributed to this discrepancy in research by

finding out whether factors like leakage, governance structures, accounting and audit control systems, if included in such studies, would account for the difference.

The relationship between school inputs and educational outcomes is critical for educational policy, (Das, et al 2004). They found that house-hold educational expenditure and school inputs are technical substitutes in the production function of cognitive achievements. They also found that the impact of un-anticipated inputs was higher than the impact of anticipated inputs. By establishing the links between resources availability and leakage, allocation criteria, governance structures, accounting control systems, value for money delivery of services and by adjusting for these factors, it is expected that the link between resource availability and academic performance can be established.

Research has identified the following as factors that affect value delivery in learning institutions: teacher training, teacher experience, teacher's abilities, the pupil's abilities, teacher's salaries, teacher pupil ratio, instructional spending and expenditure per pupil (Hanushek, 1996). According to (Hanushek, 1996), primary resources are not consistently related to student's performance. A good teacher was found to surpass a bad teacher by more than a full grade level of a student's performance over a single academic year, the students' family characteristics and the students' entry behavior held constant. Hanushek, (1996) reckons that these differences could not have been caused by training, salaries, number of students or overall level of spending and recognized that incentives affect student's performance. He was of the opinion that pupils from schools endowed with resources will have come from families that are also endowed with resources. Parents in such families are ready to spend more time with their children leading to better performance. He also found that school's effectiveness is independent of resources. By observation, he found out that there are schools which perform at very different levels despite having similar inputs. Value added analysis also indicate that institutions with moderate levels of achievements may enhance learning at least as much as high scoring and well resourced schools (Hanushek, 1996). However, in all these, the question of accountability, leakage of resources and a consideration of what went directly to the provision of learning resources, were not incorporated in the analysis.

According to Crouch and Winkler (2009), poor governance gives rise to many of the problems observed in the education system of poor countries today. These problems include; failure of resources like books, instruction materials, construction materials, high rates of absenteeism, absentee teachers, poor teacher deployment, low attention by teachers to students who have not paid to be tutored, and wastage of resources within schools.

In a study carried out in Anambra state Nigeria, Nwaka and Nneka (2010) concluded that one of the major challenges facing secondary schools administration is lack of or poor knowledge of public accountability, and poor knowledge of information communication technology.

Velayutham and Perera (2004) argue that accountability is one of the most important concepts in politics and economics today. They posit that accountability is a rational practice that can and should be implemented in civil societies, economic institutions and organizations. According to Broadbent *et al.*, (1999) accountability is the requirement to explain and accept responsibility for carrying out an assigned mandate in the light of agreed expectations. It is particularly important in situations that involve public trust.

This study is premised on the basis that financial resources availed to schools are not necessarily used for teaching and learning purposes. Only financial resources used directly to provide learning resources are likely to influence cognitive displacement. This implies that leakage should be treated as a diversion of financial resources from the main stream academic purpose. The main task in this study was to find out whether educational institutions with good governance, low leakage of resources, effective accounting and auditing control systems had a causal relationship between availability of financial resources and value delivery.

The construct of this study is based on the argument that the seeming disagreement between researchers on whether financial resources do matter in value delivery in secondary schools would be resolved by incorporating the element of accountability for those resources.

1.2 Statement of the Problem

Research has been inconclusive as far as the effect of financial resources on academic performance is concerned. The previous researches attempted to directly connect financial resources to academic performance. The result was that they could not establish the relationship (Ford, 1957; Pincus & Rolph, 1986; De-Groot, 1994; Hanushek, 1996; Schady & Paxson, 1999; Das, Dercon, Habyarimana & Krishnan, 2004; Devor & Peck, 2005; Oduol, 2006; Dowd & Grant, 2006; and Hijazi & Naqvi, 2006). What these findings seem to suggest is that even without financial resources, schools would still perform. This in itself is not true. Other studies have contended that financial resources are important and do influence academic performance (Akinyemi & Akinyemi, 2008; Dancun et al, 2011; Valerie, Lee & Tia, 2014). This disconnect between what looks reasonable and research findings informed this study to try and find out what could be the explanation of this dilemma. This study postulated that it is accountability failure that overshadows the effect of financial resources on value delivery.

The government of Kenya is currently in the process of starting centers of excellence which are expected to yield high results after providing optimum resources to these centers. This is based on the premise that resources enhance academic performance (Akinyemi & Akinyemi, 2008; Dancun et al, 2011; Valerie, Lee & Tia, 2014). If this is true, why is there this disparity between expectation and research results? Despite this premise, there is no systematic study that has been conducted to establish the effects of financial resources on performance in secondary schools when leakage of resources, misallocation of the resources, accounting for the resources and governance structures are taken into account. It is thus in this context that this study sought to establish the effects of financial resource accountability on value delivery in secondary schools in Nakuru County in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The main aim of this study was to establish the effects of financial resources' accountability on value delivery and how the negative effects can be mitigated using an integrated management information system in secondary schools in Nakuru county of Kenya.

1.3.2 Specific Objectives

1. To determine the extent of leakage of financial resources and the subsisting relationship between leakage of financial resources and value delivery in secondary schools in Nakuru County.
2. To establish the relationship between accountability (accounting control, governance and auditing) and value delivery in secondary schools in Nakuru County.
3. To determine the effects of availability of resources on performance in KCSE in Nakuru County
4. To compare prices paid by public schools for common items to those paid by private schools for the same items (this is with the assumption that private schools are more profit oriented and thus control pricing more strictly)
5. To determine the relationship between professional characteristics of the accounting officers and value delivery.
6. To develop an accounting system that would incorporate aspects of control, segregation of duties, data capture at source and integrate financial and academic data to give comprehensive relevant, timely and incorruptible reports.

1.4 Hypotheses of the Study

In this research, the hypotheses were tested at 95% level of confidence. This is because an error of 5% is acceptable in the sense that the information obtained from research of this nature would be useful as general policy guideline which will be used in collaboration with other information and facts.

The over-riding hypothesis of this study was that availability of financial resources has no significant relation to academic performance as measured by KCSE grades obtained by students. This hypothesis was addressed by addressing the following multiple hypothesis.

H₀: There is no leakage of financial resources as well as no subsisting relationship between leakage of financial resources and value delivery in secondary schools in Nakuru County.

H₀: There is no significant correlation between measures of accountability and value delivery in secondary schools in Nakuru County.

H₀: Availability of resources has no effect on performance in KCSE in Nakuru County.

H₀: The prices paid by public secondary schools are not significantly different from the prices paid by private schools.

H₀: There is no significant relationship between professional characteristic of accounting officers and value delivery in secondary schools in Nakuru County

1.5 Significance of the Study

Considering the resources that Kenyans and the government make available to educational institutions, efficiency in the use of these resources is important. By establishing the relationship that exists between resource availability, governance, value delivery, resource leakage, accounting for the resources, ownership structures and academic performance, the government will be in a position to make education sector utilize resources more prudently by setting policies, administrative structures, governance and accounting controls that are in tandem with reality.

The study has recommended an accounting and auditing structure that is expected to improve on the current accounting method. The system provides information on the efficiency with which private and public educational institutions apply the funds made available to them. This will help to determine the role of private educational institutions in providing education by providing empirical evidence.

Since the Kenya government intends to introduce free education up to Form IV, the study identified some of the impediments and has proposed some practical solutions to some of the misconceptions. The study has also proposed that the government needs to support private secondary schools in terms of creating an enabling environment to encourage their participation in the education sector. The owners should directly be seen to be involved in the day to day running of their schools. Since there was no major difference in the way private and public schools are managed, the study proposes that the free education should be expanded to involve private schools where a voucher system will be introduced. Students will be given vouchers for them to be allowed to choose the school of their choice whether public or private. The study also found the need for the government to relook at the recruitment of accounting officers as their professional characteristics were found not to have a direct influence on the performance in KCSE examinations. The accounting and control, governance and auditing practices were found to have positive influence on the performance. The study proposes that an improvement on the accounting system, improved control and a more stringent authorization process be instituted to enhance performance. All these aspects are captured in the accompanying integrated secondary schools management information system (ISSMIS) which was developed as a part of this study

1.6 Scope and Limitation

This study was limited to the impact of financial resources accountability on cognitive change. The impact of resource on psychomotor, affective domain and lifelong learning is beyond the scope of this study. This study focuses on the educational unit and the measure of the effects of availability of resources is at the institutional level as opposed to the macro level. This implies that the measures as developed by United Nations Environmental Scientific and Cultural

Organization (UNESCO) and United Nations Children's Fund (UNICEF) are not applicable as designed.

Non response was a major limitation. However, the researcher incorporated a spare sample to replace those schools that failed to respond or refused. Some schools responded partially and the study considered whether to replace them depending on the level of response.

The classification of question items into governance, accountability and auditing control, posed a real challenge as some would have fitted in all of them and some items were borderline cases. This was therefore recognized as a limitation to this study. However, this was mitigated by the fact that the obtained scores were not used in their absolute sense but in their comparative sense.

An individual's cognitive transformation as a result of the educational programs in educational institutions is a function of many factors. Some of these factors include, teacher training, teaching methodology, learners ability and circumstances, school, class and home environments and the administrative abilities of the institutional heads. These factors have not been included in this study to avoid undue complexity. However, this study isolated the effects of the factors under study on individual cognitive transformation and determined whether they are significant or not, while assuming the other factors to be constant.

The study was carried out in Nakuru County due to its representative of the face of Kenya character. Nakuru County is a good representative of the country in the sense that it is home to National schools, provincial schools, district schools, private schools and even constituency development fund, funded schools. The findings of the research can be generalized to cover the rest of the country, and third world countries.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature related to value delivery in secondary schools as measured by performance in National examinations and improvement of the learners from point of entry to point of exit. This chapter has looked at both theoretical and empirical approaches to the determination of factors that influence academic performance in secondary schools.

A review of related literature, both theoretical and empirical, point to the fact that contribution of resources to academic achievement had, for a long time, been assumed. An attempt to establish it empirically, surprisingly led to the establishment of the opposite, the suggestion being that resources are not significant in determining academic achievement in educational institutions. This has led to the paradigm that availability of resources does not contribute significantly to cognitive change in learning. The following section provides a review of both theoretical and empirical literature that has contributed to this paradigm and the main purpose of this study is to explore the horizon of empirical evidence out there to either support or provide a firm basis to shift this paradigm.

In a paper presented in a seminar on quality of education in Latin America, working as one attends school was identified as one of the factors that had a negative impact on academic performance. Social economic conditions in Brazil, which were as a result of government policy and law on minimum spending per child in school, decentralized school decision making authority, a minimum training requirement for teachers, creation of a fund to increase school funding, especially for poor regions of the country, a change in labour laws that increased the minimum work age to 16 years and introduction of cash stipends to poor families conditional on their children's attendance to school and other behavior and the integration of this program into a comprehensive National social welfare program was found to have had a mixed result. This led to the classification of the student's performance into three variables; those related to students'

individual and family characteristics, those related to social economic context of the school and those related to the pedagogical practices of the schools (Bezerra, Kassouf, & Kuenning, 2007).

It is also noted that the studies so far undertaken in this field have mainly been done by educationists, psychologists, administrators and legal personnel. This has not included finance based researchers whose interest would be the treatment of the resources in terms of accountability, auditing, governance and general ability to apply the resources for the purpose for which they were meant for.

The argument being fronted here is that the effects of financial resources' accountability on value delivery, was not factored in when establishing the relationship between resources and academic performance. Those who exercise the power of governance or corporate office have to be publicly accountable for their action (Stewart, 1984). Accountability has everything to do with rendering an account, explanation or accounting for resources or authority placed at one's disposal. An account is a linguistic device employed whenever an action is subjected to evaluative inquiry (Scott & Lyman, 1968). The Royal commission emphasized the view that accountability is only possible if there is openness or transparency. Effective scrutiny implies access to information and anybody cannot be made accountable without publicity (Scott & Lyman, 1968).

A study by Velayutham & Perera, (1984) on the influence of emotion and culture on accountability and governance found that accountability is a cultural practice closely related to the emotional state of guilt and shame. They concluded that guilt enhances accountability while shame inhibits accountability. On the global scene, they observed that the western culture is a guilt culture and thus more prone to accountability while the Eastern countries have a shame culture and thus given to hiding their faces. Disclosure to them is inviting trouble. In this study, accountability was found to be an issue. Many schools refused to respond to the questionnaires insisting on confidentiality and lack of authority to divulge accounting information. This was used simply to deny the researcher the information. Openness, supervision, participation of stake holders and involvement of the school communities in financial matters was found to be very minimal.

2.2 Determinants of Value Delivery in Secondary Schools

For the purpose of this study, value delivery was measured in terms of performance at KCSE and improvement index. Research has identified the following as factors that affect performance in learning: teacher training, teacher experience, teacher's abilities, the pupil's abilities, teacher's salaries, teacher pupil ratio, instructional spending and expenditure per pupil (Hanushek, 1996). According to Hanushek, primary resources are not consistently related to student's performance. A good teacher was found to surpass a bad teacher by more than a full grade level of a student's performance over a single academic year, the students' family characteristics and their entry behavior held constant.

Hanushek (1996) reckons that these differences could not have been caused by training, salaries, number of students or overall level of spending. He recognized that incentives affect student's performance. His opinion was that pupils from schools endowed with resources will have come from families that are also endowed with resources. Parents in such families are ready to spend more time with their children leading to better performance. He also found that school's effectiveness is independent of resources. By observation, he found that there are schools which perform at very different levels despite having similar inputs. Value added analysis also indicates that institutions with moderate levels of achievements may enhance learning at least as much as high scoring and well resourced schools.

Nickerson & Kritsonis (2006), in a study titled, "An analysis of factors that impact academic achievement among Asian American, African American and Hispanic students," observed that Asian Americans continued to outperform whites and other minority students even though they had experienced the same atrocities as other minority groups. The aim of the study was to find out factors that contributed to their success and to implement those factors into educational practices of other minority groups. The study found that the Asian American students were more optimistic and viewed America as a land of opportunity. They trusted the American society and worked hard in school and their jobs to succeed. The parents hold their youth, not the school, accountable for school success. The study isolated the following factors as the major factors;

time spent on studies, study habits and parent's involvement in their children's school work (Nickerson & Kritsonis, 2006).

Valerie, Lee & Tia (2014), carried out investigations to find out the links between several resource inputs and student's academic achievements in grade six using multi-level modeling (hierarchical linear models). They found that there were strong links between material and human resources in grade six student's achievements in reading and mathematics. They also found that, Structural features such as school shifts and school size were negatively associated with achievements although effects varied across countries.

Following the forum in Jomtein in 1990, and the declaration of education for all which laid emphases on expanding enrolment in primary schools, secondary education has been quietly neglected compared to primary and higher education (Lewin et al., 2001). He concluded that, to cope with the ever increasing numbers from primary graduates, secondary schools needed resources to expand. They cite the options of expanding the share of government resources allocated to secondary school education, reducing unit cost, increasing internal efficiency and developing cost sharing mechanism. The general case for investment in education as necessary but not sufficient condition for development has been extensively and widely accepted (Lewin *et al.*, 2001). They attribute poor performance to increased numbers in secondary school.

In a study to evaluate the effects of free primary education in Kenya, Tessa et al., (2010) concluded that there was no conclusive evidence to show that introduction of free education in Kenya lowered the quality of education. However, there was evidence of an increase in enrolment and no significant change in performance in examinations. Salami (2008) also found that a student's specific personality, interest dimensions, social economic status and educational aspirations influence a student's academic performance and has a feed-back effect on aspirations.

Educational achievement has been found to be a function of; family factors, class room and school factors, head teacher and teacher factors. Home factors have been identified as; father's education level, house-hold income, family material possession and to a lesser extent, mother's

education level. Class room conditions include; peer influence, teaching methodology and teacher attendance, marking of learner's books, and involvement of the learner in the learning activities. School conditions include; political influence and management competencies (Aturupane et al., 2013; Oduol, 2006; Hijazi & Naqvi, 2006; Devor & Peck, 2005; Pincus *et al.*, 1986; Ford, 1957). It is worthy to note that physical facilities or availability of resources does not feature in the list of factors that influence cognitive achievements. Nwaka & Nneka (2010) concluded that scarcity of resources, crowded classrooms, inadequate financial, human and material resources provision causes setback in principal's effectiveness as exemplified in performance in national examinations.

Aturupane et al. (2011) found that educated parents, better nutrition, high daily attendance, enrolment in private tutoring classes, exercise books, electric lighting and children's books at home increased learning. However, hearing problems have a strong negative effect. Teachers and principals' years of experience, corroborating with other schools in a "school family" and meetings between parents and teachers all appear to have a positive influence on student scores.

In an attempt to establish the relationship that exists between resource availability and academic performance, Hanushek, (1996) identified several factors that affect performance in learning. Some of these factors include; teacher training, teacher experience, teacher's abilities, the pupil's abilities, teacher's salaries, teacher pupil ratio, instructional spending and expenditure per pupil.

A study by Fakeye & David, (2014) found out that the score in English language proficiency test had a high correlation coefficient with student's annual score in school subjects like Mathematics, Biology and English. The study also showed that the score in English proficiency test was highly positively correlated to overall academic performance.

An analysis of factors that impact academic achievement among Asian American, African American and Hispanic students observed that Asian Americans continued to outperform whites and other minority students even though they had experienced the same atrocities as other minority groups (Nickerson & Kritsonis, 2006). The aim of the study was to find out factors that contributed to their success and to implement those factors into educational practices of other

minority groups. The study isolated the following as the major factors; time spent on studies, study habits and parent's involvement in their children's school work.

Attempts to establish the relationship between resource availability and cognitive achievement have proved futile. Pincus et al., (1986) established that through multiple regression analysis, the contribution of resource availability to cognitive achievement was not significant. Most of the research done so far have tended to concentrate on establishing the relationship that exist between financial resources that are availed to educational institutions and cognitive changes that take place in the learners. Das, et al., (2004) demonstrated that, where resources availed to educational institutions and house hold resources are technical substitutes of each other, the impact of resource availability on cognitive change depended on whether the educational resources were anticipated or not. If the resources were anticipated, they had a minimal effect and the highest effect was realized where the resources were not anticipated.

Glewe et al (2011) did a study on school resources and educational outcome in developing countries. They selected 9000 studies, out of these 79 studies were considered as of sufficient quality. The number was eventually narrowed to 43 which were classified as high quality studies. In this study, it was found that time spent in school, running of schools and teacher characteristics were found to be insignificant. The factors that were found to have significant effect were singled out as; availability of desks, teachers' knowledge of the subject they teach, and teachers' absence.

A research funded by the World Bank entitled, "Do school facilities matter?" established that funds had a direct impact on school attendance in poor regions (Schady & Paxson, 1999). The researchers did not establish linkage between facilities and cognitive achievement and they recommended research in this area. They recommended that public expenditure reviews (PERs) should include the imbalance between recurrent capital expenditure and non-personnel expenditure.

Dancun et al. (2011) contend that social scientists do not agree on the size and nature of causal impacts of parental incomes and academic performance. With this in mind they tested data

obtained from welfare and anti-poverty experiments carried out in the 1990s and found that for every \$1000 increase in annual income, the children's performance improved by 5-6% of a standard deviation

An Expenditure and Service Delivery Survey carried out by Das (2002) in Zambia suggested that value added be used instead of test score which was contaminated by other variables like quality of the head teacher and the other factors cited above that influence it. A longitudinal survey was carried out to determine the change in test score as value added while the other factors remained unchanged. Still the complex interplay between the factors like leakage, governance and accounting controls were not addressed. However, the survey acknowledged the difference in the funds allocated in National budgets and the amount that finally reached the schools.

The question of leakage of resources though indirectly, has been recognized as a contributor (Reinikka & Svensson, 2001). A public expenditure tracking survey (PETS) to gauge the extent to which public resources actually filtered down to educational institutions showed that in the mid 1990s in Uganda, the average schools received only around 20% of the allocations from central government. Most schools received nothing and the bulk of the allocation was captured by local government officials (and politicians) in charge of disbursing the allocations to schools. In this case unlike the conditional approach where senior officers are mandated to monitor, that is, a top bottom approach, a bottom top approach was employed where information concerning the usage of the funds was published in the newspapers. The findings were that, schools nearest to the newspaper outlets registered a marked increase in resources that filtered to the school and also test scores in the same schools improved.

This leads to the main question of this study. Why is it that resource availability seems to have no effect on cognitive change to learners? Would cognitive achievement be possible without resources or is it that resources affect other variables inversely which in turn affects cognitive change? Would it be possible to explain the lack of effect on the inverse relationship such that the effect of resource increase on cognitive change is dampened by the inverse relationship with the intervening variables thus having a canceling effect? In other words, could it be possible that

resource leakage, inappropriate governance, accounting controls, auditing and allocation of these resources all interact to distort the causal relationship that would otherwise exist?

To avoid the capture of resources before they get to the schools, this study considered school income, that is, the total resources that get to the school including school fees, income generated from income generating projects, donations, parent funds, voluntary services and any other source of income. Physical facilities were also considered as resources available to the school. It was found that physical facilities have very little influence if any on the academic performance while income is significantly related to academic performance in KCSE. This would mean that if financial resources would be directed to provision of learning resources, the relationship between income and academic performance would be enhanced. This also provides a very strong case for not prioritizing physical facilities like buses, swimming pools and prestigious projects at the expense of learning resources.

The other area that research has concentrated on is in the area of equity. One of the aims of education is to promote equity and this area has received a measure of attention. The World Bank in particular has had a number of programs aimed at poverty eradication and they have sponsored research bent in that direction. The general findings have been that there is no direct relationship between resource input in education and cognitive achievements of learners (Hanushek, 1996; Pincus & Rolph, 1986; & Das *et al.*, 2004). On a macro-economic scale, Schwartz & Stevenson, (1990), identified budgetary and management inefficiencies as factors that impair effectiveness of education spending. The government was also found to be committed in ensuring that resources allocated to the provision of education are efficiently, effectively and economically used for the intended purposes (Ngobolia, 2002). If the Government was to improve on budgeting and management of the school resources, would this improve academic scores? In this study it was found that budgetary deviations are significant and the implication of this is that budgeting process is unsatisfactory and could be the avenue that school accounting officers use to divert resources to other purposes that would suit their needs.

In summary, the following factors have empirically been found to influence academic scores; student factor, school factor, peer factor, family factor and teacher factor. Under each factor lies

a wide range of contributory factors. For example, under the student factor, we may have child's health, attitude, temperament, sexual activity, involvement in drug abuse, intrinsic motivation, percentage of optimal birth weight (POBW), class attendance, maternal or neonatal health. What this means is that the causative relationship of academic performance has too many factors and would be futile to try and single out one and researchers should be satisfied with establishing correlation.

2.3 Accounting, Auditing and Corporate Governance in Secondary Schools

Being accountable means among other things being, obligated or subjected to giving an account. In saying that someone is accountable we could imply that they are obligated to give a report, description, explanation, justifying analysis or some form of exposition, reasons, causes, grounds, or motive for what we have observed (Normore, 2004).

To account is to render a satisfactory explanation (Nzomo, 2002). Consequently, accounting statements are explanations of activities under-taken by the accounting entity during a specific accounting period and the financial status of the specific entity at the end of that time period (Nzomo, 2002). The task of accounting is accomplished through the following medium; identifying transactions to be captured, capturing the transactions as and when they take place, measuring the transactions in money terms, recording the transactions and finally summarizing the recorded information by extracting the trial balance, the statement of income and expenditure, and the balance sheet. To effectively accomplish the explanation duty, accounting uses the accounting equation and the fact that every transaction has a duo effect on the accounting records. The accounting equation postulates that, $Assets - liabilities = Capital$. This can also be stated as, $Assets = Capital + liabilities$. The understanding here is that so long as the duo aspect of transactions is followed, the equality will always hold true (Glautier & Underdown 1986; Kietso & Weygandt, 1998 and Lal, 2009). It is from this that the balance sheet has to be made to balance.

The balancing of the accounts does not always imply that the financial reports give a true and fair view of the state of affairs of the reporting entity. Some errors and frauds may fail to be

detected because they compensate, cancel or are a total omission of the transaction. This coupled with the fact that a fact can be explained in very many different ways and still be correctly explained leading to the need to develop accounting standards and institute internal and external controls to ensure that the information produced is accurate, relevant, complete and reliable.

According to (Keating & Frumkin, 2003), accounting information is said to be reliable if it is verifiable, free from error and bias, and represents faithfully events that occurred. To be relevant accounting information must be capable of making a difference in a decision. Relevant information is timely, can help users make predictions and help confirm user's expectations. To achieve these, the financial information must be comparable with those of other enterprises and be prepared consistently over time (Keating Frumkin, 2003). The above exposition would cover private schools. Public schools are covered under public sector and non-profit making organizations. Whereas the primary goal of "profit motivated" enterprises is to increase the monetary wealth in their possession so that over time they can return the maximum amount of money to owners, this is not the main goal of governmental, charitable, educational and other eleemosynary organizations (Nzomo, 2004).

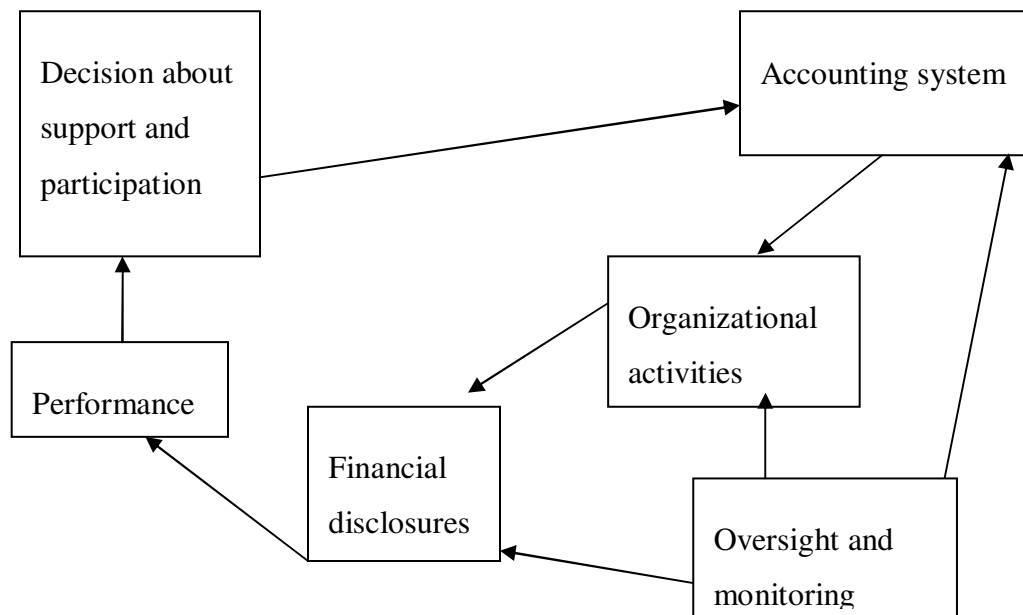
A model adopted from a similar model developed for the business sector can help us understand how the financial reporting system of a non-profit making organization is intended to work (Wilson as quoted by Keating & Frumkin, 2003). The model has six components, the organizational activity, which is what the organization is engaged in reflecting transactions aimed at facilitating the core activities of the organization which in our case is teaching and learning. The transactions are reflected in the second component which is the internal accounting systems.

The financial systems generate the third component which is financial reports, which are disseminated to the stake holders who may be donors, government agents, community or clients. The stake holders will not be comfortable with the information unless a reasonable assurance is given as to them reflecting the true situation as it is. This may be done by the fourth component which is the internal or external parties, the oversight or monitoring component to ensure the activities conform to existing contracts, the accounting records accurately reflect the activities

and the financial disclosures conform to the requirements. Stake holders analyze the disclosures which will allow them to develop a performance assessment which forms the fifth component.

The assessment result to the sixth component is whether to support and participate in the organization. By making this decision, the stake holders are able to determine the fate of the organization and to reinforce each and every element of the six components. The future of the organization is heavily dependent on this decision and the packaging of the information in the financial reports and the underlying activities must be to the satisfaction of the stakeholders (Keating & Frumkin, 2003).

In our school model, the parents and students are clients, the communities are stake holders, the education office represents the government, teachers, although in the organization, may be seen as stake holders since they have a direct interest in the continued performance of the school. The board of governors and the school administration represent the organization. This model will be tested in its ability to ensure continued existence through accountability by testing the ability of the stake holders to demand information and decide whether to support the institution or not. The model covers issues like governance and auditing as part of controls required to ensure that the accounting reports and the systems that underlie it are to the expectation of the stakeholders.



User community

the organization

Figure 1 The Accounting, Auditing and Governance Model of a Non-profit Making Organization

Source; Adopted From Wilson, as Quoted by Keating Frumkin (2003).

The model emphasizes on what determines whether a non-profit making organization will continue in operation or not in the absence of the profit motive.

2.4 Operationalization of the Model

The stake holders in Figure 1 can be divided into three main groups. Clients who use the non-profit services, donors who provide the charitable support and the community that benefit directly or indirectly from the services (Keating et al., 2000). In our case the school set up is such that the community is divided into two that is those who benefit directly and those who benefit indirectly or are potential beneficiaries.

Researchers have demonstrated how accounting auditing and other forms of financial knowledge have become important aspects of governance process in various contexts (Neu &

Rahaman, 2009). In a research aimed at exploring the increasing role of financial auditing in the fight against government sector fraud and financial mismanagement in Ghana, using the Foucauldian inspired theoretical framing, Rahaman concluded that contrary to the view that auditing is an alien phenomenon in most parts of the world and more so Africa, Financial auditing is the preferred approach to fighting government sector frauds in Ghana (Rahaman, 2009). The researcher also observed that financial auditing is privileged over other technologies of government in the context that it re-enforces the hegemony of international development agencies like the World Bank and international Monetary Fund (Rahaman, 2009).

Where problems are detected in private or public accounting, auditing or governance, the response has been to increase control through more legislation (Dewing & Russel, 2004). Examples of these abound globally. The demise of Enron, and Andersen one of the former big five international accounting practices, and the financial scandals that followed collapse of WorldCom resulted in the Sarbanes-Oxley Act of 2002 (Dewing & Russel, 2004).

Doost echoed the same sentiments when he claimed that there has been a public outcry in recent years for better accountability of resources consumed for higher education. Legislators in various states have responded with performance criteria and mandates for accountability (Doost, 1998).

In their article, accountability and politics in universities, Coy and Pratt (1998) sighted an itinerary of legislation all aimed at enhancing and ensuring accountability. Arruñada (2004) argues that legislators have been using audit and financial crisis as excuse to introduce additional regulations into an already over regulated industry. Arruñada further sights the ability of a free market to punish audit failures and sights the high cost of implementing legislation as a hindrance to audit regulation implementation. Andre-Pascal (2002) and Shenkin & Caulson (2007) argue that it is necessary to move from the dominant procedural approach to practice, to recognize value of informal communication and non institutional action, an equally valid route towards accountability. Lack of accountability will be evidenced through audit failure, poor governance, leakage of resources and this is envisaged to distort the would-be causal relationship between resources and performance in education.

This study recommends that the community and stake holders take their rightful position and demand information from the educational institutions and this should be backed by court decisions enforcing people's rights to information as enshrined in the constitution and the government agents should be required to educate people with other stake holders through activism bring attention to those institutions that do not a bind by the requirement to provide information to stake holders or do not conduct their financial transactions in a free and fair manner. This will stem the tide of overcrowding institutions with legislative requirements which may be retrogressive rather than progressive.

2.5 Secondary School Governance and Management

Increasingly, the role of management and governance is gaining recognition as important for providing and delivering services at all levels of education (World Bank, 2008). The policy of universal education for all and the advent of free primary education, has led to a high increase of numbers graduating from primary and seeking for places in secondary, the informal sector or polytechnics. Civil society and governments are demanding that secondary education system be accountable in a number of ways. People in the system need to be accountable for accomplishing their assigned tasks, whether they are ministry staff, principals, teachers, parents or students. The system should be accountable for ensuring that students learn and for reporting to parents and the community on the status of that learning (World Bank, 2008). The World Bank also notes that clearly designed channels for public voice are essential for accountability and government responsiveness to public opinion and demands will become increasingly important as the public has more transparent information on which to judge education services. Governance in the education sector is interlinked, flowing from the ministry, ministry officials down to the provincial, district and school level. Each level affects the other level.

Governance has severally been defined as the manner in which power is exercised in the management of a country's economic and social development (World Bank, 2008). Governance has also been defined as the means by which an activity or a sample of activities is controlled and directed (Goddard 2005). According to Goddard (2005) good governance is epitomized by predictable open and enlightened policy making, a bureaucracy imbued with a professional ethos

acting in the furtherance of the public good, the rule of law, transparent processes, and a strong civil society participating in public affairs. In this research, governance will be looked at from the point of view of how the individual school has put systems in place to ensure use of power from the school board, the head teacher and parent's organizations, all aimed at ensuring that the purposes of the school are met with openness, honesty and accountability. However, the following quotation will help in articulation of governance in the context of this research.

Good governance strategies refer to measures that are designed to improve the overall management of an organization by increasing its effectiveness and legitimacy. Good governance is not about increasing the power rather good governance advocates establishing a solid foundation for rules and procedures which will help fulfill the individual and common goals. What an institution envisions for itself, that institution can increase its effectiveness by implementing good governance strategies. Just as there are many theories on how to understand the governance arrangements, there are many approaches to good governance, which include: 1) democratic strategies, 2) result-based strategies, 3) order-derived strategies, 4) systemic strategies and 5) procedural strategies. (Carrington, Debase & Lee, 2008). These factors have informed this study to develop a strategy that incorporates systemic procedures that are result oriented. According to the same authors, accountability means to ensure that a given organizations governance reflects the concerns of its stake-holders that is individuals and their communities as well as non-governmental organizations and that the organization follows its governance arrangement (Carrington et al., 2008). On the other hand, accountability means to ensure that a given organization's governance arrangement reflects the concerns and interest of the stake-holders and that 2) the organization follows its governance arrangement (Carrington et al., 2008).

There is no single model for effective governance in secondary education but there are four common basic elements in countries that have a long tradition of state provision of good secondary education: transparent well known regulations; a sharp definition of responsibilities of different levels of government; strong public management; precise definition of outcomes and measurement of results (Ahmed 2000).

Leakage of resources in the context of this study means diversion of resources from their main purpose to other purposes. Other terms that are used to refer to leakage include theft of resources, corruption, misappropriation, misallocation, mismanagement of resources and so on. According to Asaad and Faiz-ur-Rahim, (2009), measuring corruption is an exercise in futility and any attempt to objectively measure it is doomed to fail due to its very nature. They argue that corruption is inherently un-measurable.

2.6 Procurement and Price Determination in Kenyan Secondary Schools

Procurement is defined by the Kenya procurement act 3 of 2005 as the acquisition by purchase, rental lease hire purchase license tenancy franchise or by any other contractual means of any type of works assets services or goods including livestock or any combinations (Republic of Kenya, 2005). The act further describes a procuring entity as, a public entity making a procurement to which the act applies. A public entity is defined to include a college or other educational institution that is maintained or assisted through public funds or an entity prescribed as a public entity. This clearly shows that public secondary schools are directly covered by the procurement Act 3, 2005.

The Act established a procurement authority whose functions include the, compliance to the act, monitoring and reporting on the public procurement function, prepare and distribute manuals and standard documents, provide assistance to the procuring entity, training to ensure that procuring entities employ qualified personnel and promote public procurement policy (ROK, 2005). The purpose of the act was to ensure that procurement decisions are made in a systematic and a structured way. Sect. 26(3) provides that all procurement shall be within the approved budget and be planned for through a procurement plan, be as per the procurement thresh-hold matrix, be handled by different officers as far as procurement initiation, processing and receipt of goods is concerned. The procurement entity is also required to establish a tender committee which should constitute of not less than 5 people. Prior to the enactment of the procurement Act 3 of 2005, the government, through legal notice number 51 of 30th march 2001 had established a public procurement board (PPB). Its' mandate included inter-alias; policy formulation, implementation, human resource development, and oversight of procurement process in Kenya (ROK, 2001).

The enactment of Act 3 of 2005 followed a public outcry on the extent of corruption by public procurement officers which led to the suspension of all government procurement officers. Governments use public procurement to; meet most of their development needs like infrastructure, foster economic development, support and develop domestic industries, overcome regional economic imbalances and support minority or disadvantaged community. Because this entails use of enormous discretion, some developing countries' governments have used public procurement to buy political patronage (Akech, 2005). Akech further noted that the bulk of corrupt practices in Kenya occur in public procurement where unpopular governments reward their supporters by giving them lucrative government tenders (Akech, 2005).

From the provision of Act 3 of 2005, it is clear that the government intended that prices be fixed through competitive binding where everything is done transparently and honestly avoiding any possible conflict of interest. The pricing mechanism also involves an evaluation by the tendering committee of the most agreeable price considering the bidders ability to supply.

The other option of pricing is where departmental heads are expected to discuss with the users of the items to arrive at quantities required including the prices. These prices are then negotiated and agreed on (ROK, 2003). Unfortunately the method lives a lot at the discretion of the negotiating parties and the price is not rigidly followed. This option was not witnessed in any school visited. Another method is where the stake holders are supposed to meet annually and prioritize and discuss the prices of major items to be acquired (ROK, 2003). In this method the parents congregate in an annual general meeting where the head teacher acting as the board secretary, proposes the priority of items and their expected prices. This is supposed to be discussed and passed. However, these meetings have been turned into occasions to inform parents of projects and to solicit their financial support.

This study intends to determine the compliance level and assess the extent of leakage of resources and the level of segregation of duties in secondary schools. To achieve this the study will determine the prices that different schools pay for; 90 kg bag of maize, one ream of foolscaps, one ream of printing papers, a 50 kg bag of rice, a 90 kg bag of flour, a 50 kg bag of cabbages, a 50 kg bag of kales, a 90 kg bag of beans a tone of fire wood. The prices paid for the

basket of goods will be compared within the schools and be analyzed for variability and consistency.

Kenya, to a large extent, exercise what is referred to as school based management (SBM), which was institutionalized in Britain, Canada and New Zealand among other countries. In this system, the teachers decide on teaching learning resources (TLRs) to be used, specify teaching and learning methods to be used (Caldwell, 2005; Karim, 1999). The head teacher is vested with authority and responsibility on matters relating to enhancement of school operations as, mobilizing, utilizing, and prioritizing teaching and learning resources (TLRs) among others. Provision of TLRs requires participation from the head teacher, heads of department, teachers, parents and the school board of governors (BOG) (Brian, 2006; UNESCO, 2006). Greater authority is given to legally appointed BOGs and parent teachers associations (PTA), who enhance autonomy for accountability, broaden decision making, manage resources efficiently, and enhance student's achievement by supporting professionals lead, in making appropriate learning decisions (ROK, 2003).

Adequate and effective use of TLRs increased student's achievement (Ministry of Education MOE, (2005), Kenya Education Sector Support Program ROK, (2005). The government and the ministry of education have committed themselves to a SBM approach where schools are vested with the responsibility to identify, select, prioritize and utilize TLRs, adaptable to specific schools needs (ROK 2007; MOE, 2003). The Ministry of education promotes quality education by approving teaching and learning materials, formulating procurement guidelines, setting standards in schools, monitoring and evaluating the standards, among others Education Act (1968 revised 1980) it is from this reason that the ministry of education has set minimum profile standards of basic TLRs in all public schools. Tuition waiver fund (TWF) was muted by the government for all public schools to enable them procure adequate TLRs among other curriculum support materials (MOE, 2003; ROK, 2007).

The ministry of education directed schools to constitute Teaching and Learning Materials Committee (TLMSC) to identify, prioritize for purchase and mobilize TLRs with the tuition waiver fund (MOE 2003; ROK, 2007).

Effective schools are created by effective head teachers who have the following administrative tasks; management of curriculum and instruction, allocation and provision of physical and material resources, motivation of staff, Management of business, finances, student, personnel and school community relations (MOE, 1993; Kochhar, 1988; Coclough, Packer, Motivans & Ravens (2004). Head teacher's responsibility in the provision of physical and material resources entails: planning, acquisition, allocation, distribution and maintenance Okumbe (2001). Successful teaching and learning is influenced by TLRs availed to support learning (Bruneforth & Motirans, 2005). However, resources availed to schools are not reflected in the performance of students. It was therefore important to find out what really happens on the ground.

If personnel appointed to procurement committee lack procurement knowledge and skill, the head teacher's discretion to procure and dispose school funds prevails and MOE's procurement objectives of transparency accountability, institutional integrity and enhancing economy is at risk (UNESCO, 2006). Store personnel and other non-teaching staff are not recognized as members of the procurement committee though they are involved in the procurement (Kuria, 2007). In addition, the level of skill and competence of procurement committee members is not specified thus subjecting procurement appointments to manipulation by the head teacher.

2.7 Theoretical Framework

The theoretical frame work of this research was based on the agency theory, the accompanying agency problem, and the contract theory, from the restricted view of attempting to solve the agency problem. Agency theory is concerned with the "ubiquitous agency relationship" in which, one party, the principal, assigns tasks to another party, the agent. The agency problem arises due to a conflict of interest between the agent and the principal in terms of work that has been delegated to the agent by the principal, Jejodia, Samati and Cimato (2008). Moral hazard and adverse selection make it difficult for the principal to ascertain that the behavior of the agent was appropriate. Where, in this case, moral hazard refers to the general lack of effort applied by the agent and adverse selection refers to the falsification of ability by the agent in carrying out his assigned task (Jejodia et al., 2008; Luise, Gomez-Mejia & Wiseman, 2007).

Separation of ownership and control has long been recognized to potentially have an adverse effect on the firm value. It is believed that the incentive to pursue personal benefits increases when the manager owns a small portion of the firm's share (Mat, Nor, and Sulong, 2007). It is also expected that if the managers were to own 100% of the shares then agency cost would be zero. It has also been shown that the length of the chief executives tenure influence's their tendency to maximize their personal gain. The longer they stay the more inclined they are to identify with the organization. Their view of themselves becomes more psychologically integrated with the fate of the organization (Wang & Murnighan, 2011).

In a study carried out by Katalin et al. (2014), it was established that greed has a negative relationship with shareholder's return. Self interest and opportunism were identified as factors that affect shareholder's wealth. Greed, self interest and managerial opportunism are all constructs that are related to human nature (Katalin et al., 2014). This is a risk that the principle takes when he engages an agent to act on his behalf and the principle needs to safeguard against the vices.

Accounting developed out of the need for the agent to explain to the principal, what he did with the resources which the principal entrusted to him. The agency theory envisages that the objectives of the agent and that of the principal conflict since the agent, is expected to optimize the wealth of the principal while subordinating his own interest for a contractual consideration (Eisenhardt, 1989). To imagine that the agent will optimize the interest of the principal at the expense of his own interest is inviting leakage. The contract theory addresses this by stipulating that the only way that the principal can ensure that the agent sticks to optimizing the welfare of the principal is to contract the agent and commit the agent to optimizing the welfare of the principal by ensuring that the contract document optimizes the agent's welfare and then closely monitor the agent to ensure adherence to the contract. Otherwise the agent will bargain hard for lucrative packs and then optimize their interest in the process of functioning especially where monitoring is poor.

This implies that the perception of the agent as to the fairness of the contract document, plays a major role in ensuring that the agent sticks to the contract and the perks so provided, otherwise

the agent will seek to optimize both principals interest and his own interest which implies that overall there will be a conflict of interest between agent's objectives and principal's interest. The agency theory recognizes the fact that the principal has to monitor the performance of the agent and this brings or compounds the agency problem because the agent, threatened with termination is under pressure to maximize his interest as long as the agency exist (Abea, 2009).

Agency costs include perks for the agent that is contract costs, monitoring costs, leakages, lost time and opportunity due to the laxity and complacency of the agents (Jejodia et al., 2008). Maintaining these costs at the minimum level may be seen as the agency dilemma as an attempt to reduce one can trigger an increase in the others or other. The control aspect involves both internal and external auditing, accounting and record keeping and internal control systems. Clearly, the head of the institution, his deputy, teachers and other workers are agents at different levels, since they do not act on their own behalf.

In for profit organizations, the principal is easily identifiable, cohesive and coherent in his objectives and demands on the agent. However, in a public school set up, the principal is rather amorphous. Is it the government, community, politician or parent's body, who is the principal? The lack of a clear cut identification of the principal makes the agent enjoy latitude which may not be available to the commercial sector agent and this necessitates tighter controls both internal and external. On the other hand the government as an entity works through agents. It is these agents who supervise the other agents thus complicating the agency problem further.

This research project concentrated on the financial accounting aspect, where the agents through accounting for the finances availed to them, influence the ultimate purpose of their being there, academic performance. The project utilized the contract theory to develop an accounting system that engrains authorization procedures and controls to enhance monitoring and control. This research project also intends to find out whether the agency dilemma could be used to explain disconnects between availability of resources and academic performance.

Any study dealing with public or even touching on public resources would not be complete without addressing the issue of governance and accountability. The main issue of contention of

this study is that resources availability would have a more explicit impact on academic performance if issues of accountability and governance are addressed before the attempt to link resource availability and academic performance.

2.8 Conceptual Framework

Accounting reports are a natural off-shoot of the nature of enterprises where ownership and management are separated. Financial reports, be they commercial or public sector are meant to give a stewardship report which may go to the owners or other interested parties. To account is to give an explanation. The reports are meant to cater for information needs of the users of the reports so that they can make informed decisions (International Financial Reporting Standard (IASB, 2006). To meet this requirement, such reports should have the following qualitative characteristics: Understandability, relevance, neutrality, reliability, materiality, faithful presentation, prudence, completeness and comparability. The objectives of financial reports are, “To provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decisions (IASB, 2008). Financial statements do not give all the information that the users may need to make economic decisions since they largely portray the financial effects of past events and do not necessarily provide non financial information. Financial statements, also give the results of the stewardship of management, or the accountability of management for the resources entrusted to it. Unfortunately financial reports do not capture non financial aspects like quality of TLRs acquired, level of participation of stake holders in decision making, contribution of the resources available towards the achievement of the objectives of the enterprise, quality of personnel available and the level of achievement of the objectives of the organization. This study found that auditors rather than visit the schools for in-depth audits mainly receive books of accounts at the provincial offices and this is inadequate to carry out a comprehensive audit.

The introduction of international public sector accounting standards was meant to adopt international financial reporting standards to public sector accounting and they recognize the fact that public sector accounting is driven by other objectives other than profit motive. The objectives of general purpose financial reports are to provide information about the financial

position, performance and cash flows of an entity that is useful to a wide range of users in making and evaluating decisions concerning allocation of resources (IASB, 2008). The standard further provides that the main purpose of public sector financial reports is to provide information useful for decision making and to demonstrate the accountability of the entity for the resources entrusted to it by:

- 1 providing information about the resources, allocation and uses of the financial resources
- 2 providing information about how the entity financed its activities and met its cash requirements
- 3 Providing information that is useful in assessing the ability of the entity to finance its activities and to meet its liabilities and commitments.
- 4 Providing information about the financial position of the entity and changes in it
- 5 Providing information useful in evaluating the entities performance efficiencies.

Paragraph 14 of the same standard provide that, “General purpose financial statements can also have predictive or prospective roles, providing information useful in predicting the level of resources required for continued operations, the resources that may be generated by continued operations and the associated risks. Financial reports may also provide information that:

- 1 Indicate whether resources were obtained and used in accordance with approved budgets.
- 2 Indicating whether resources were obtained and used in accordance with legal and contractual requirements including legislative limitation.

To meet these objectives the financial reports, report on, assets, operational outcome, liabilities and equity. The main purpose of this study was to establish the link between the financial resources availed to schools and the achievement of the main purpose for which the schools are established, academic performance which in this case is viewed as the value delivery. This conceptual frame work recognizes the contribution of other factors to overall academic performance and establishes the theoretical interaction between these factors thus establishing the expected role of financial resource and all that goes with the provision of the resources.

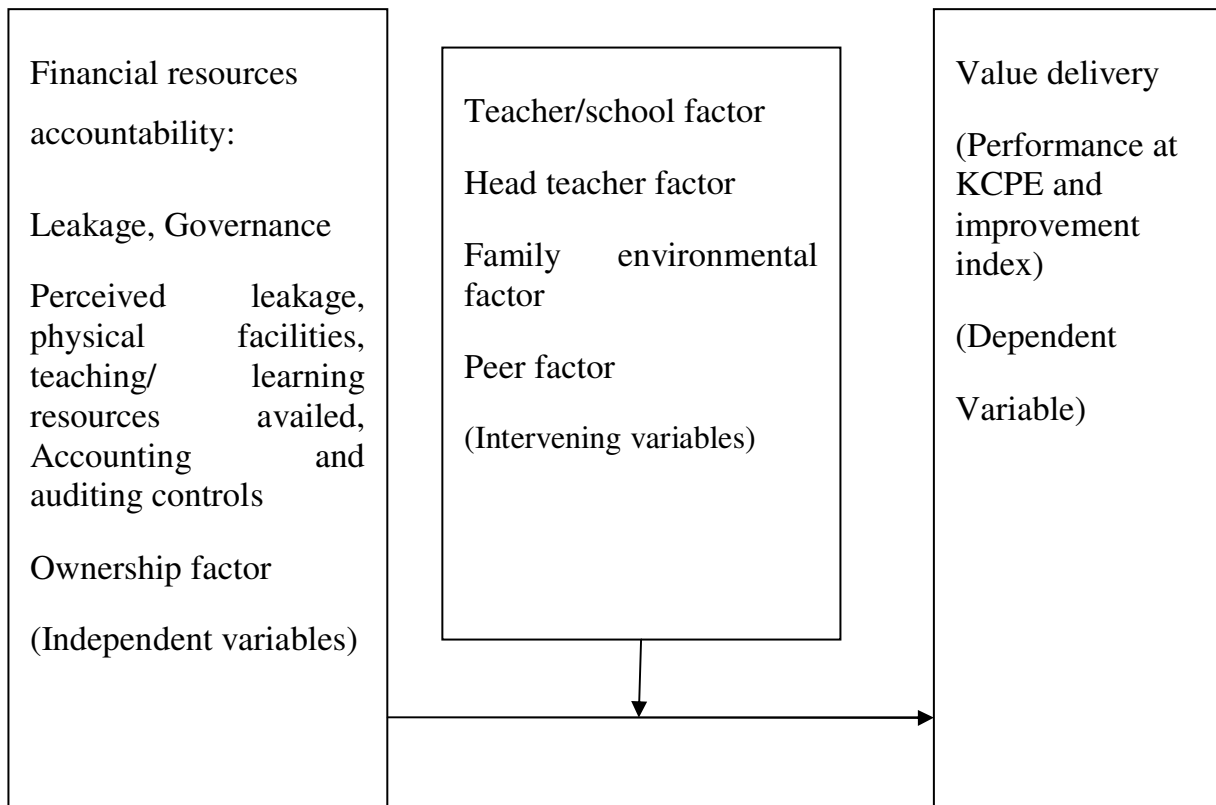


Figure 2: Conceptual Framework

Figure 2 depicts the interrelationship that exists between the various factors that interplay to determine the academic grade that a student achieves at the end of an academic program. Like all human characters, the contribution of each factor is not constant across learners, time or circumstances. Figure 2 shows the inter-relationship between the factors under investigation and other intervening variables. Research has clearly shown the relationship of the individual learner, teacher, head teacher, family, peer, class room, school factors and academic scores. However the same cannot be said about resource input and academic scores. Figure 2 also depicts that, leakage, governance, value delivery, internal controls, and ownership structures, coupled with individual, teacher, head teacher, family, peers, and classroom and school factors determine academic performance. The main contention here is whether the seeming lack of relationship between financial resources and academic performance, is as a result of leakage, failures in

accounting controls, audit and poor governance which has a negative impact on academic performance.

Crawford & Zhiqi (2014) found that students on placement generally perform better and stand a higher chance of obtaining better grades, than those without placement in the course of their study. The significance of this is that the placement brings income directly to the students which they have to work for and thus have a higher chance of using the money to help alleviate their leaning needs. The study also found that placement students outperformed their full time counter parts.

The factors that affect academic performance are many and variable. (Santo, Lensmire, 2009; Tissington & Lacour, 2011; Sum & Fogg 1991; Rowan *et al.*, 2004; Bergeson, 2006) found that poverty level had profound effect on academic performance. Smith et al., 1997; Myer, 1997) found that family income or change in family income had no significant effect on academic performance. A list of research that has been done on what determines performance or the effects of different factors on performance is inexhaustible. All these mean that academic performance as a parameter is determined by very many factors including the environment which is very volatile. The interpretation of any causative relationship with academic score must therefore be interpreted with a lot of caution. In this study the correlation rather than the causative effects are emphasized.

2.9 Chapter Summary

The chapter has dealt with general evidence on the lack of causal relationship between resources and academic performance. According to research, head teachers, teacher qualification and experience, class room conditions, parent's income, peer influence and a student's abilities are some of the factors that influence academic performance. One unique thread in all this research work is that they were done by non-accountants. By including an accounting angle in this area, this research hopes to establish the link between availability of resources, accounting for the resources, leakage, governance, prioritization of acquisitions and value for money delivery of

services to confirm the notion that resources have no influence on academic performance or provide a firm basis for the revision of the paradigm.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains information on research design, location, target population, survey sample, instrumentation, data collection and data analysis methods adopted.

3.2 Research Design

A stratified random sampling design was used in this study and this consisted of a quantitative and a qualitative approach. The aim was to establish the prevailing governance status, accounting and auditing controls in place and resource leakage. The research established the relationship between resource availability and academic performance considering the factors cited above by use of parametric and non-parametric quantitative methods.

3.3 Location

The study was carried out in Nakuru County, one of the forty seven counties in Kenya. The county comprises of seven districts. It is situated at latitude of 0.001S to 0.982S and longitude 35.631E to 36.586E. This location was chosen because of its representative nature, being the largest County of the former largest province in Kenya, Rift Valley province. The County has both urban and rural schools, fairly and poorly funded schools and academic performance runs from extremely poor to excellent. Although the County is home to former National as well as provincial secondary schools that are fairly funded from higher resource allocation and higher fee charges, favorable government subsidies, and more qualified and senior teachers, their performance is not competitive nationally. The county is cosmopolitan and has a good representation of the ethnic and cultural divides of the Kenyan communities and thus, it could easily pass as the face of education of Kenya.

3.4 Population

The population of this study was all registered secondary schools both public and private in Nakuru County. There are 326 secondary schools; 199 being public and 127 private. In each institution, the head teacher, Heads of department (HODs), class teachers, Bursar/accounts clerk/finance officer, students, store keepers and suppliers were sampled to get those who were subjected to interviews and answering of questionnaires.

3.5 Sampling Procedures

The register of schools in the respective district education office was used to form the sampling frame. The secondary schools were stratified according to ownership structure, that is, private and public schools. A sample of 33 secondary schools was taken out of the 326 secondary schools in the Nakuru County. The sample size was picked in proportion to the number of private and public schools in each district. The districts in Nakuru County are; Nakuru town, Nakuru North, Naivasha, Rongai, Njoro, Molo and Kuresoi. From the sampled schools, the Head teacher, bursar, Heads of departments, store keeper, class teachers, students and suppliers were interviewed. Due to expected non-response, which was estimated at 20% because of the sensitivity of the mater under investigation, a spare sample of 20% was taken. This sample proved adequate and was used to replace the schools that either out rightly refused to fill the questionnaires or despite their initial acceptance failed to fill the questionnaires.

3.6 Instrumentation

The researcher prepared questionnaires for the Head teacher, Deputy Head teacher, Heads of departments, accountant, teachers, students and Suppliers. With the help of two trained assistants, the researcher administered the questionnaires to the sampled schools. An observation guide was constructed to aid in collection of data related to governance, accounting, internal control, auditing, performance in national examinations and condition of facilities.

The questionnaire to the workers addressed; record keeping, actual adherence to procedures, correction of errors in the books of accounts, handling of assets and their judgment of the

management including procurement procedures. The observation part included; an assessment of compliance, record maintenance and their integrity, actual management style in practice, actual authorization procedures in practice, and compliance to budgetary allocations. Although efforts were made to obtain school documents (that is, budgets comparing budgeted and actual expenses and income, procurement contract documents, rule books or operational manuals, Kenya national examinations results and stores records, the schools were adamantly uncooperative. This was anticipated and in the sampling, extra schools were sampled with the aim of replacing any non-cooperating schools. For schools that responded, the researcher determined the level of response and if acceptable included them in the sample. This is why in the data collected there exist some blanks. However, the missing responses comprise less than 15% of the total data required.

3.7 Reliability of the Research Instruments

According to Mugenda & Mugenda (2003), for reliability to exist in the data, collection techniques must yield information that is not only relevant to the research hypothesis, but also correct. Reliability is a measure of this correctness. Reliability is a measure of the degree a research instrument yields consistent results or data after repeated trials (Cronbach, 1959; Mugenda & Mugenda, 2003). The data collected was subjected to reliability tests using Cronbach's alpha which is determined as follows:

Cronbach's basic equation for alpha (Mohsen & Dennik, 2011).

$\alpha = (n/n-1)(1-(\sum V_i)/V_{test})$ where

- n = number of questions
- V_i = variance of scores on each question
- V-test = total variance of overall scores (not %'s) on the entire test and the results of the analysis were as follows;

Cronbach's alpha on prices quoted for 11 items by the schools was 0.660 which is within acceptable range of reliability of between 0.6 and 0.9.

On subjecting the budgetary values to Cronbach's alpha analysis, an alpha value of 0.77 was obtained. The score signified that the data could be relied on.

The reliability of National examination performance data collected was tested by calculating Cronbach's alpha for 9 items and the alpha value was found to be 0.886. This means that the data was reliable. This shows that there is no reason for not relying on the data for further analysis as it lies well within the acceptable limits of between 0.6 and 0.95 (Cronbach, 1959).

This shows that internal validity of the data is high and can be relied on for further analysis as a measure of service delivery, leakage and governance of the secondary schools.

To ensure reliability of the data collected, Njoro Girl's Secondary School and Njoro day Secondary Schools were subjected to a test re-test exercise. The choice of the schools was informed by the fact that the two schools represent both urban and rural schools and Njoro day secondary school has experienced rapid improvement in performance over the last few years while Njoro Girls Secondary School has virtually stagnated over a long period of time and this provided a contrasting view. The schools were visited after a month and the same questionnaires administered and a correlation coefficient of the results calculated. The correlation coefficient of different items in the questionnaires averaged at 0.85 which meant that the responses were within reliable range.

3.8 Validity of the Research Instruments

A test is valid if it measures what it is supposed to (Mugenda & Mugenda, 2003). According to them, validity is the accuracy and meaningfulness of inferences which are based on the research results. Validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study. To ensure validity of information collected, the researcher critically discussed the research instruments with peers, supervisors and retired heads of institutions to ensure that the information sought was clear and the questionnaire specifically sought the information relevant to the research. The researcher and the two assistants replicated the same questions to different individuals of the same institution, this was later agreed and where necessary cleaned out. In order to give a reasonable assurance on the reliability of the

results, the data obtained was randomly divided into two halves and the results from the two halves compared for reasonableness and consistency (Mugenda & Mugenda, 2003).

To ensure reliability, a test re-test exercise was carried out in a school inside the sampling area. The questionnaires, observations and interviews were carried out in the selected schools twice at an interval space of two weeks. A Spearman's correlation coefficient ρ was then calculated (Lucy, 2002). A correlation coefficient of 0.8 is considered strong enough reliability of the instruments (Lorie & Airasian, 1992; Orodho, 2008).

To establish the extent of leakage, non-parametric (Kolmogorov Smirnov test) of normality test was carried out. Where the distribution was skewed to the right the schools were considered to be generally saving if skewed to the left leakage was considered to be high and if the distribution was normal, the schools were considered to be saving. If it was found to be normal, leakage was considered not to be significant. To measure the relationship between measures of leakage of resources and value delivery and also to establish the relationship between management of secondary schools looked at from the angle of accountability, auditing and control and governance and value delivery in secondary schools, a Spearman's correlation coefficient rho was calculated. To establish causative relationship, a multi-variable regression analysis was carried out.

To ensure response from respondents, a teacher leader was identified in each district and was used as a research assistant. The teacher leader was meant to elicit confidence trust and cooperation in the respondents. This was expected to act as an internal control to ensure accuracy and reliability.

3.9 Sample Size

The sample size was fixed using the coefficient of variation (CV), which is defined as, ratio of population standard deviation to Population mean. Since the CV tends to remain stable over time and with increasing population size, it is a reliable measure for use in sample size determination. (Nassiuma, 2000). In most experiments or surveys, a coefficient of about 30% is usually acceptable for sample survey work. (Nassiuma, 2000). The sample size was then

obtained using the formula; $n = \frac{NC^2}{C^2 + (N-1)e^2}$, where C is the coefficient of variation, e is the error margin we wished to tolerate in the measurements and N is the population size. An error of 5% was considered acceptable since the results are for policy purposes and not for sensitive decisions where a small error would be detrimental that is where very high levels of assurances are required. The sample was determined as follows; Where n is the sample size, N=population size (326), C= coefficient of variation (0.30) and e= error margin we wish to tolerate (0.05) thus, $n = 326*0.3*0.3/[0.3*0.3 + (326-1)*0.05*0.05] = 32.5$ aprox. 33. This is about 10% of the whole population. Gay (1992) suggests that a sample of 10% should be considered minimum for a large population and 20% for a small population. One shortcoming of this method is its lack of statistical justification which applies to many other suggested methods of fixing sample size. It should also be noted that 33 is considered a large sample in statistics. The distribution of the schools in the county were as shown in Table 3.1

Table 3.1 Distribution of Secondary Schools in Nakuru County According to Districts

| Ownership | Number of schools per District | | | | | | | total |
|-----------|--------------------------------|----------|--------------|-------|------|--------|---------|-------|
| | Nakuru town | Naivasha | Nakuru North | Njoro | Molo | Rongai | Kuresoi | |
| Public | 21 | 42 | 30 | 21 | 18 | 28 | 39 | 199 |
| Private | 25 | 34 | 39 | 3 | 8 | 14 | 4 | 127 |
| Total | 46 | 76 | 69 | 24 | 26 | 42 | 43 | 326 |

Thus using the formula, $n_h = \frac{NC^2}{C^2 + (N-1)e^2}$. The samples were distributed as shown in Table 3.2

Table 3. 2: The Proportional Allocation of Sampled Respondents According to Districts

| Ownership | Number of selected samples per category of schools per District | | | | | | | Total |
|-----------|---|----------|-----------------|-------|------|--------|---------|-------|
| | Nakuru Town | Naivasha | Nakuru North | Njoro | Molo | Rongai | Kuresoi | |
| Public | 4 | 5 | 2 | 2 | 2 | 3 | 4 | 22 |
| private | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 12 |
| Total | 6 | 8 | 5 | 3 | 3 | 4 | 5 | 34 |

The number of heads, bursars, laboratory assistants and store keepers were equivalent to the number of schools sampled as each school has one respectively. There are 7 heads of department in each school thus there were 2282 heads of department and the number of heads of department to be interviewed was determined using the sample size formula sited above were 36. In every school visited, a head of department was chosen at random. The exception was only in three schools were two heads of department sampled in the whole of Nakuru County and the same was done for class teachers. Since there were 77053 students divided into 40943 boys and 36110 girls, applying the sample size formula, 225 boys and 225 girls were sampled. For every school sampled, 2 Form II, 2 Form III and 3 Form IV students from each school sampled, were randomly sampled and requested to fill the questionnaire.

3.10 Data Analysis

The data was analyzed as per the requirement of specific hypothesis. However, before the analysis, the data was coded, sorted, arranged, cleaned, collated, organized in a manner that allowed analysis and then entered in an excel sheet ready for analysis using SPSS statistical program. Secondary data on examination results was also appended to survey data. To establish the extent of leakage of resources, one sample Kolmogorov Smirnov test and one sample chi-square test was used with hypothetical assumption of normality. To establish the relationship

between measures of leakage and value delivery, Spearman's coefficient of correlation and regression analysis was carried out and the same was done to establish the relationship between accountability and value delivery. To determine the link between resource availability, leakage of resources, facilities, governance status and performance in National examinations, linear, multi-linear, regression, chi-square and correlation analysis was carried out. Multiple linear Correlation coefficients were calculated to determine the association among various variable. A correlation matrix was established and interpreted (Nassiuma & Sango 2005; Lucey, 2002; Devore & Peck, 2005; and Lind, 2005).

To determine whether there is a difference in buying prices paid by private schools and public schools, difference of means was used, Levene's test for equality of variance was used to determine whether the prices paid by public and private schools were different or not. To establish whether there was any relationship between accounting officer's professional characteristic and value delivery in secondary schools, a regression analysis was carried out. A multiple regression analysis was also carried out to establish whether availability of resources influences academic performance in secondary schools. A multiple component analysis was also done to give insight into underlying relationships in the components under study. This Eigen values to determine the inter-component relationship and it helped identify the principle components for the study.

3.11 Ethical Considerations

To cater for ethical consideration, all questionnaires were constructed with provision to assure the respondents that the information being sort was purely for research purposes and would not be used for any other purpose without the express permission of the respondents. The researcher also appreciated the cultural diversity of the research area and enlisted the help of local leaders to ensure that the data collection was done in full regard of cultural consideration.

Accounting is a sensitive area of any undertaking. Accounting deals with the life blood of an enterprise. It is therefore desirable that accounting information be treated with discretion. However this should not be mistaken to mean that all are not entitled to information including

the owners or stakeholders. Public institutions have a duty to disclose information to stakeholders just as much as companies have a duty to disclose information to shareholders. It was unfortunate that some public schools denied the researcher data on grounds that it was confidential.

Although in this study the schools are mentioned by name, it is not in relation to the information derived from them and any person who by any means is able to associate the schools to their specific information is hereby forewarned that any disclosure of such information will amount to breach of trust.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter deals with data analysis results followed by a discussion and the implications of the results.

The main aim of this study was to establish the effects of financial resources' accountability on value delivery and how the negative effects can be mitigated using an integrated management information system in secondary schools in Nakuru county of Kenya. The study was carried out in Nakuru County on representative secondary schools, sampled according to administrative districts incorporating both public and private schools as shown in Table 4.1.

From these sampled schools, data relating to income of the schools, provision of physical facilities, number of books per student, prices paid by the schools on commonly used items, performance in KCSE examinations, accountability, governance and accounting and audit control, was captured by help of pre-tested structured questionnaires and observation guides. Data was collected from head teachers, deputy head teachers, heads of departments, class teachers, students and the bursar. Observation guides were used to collect data relating to the school, the school library and laboratory, and school store. The data collected was entered into an excel computer program where it was cleaned for reasonableness, coded and transferred to an SPSS program where it was analyzed. The scores on each of these aspects were added and an average calculated to arrive at perceived measure of the parameters. The buying prices of specified items for each school were determined and the quantities that the schools bought. The difference in the amount spent and the amount that should have been spent considering the basket were termed as the leakage. To confirm this, the opinion based leakage was determined using the goodness of fit test to establish the reliability of the determined leakage.

Table 4.1 The Distribution of Sampled Schools According to District and Category

sampled schools per category in each District

| Ownership | Nakuru Town | Naivasha | Nakuru North | Njoro | Molo | Rongai | Kuresoi |
|-----------------|---|--|--|---------------------------|---|--|---|
| Public schools | Nakuru boys, Nakuru girls, Langa Langa and Flamingo | Longonot, Naivasha boys, Utumishi academy, Muriricua and Mugaa | Jomo Kenyatta and J. M. Kariuki secondary school | Njoro Girls and Njoro Day | Molo boys and Mianzini secondary school | Kambi ya Moto, Molop girls and Kirobon Girls | Keringet and Olenguruone secondary school |
| private Schools | Afuraha and Roletto boys | Sherr Karuturi, Oserian and Bishop Githirwa | Bahati Menengai, Muthaiti boys and Mary hill | St Francis catholic | Mugumo | Wheat fields academy | Blessed valley |

4.2 Leakage of Resources in Secondary Schools Using Prices

The first objective of this study was to establish the extent of resources leakage in secondary schools in Nakuru County and its relation to value delivery. To accomplish this objective, leakage was approached from three perspectives, price leakage, budgetary leakage and perceived leakage by stakeholders. To establish price leakage, the study identified some commonly used items (maize, beans, rice, cooking fat, salt, kales, cabbages, printing papers, fool's caps and fire wood) to form a basket of goods. The prices that the schools paid for a given quantity of the commodity were established and the total cost of the basket of goods for each school were determined. The mean price was determined and the variability of the prices (inflated prices)

from the mean used to measure the extent of leakage of resources. The deviations from the mean that were subjected to the analysis including budgetary leakages and perceived leakage were as given in Table 4.2. The respondents were also asked questions touching on matters to do with cash management. On how often petty cash and cash were balanced, there was no clear policy as to when or how often cash needs to be balanced or even who to ensure that the balancing takes place. Everything was left to the head teacher to oversee. Asked on who has authority to raise a check and who oversees the use of that authority, it turned out that the head teacher was the authority carrier and also the overseer which was contradictory. On matters to do with frequency of bank reconciliation there was no outright policy on how it should be done.

When the respondents were asked whether they handle cash in the school other than petty cash, there appeared to be very clear policies but they were poorly implemented. One bursar said, “We only pay or receive cash so long as it is five thousand shillings or less”. The school accepts and pays by cash from students and suppliers yet they know very well that if anything happens to the money they would be liable. There was no clear policy as to how much cash each school should maintain at any given time. The same school maintains a petty cash of 100 thousand shillings. Although the school was categorical on the policy of school fees being paid through the bank, the concern of the researcher was many transactions of five thousand shillings and the petty cash could result to a huge amount which can be tempting. On the question of accountability, the respondents were not very sure on who the head teacher is accountable to, whether the board or the ministry of education or the parents or local political leaders.

Table 4. 2 Summary of Data on Leakage of Financial Resources Used for Analysis.

| School Id | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------|--------|--------|------------|----------|----------|------------|
| Total price for the basket | 30,725 | 26,320 | 29,352 | 66,428 | 20,140 | 31,036 |
| perceived leakage | 30 | 30 | 30 | 40 | 30 | 40 |
| price leakage | 3,054 | -1,351 | 1,681 | 38,757 | -7,531 | 3,365 |
| Budgetary leakage | 57,000 | 47,880 | -1,014,626 | -365,000 | -196,194 | 16,000,000 |
| KCSE av. Performance | 8.41 | 5.4 | 6.45 | 3.6 | 8.208 | 8.78 |

| | | | | | | |
|-------------------|-------|-----|--------|------|--------|-------|
| improvement index | 0.356 | 0.5 | -0.232 | 0.13 | -0.067 | 0.155 |
|-------------------|-------|-----|--------|------|--------|-------|

Table 4.2 Continued

| School ID | 7 | 8 | 9 | 10 | 11 | 12 |
|--|---------|--------|---------|--------|------------|----------|
| Total price for the basket | 17,660 | 18,855 | 25,284 | 37,502 | 26,364 | 22,545 |
| perceived leakage/extent of corruption | 30 | 20 | 70 | 40 | 50 | 80 |
| price leakage | -10,010 | -8,815 | -2,386 | 9,832 | -1,305 | -5,125 |
| Budgetary leakage | 100,000 | 14,749 | 330,000 | 22,000 | -1,346,503 | -72,5120 |
| KCSE av. Performance | - | 4.55 | 6.036 | 4.2 | 5.947 | - |
| improvement index | - | 1.275 | 0.041 | -0.045 | -0.174 | - |

Table4.2 Continued

| School ID | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------------|------------|---------|--------|---------------|----------|-----------|
| Total price for the basket | 24,590 | 27,747 | 29,052 | 26,943 | 20,765 | 15,568 |
| perceived leakage | 60 | 40 | 20 | 50 | 40 | 10 |
| price leakage | -3,080.58 | 76.92 | 1,381 | -727.7 | -6,905.6 | -12,102.6 |
| Budgetary leakage | -,1299,041 | 244,225 | | -804,530 | 58,306 | -49,400 |
| KCSE av. Performance | - | 9.111 | 4.522 | 7.6 | 5.102 | 3.7 |
| improvement index | - | 0.0123 | 0.256 | -0.156 | -0.150 | -0.075 |

Table 4.2 Continued

| School ID | 19 | 20 | 21 | 22 | 23 | 24 |
|----------------------------|----------|--------|----------|--------|----|----|
| Total price for the basket | 32,893 | 21,365 | 33,370 | 24,552 | - | - |
| perceived leakage | 10 | 30 | 30 | 10 | 10 | 20 |
| price leakage | 5,222.70 | -6,306 | 5,699 | -3,119 | - | - |
| Budgetary leakage | -12,173 | - | -931,198 | - | - | - |
| KCSE av. Performance | 5.186 | 2.597 | 4.724 | 4.36 | - | - |

| | | | | | | |
|-------------------|--------|-------|--------|-------|---|---|
| improvement index | -0.259 | 0.855 | -0.156 | 0.453 | - | - |
|-------------------|--------|-------|--------|-------|---|---|

Table 4.2 Continued

| School ID | 25 | 26 | 27 | 28 | 29 | 30 |
|----------------------------|--------|--------|----|------------|--------|------|
| Total price for the basket | 25,435 | 0 | 0 | 39,818 | 0 | 0 |
| perceived leakage | 50 | 50 | 50 | - | 30 | 10 |
| price leakage | -2,236 | - | - | 12,147 | - | - |
| Budgetary leakage | - | - | - | -1,360,256 | - | - |
| KCSE av. Performance | 4.6 | 2.8 | - | 4.354 | 3.1 | 8.88 |
| improvement index | 0.278 | -0.462 | - | -0.972 | -0.981 | 0.11 |

Table 4.2 Continued

| School ID | 31 | 32 | 33 | 34 |
|----------------------------|---------|----|---------|----------|
| Total price for the basket | 15,850 | 0 | 27,035 | 29,910 |
| perceived leakage | 20 | 40 | 50 | 45 |
| price leakage | -11,821 | - | -635.58 | 2,239.42 |
| Budgetary leakage | -75,000 | - | 10,193 | - |
| KCSE av. performance | 4.72 | - | 4.42 | 5.15 |
| improvement index | 1.36 | - | -0.26 | 0.43 |

The school ID has not been disclosed due to ethical issue as the respondents were promised that, that would not happen. The reader is also advised to maintain discretion in identifying the schools. Table 4.2 is a summary of the data that was used to generate Table 4.3.

When the data in Table 4.2 were subjected to analysis through SPSS the following summary of the results was relevant to this section.

Table 4.3 Hypothesis Test Summary

| Null hypothesis | Test statistics | Sign. Pr>z | Decision criteria |
|---|------------------------------------|---------------|---------------------------|
| The distribution of price leakage is normal with mean 0.000 and standard deviation of 8,713.38 | One sample Kolmogorov Smirnov test | 0.123 | Retain the H ₀ |
| The distribution of budgetary leakage is normal with mean score 256,038.61 and a standard deviation of 2,820,701.95 | One sample kolmogolov smirnov test | .000 | Reject the H ₀ |
| The distribution of perceived resource availability is normal with mean 66.97 and standard deviation of 19,55 | One sample Kolmogorov Smirnov test | 0.031 | Reject the H ₀ |
| The distribution of budgetary variance is normal with mean of 570,998.67 and a standard deviation of 3,250,128.66 | One sample Kolmogorov Smirnov test | 0.000 | Reject the H ₀ |
| The category of perceived leakage/extent of corruption occur with equal probability | One sample chi-square test | 0.126 | Retain the H ₀ |
| The category of accountability occur with equal probability | One sample chi-square test | 0.519 | Retain the H ₀ |
| The category of criteria used to select suppliers occur with equal probability | One sample chi-square test | 0.012 | Reject the H ₀ |
| Category of criteria used to prioritize purchase occur with equal probability | One sample chi-square test | 0.000 | Reject the H ₀ |

Under these circumstances, when a one sample Kolmogorov Smirnov test was carried out on the results with the null hypothesis $H_0 : \mu = \mu_0$, the test statistics was $Z_0 = \frac{\bar{x} - \mu_0}{\sigma / \sqrt{n}}$ the probability that this could not have occurred by chance are presented in Table 4.3 results are reported below.

From Table 4.3, the distribution of price leakage is normal with mean 0.000 and standard deviation of 8,713.38 with p=0.123. This implies that we cannot reject H₀ on one sample Kolmogorov Smirnov test which means that price leakage was normally distributed and not specific in certain schools. This being a non-parametric test implies that the buyers could be buying genuinely without hidden motives. However the variability is rather high and this could mean that there is a lot of latitude for the buyers to exercise which may need to be addressed, according to these findings, schools do not use prices to leak resources and the variability could be as a result of differences in market conditions.

The test results in Table 4.3 all point to the fact that schools do not use prices as a means of diverting resources from schools or in other words there was no sufficient evidence to support the hypothesis that schools use prices to leak financial resources. This point to the fact that the prices paid by the schools are normal prices and are not exaggerated prices. This was a surprise finding as one would expect that those in a position to exploit the freedom to buy would grab the opportunity to freeze the public given the general perception of corruption. This is in contrast to the Ugandan case where out of the allocations to schools, local government officials captured the allocations with only 0 to 20% of the allocations filtered to the schools and the campaigns on the newspapers increased the amount filtering to the schools to over 80% especially for schools near news paper stands (Reinikka & Svensson, 2001). This could also be attributed to the stringent procurement law which every public institution has to adhere to.

When the board members were asked about the hierarchical position of the board, they appeared to be aware that the board's position was in management but they were not aware of their responsibility. One of the respondents when asked this question answered, "BOG members are the managers of the school." This was a common answer which shows potential of conflict especially if the board chooses to micro-manage the school.

4.3 Extent of Leakage of Financial Resources Using Budgetary Deviations

The extent of leakage of resources in secondary schools was also measured using the actual spending deviations from the budgetary allocation. Using this budgetary variance as measures of leakage, Kolmogorov Smirnov one sample test was applied under the hypothesis that the budgetary variance is normal with a mean of 570,998.57 and standard deviation of 3,250,128.57 with a significance value of $p= 0.000$. This value is lower than the critical value of 0.025 for a two tail test. The verdict was that there was no sufficient evidence to support the null hypothesis and hence the null hypothesis was rejected at $p=0.000$. What this means is that the deviations were significant so as to reject the null hypothesis and accept the alternate hypothesis that the deviations are not normally distributed. This means that the deviations of actual expenditure from the budgets are not by chance, the deviations are significant and that schools use the deviations to leak resource. On further observations it was observed that the bar graphs indicated

a negative skew. This means that there are more deviations that are on the higher side than on the lower side.

The analysis given in Table 4.3 clearly indicates that budgets are used to leak resources by having the budgets agreed on and then overspending beyond the budgetary provisions. This is well in agreement with the possibility that the budgetary analysis may not be taken seriously as exaggerated prices would. This is in agreement with the findings of Schwartz & Stevenson, (1990), who identified budgetary and management inefficiencies as factors that impair effectiveness of education spending. This means that the policy makers must view the budget as a possible avenue through which resources could be lost. It was also sadly noted that segregation of duties in secondary schools is very poor and those that deal with financial issues are the head of the institutions and the bursars. All other school community members have very little access to information to do with financial matters other than that available to the public. The implication of this is that while exaggerated prices may require corroboration between the supplying entity and the accounting officer for the officer to be given his cut, budgetary leakage would not involve third parties as the accounting officer simply needs documents to show supply and the documents can either be factitious or from a real supplier who may not even be aware. To establish this possibility a study needs to be carried out where all suppliers can be circularized to determine whether all supply documents are authentic.

The implication of the results is that rather than use pricing to leak resources and draw attention to themselves, schools use budgetary allocation to leak resources. This was a surprise finding as one would expect that school accounting officer would face other officers in requesting for virement than use prices to leak resources. Another interpretation would be that the virement procedures might not be followed closely thus allowing officers to adjust budgets without asking for virement. This is an area that may require further study to establish the actual situation.

4.4 Use of Perception as a Measure of Leakage

The extent of leakage was also measured using the perception of school community members, who were asked questions relating to their perception of the extent of leakage or corruption in

their schools. The resulting scores for each school were then added to obtain an overall score for the school. The distribution of these scores was tested using the one sample chi-square test under the null hypothesis that, the category of perceived leakage/perceived extent of corruption occurs with equal probability. The probability value was 0.126 which is greater than the critical value of 0.025 for a two tail test which means that there is no sufficient evidence to reject the null hypothesis and thus the hypothesis is accepted.

It must also be noted that when the question of accountability was analyzed on the assumption of the hypothesis that the perception of accountability occur with equal probability under the one sample chi-square test, it was found that the probability that the measured parameter could not have occurred by chance was 0.519 which was greater than the critical value of 0.05. This led to the acceptance of the hypothesis that the perception of accountability in schools by the school community occurs with equal probability.

When a similar test was carried out on the criteria used to select suppliers under the assumption that the criteria occurred with equal probability, the probability that the observed occurrence could not have occurred by chance was 0.012 which was below the critical value of 0.05 and thus the hypothesis had to be rejected in favor of the hypothesis that schools use different criteria to select their suppliers.

When a one sample chi-square test was carried out on the criteria used to prioritize purchases under the hypothesis that the criteria occurred with equal probability, it was observed that the probability that the observed score did not occur by chance was 0.000 and this led to the rejection of the null hypothesis and acceptance of the alternate hypothesis that the criteria used to prioritize purchases is different in different schools. On the same note when the availability of resources in schools was subjected to one sample Kolmogorov Smirnov test under the hypothesis that perceived resource availability is normally distributed with a mean of 66.97 and a standard deviation of 19,555, the p score was 0.000 that is the probability that the observed occurrence could not have occurred by chance. The implication being that the null hypothesis has to be rejected in favour of the alternate hypothesis that the distribution of resources is not normal. This

reflects the disparity of the distribution of resources in our secondary schools. The implication of this is that are unequally funded and there is need to harmonize the funding of schools.

From the above findings, it is apparent that the perception of corruption in different schools is not markedly different and either the people were too conservative with the truth or the perceived leakage of resources may not be useful in measuring extent of leakage in secondary schools and this in itself may be perpetuating leakage in schools by failing to recognize its existence. This is in agreement with challenges identified by the ministry of education, joint review of the education sector (JRES) which identified; partial withdrawal of communities from supporting education hence reducing community participation and ownership, poor work attitude and weak supervision of staff in the education sector and culpability of communities in corruption as is evident in non-reporting of corruption cases to management for action to be taken as among eleven challenges facing the implementation of the Kenya Education Sector Support Program (KESSP).

What these finding imply is that school communities' perception of leakage of resources in their schools is not different from that of any other school. Looked at closely it is realized that the scores were more on the lower side than on the higher side meaning that the individual school community was conservative when it came to rating their schools in terms of corruption and this could easily perpetuate corrupt practices. It is also important to note that people have kind of owned the schools and are protective to the schools thus playing down on the negative things and highlighting anything that is likely to bring benefits to the schools and that is an important sign of ownership.

4.5 The Relationship between Leakage of Resources and Value Delivery

Leakage of resources is a difficult parameter to capture. This is because of the nature of leakage, the social stigma associated with those considered corrupt and the environment of secrecy associated with corruption. Every person involved in pilferage of public funds cover their tracks very carefully and the involvement of the very people who are expected and supposed to

safeguard the resources make it even more difficult to capture the variable. This makes it imperative that an indirect way must be used to establish the variable.

In this study, value delivery was measured in terms of performance at KCSE examinations and improvement index. These variables were taken to be the main purpose for which educational institutions are established. Value delivery was measured by ascertaining the cognitive displacement of the learners during the period of exposure to the learning process. The practical way, considering the prevailing circumstances, to ascertain this was taken to be the performance at KCSE and the improvement index. However it is recognized that the best way to measure value delivery in terms of cognitive displacement would be to measure the absolute cognitive displacement which should manifest itself in a comparative way. Thus comparing what the person would have done without the training and what he is capable of after the training would be a more accurate measure of value delivery. This would entail a longitudinal study to extract the displacement. The measure used in this study is a relative one and prone to the shortcomings of relative measures.

To establish the relationship between leakage of resources and value delivery, Spearman's rho correlation coefficient was calculated as per Table 4.4. From the Table it can be observed that correlation coefficients can be observed between; price leakage and improvement index which is -0.390 with a p-value of 0.059 which is above the critical value of p at 0.05 that is that the probability that the correlation could have occurred by chance. This means that the correlation is not significant at 95% confidence level. It must not be lost that the correlation is significant at 94% level of confidence and is negative, thus the higher the leakage the lower the improvement index.

The fact that the correlation is negative means that as the value of one increases, the value of the other decreases. Although the correlation is not significant at 95% level of confidence and as such for our case, the fact that it is negative is important and also that it is significant at 94% level of confidence.

Table 4.4: Spearman’s Correlation Coefficients on Leakage and Value Delivery

| | | KCSE av. performance | improvement index |
|--|-------------------------|----------------------|-------------------|
| price leakage | Correlation Coefficient | .039 | -.390 |
| | Sig. (2-tailed) | .856 | .059 |
| | N | 24 | 24 |
| budget variances | Correlation Coefficient | .514* | .275 |
| | Sig. (2-tailed) | .024 | .254 |
| | N | 19 | 19 |
| perceived leakage/extent of corruption | Correlation Coefficient | .001 | -.418 |
| | Sig. (2-tailed) | .998 | .059 |

The results in Table 4.4 imply that budgetary variance is moderately positively correlated to KCSE performance with a correlation coefficient of 0.514 and a significance score of 0.024, which means that the probability that this correlation coefficient could have occurred by chance is 0.024 which is below the critical value for a 95% level of confidence. This means that there is no evidence for us to reject the null hypothesis that budgetary leakage is not correlated to performance at KCSE in secondary schools in Nakuru County. The positive correlation might be confounding since it would be expected that budgetary variance would be negatively related to KCSE performance as resources would be diverted from their course. One factor that is becoming more and more evident is that schools that perform well charge higher fees than ordinary schools and can escape with it in the same way they can leak resources without the fear of reprisal as parents are likely to turn the other way not to disrupt the “good work” being done by the school.

These findings could also explain the source of unbudgeted expenses like tuition pay, remedial fee, holiday tuition fee, and other incomes earned by teachers for off time Table teaching. It should not be lost on us that most schools that can afford these payments are the well endowed schools and no wonder budgetary leakage goes hand in hand with performance at KCSE. This would mean that parents play a role in leakage of resources by not taking an active role in reporting malpractice. This is also in agreement with earlier observation that school community tend to understate the extent of leakage and corruption in their schools. Budgetary variance is

also slightly positively correlated to improvement index with a correlation coefficient of 0.275 and a p score of 0.254 meaning that the probability of the correlation having occurred by chance is 0.254 which is way above the critical value of 0.05 for a 95% level of confidence thus the correlation is insignificant and the null-hypothesis is accepted that there was no significant relationship between improvement index and budgetary variance.

Perceived leakage has no significant correlation with any of the variables at 95% level of confidence. However it cannot escape notice that the perceived leakage is significantly negatively correlated to improvement index at 94% level of confidence. The correlation coefficient of perceived leakage and the improvement index was -0.418 and p-score of 0.059 this is as expected since as the leakage of resources increases, the value delivery decreases.

4.6 Relationship between Accountability and Value Delivery in Secondary Schools

Accountability is one of the most important concepts in politics and economics today (Velayutham and Perera, 2004). They further emphasize the view that accountability is a rational practice that can and should be implemented in civil societies, economic institutions and organizations.

Accountability is a concept that is wide and covers very many aspects. Accountability means being able to explain what one has done with the resources at their disposal in an understandable and comprehensible manner. This would mean that one would be required to demonstrate that the transactions were captured as and when they took place, proper records were maintained, and the summarization of those records was done in accordance with generally accepted accounting principles and guidelines and that the final accounts were in agreement with the underlying records and those final accounts gave a true and fair view of the financial state of affairs of the organization (Carrington, Debase, & Lee, 2008).

According to Crouch and Winkler (2009), poor governance gives rise to many of the problems observed in the education system of poor countries today. These problems include; failure of resources like books, instruction materials and construction materials to reach the schools; high

rates of absenteeism, ghost teachers, poor teacher deployment, low attention by teachers to students whom they are not paid to tutor and wastage of resources within schools.

To establish accountability questions relating to book keeping, auditing, record keeping, use of accounting standards in accounting, were asked on a likert scale basis and the scores for each school were added up to arrive at a total score. These scores were tested for validity and reliability using Cronbach's Alpha and the score was 0.794 which was well within the critical values of 0.6 to 0.95. In the test, three items were used, accounting, governance and auditing and control where they were all taken to represent accountability. The accountability measures and value delivery measures are as shown in Table 4.4 and the results of the analysis are as shown on Tables 4.5 to 4.8.

Table 4.5: Data on Average Performance at KCSE, Improvement Index and Measures of Accountability.

| School Id | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------|-------|-----|--------|-------|--------|-------|
| KCSE av. performance | 8.410 | 5.4 | 6.45 | 3.6 | 8.208 | 8.78 |
| improvement index | 0.357 | 0.5 | -0.232 | 0.125 | -0.067 | 0.155 |
| Accounting | 17 | 13 | 19 | 17 | 19 | 16 |
| governance | 26 | 21 | 26 | 17 | 26 | 29 |
| Auditing control | 26 | 24 | 26 | 23 | 29 | 22 |
| | 7 | 8 | 9 | 10 | 11 | 12 |

Table 4.5 Continued

| | | | | | |
|-------------------|-------|-------|--------|--------|----|
| School Id | 4.55 | 6.036 | 4.2 | 5.947 | - |
| improvement index | 1.275 | 0.041 | -0.046 | -0.174 | - |
| Accounting | 16 | 20 | 9 | 18 | 15 |
| Governance | 21 | 24 | 15 | 26 | 21 |
| Auditing control | 20 | 30 | - | 22 | 19 |

Table 4.5 Continued

| School Id | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|----|--------|-------|--------|--------|--------|
| KCSE av. performance | - | 9.111 | 4.522 | 7.6 | 5.102 | 3.7 |
| improvement index | - | 0.0123 | 0.256 | -0.156 | -0.150 | -0.075 |
| accounting | 20 | 20 | 14 | 18 | 14 | 20 |
| governance | 25 | 30 | 19 | 22 | 24 | 30 |
| Auditing control | 26 | 30 | 23 | 24 | 23 | 25 |

Table 4.5 Continued

| School Id | 19 | 20 | 21 | 22 | 23 | 24 |
|----------------------|--------|-------|--------|-------|----|----|
| KCSE av. Performance | 5.186 | 2.597 | 4.724 | 4.36 | - | -- |
| improvement index | -0.259 | 0.855 | -0.156 | 0.453 | - | - |
| Accounting | 18 | | 18 | 18 | - | - |
| Governance | 30 | | 27 | 25 | - | - |
| Auditing control | 25 | | 28 | 29 | - | - |

Table 4.5 Continued

| School Id | 25 | 26 | 27 | 28 | 29 | 30 |
|----------------------|-------|--------|----|--------|--------|------|
| KCSE av. Performance | 4.6 | 2.8 | | 4.354 | 3.1 | 8.88 |
| improvement index | 0.278 | -0.462 | | -0.972 | -0.981 | 0.11 |
| Accounting | 13 | 11 | 17 | 15 | 8 | 13 |
| Governance | 21 | 19 | 19 | 23 | 16 | 22 |
| Auditing control | 17 | 10 | 25 | 24 | 15 | 26 |

Table 4.5 Continued

| School Id | 31 | 32 | 33 | 34 |
|----------------------|------|----|--------|-------|
| KCSE av. performance | 4.72 | | 4.42 | 5.146 |
| improvement index | 1.36 | | -0.263 | 0.430 |
| accounting | 16 | 17 | 16 | 15 |
| governance | 14 | 20 | 26 | 25 |
| Auditing control | 23 | 24 | 20 | 20 |

It is evident from the results in Table 4.6 that measures of accountability have significant correlation to Performance at KCSE examination. Accounting has a correlation coefficient of 0.404 with a p- score of 0.041 which means that the probability that the correlation coefficient could have occurred by chance is below the critical value of 0.05. Kendal's correlation coefficient for governance and KCSE examination performance was 0.494 with a p-value of 0.010 thus the correlation is significant at 95% confidence with the probability of the correlation being a chance correlation being 0.010 which is far below the critical probability of 0.05. This provides a basis of accepting the null hypothesis that there is significant correlation between governance and KCSE examination performance. Auditing and control and performance at KCSE examinations have a moderate positive correlation coefficient of 0.513 a p score of 0.009. This simply means that the correlation is significant at 95% confidence level with a probability of it being a chance occurrence of 0.009 which is far below the critical value of 0.05. This means that the null-hypothesis that there is a significant relation between auditing and control cannot be rejected and is thus accepted.

Table 4.6: Correlations of Value Delivery against Measures of Accountability

| | | | KCSE av. performance | improvement index |
|----------------------|----------------------|-------------------------|-------------------------|----------------------|
| Spearman's rho | accounting | Correlation Coefficient | .404* | -.043 |
| | | Sig. (2-tailed) | .041 | .835 |
| | | N | 26 | 26 |
| Gover nance | Gover nance | Correlation Coefficient | .494* | -.228 |
| | | Sig. (2-tailed) | .010 | .264 |
| | | N | 26 | 26 |
| Auditing and control | Auditing and control | Correlation Coefficient | .513** | .077 |
| | | Sig. (2-tailed) | .009 | .713 |

** . Correlation is significant at the 0.01 level (2-tailed).

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

It is important to note that there is no significant correlation between improvement index and any of the accountability measures. It is also important to note that the scores for improvement index and measures of accountability that is the probability that the correlation could have occurred by chance are quiet high.

As stated earlier, researchers who found no significant relationship between availability of resources and academic performance scores, (Ford, 1957; Pincus *et al.*, 1986; De-Groot, 1994; Hanushe,k. 1996; Schady & Paxson, 1999; Das, *et al.*, 2004; Devor & Peck, 2005; Oduol, 2006; and Hijazi & Naqvi, 2006). All these studies concluded that there was no significant relationship between availability of recourses and academic performance.

The contention of this study was that the lack of such relationship was as a result of the researchers' failure to incorporate the aspect of accountability for the resources. And as has been

demonstrated in Table 4.6, accountability for the resources is highly correlated to academic performance in KCSE.

From these observations it can be seen that accountability is highly correlated to performance at KCSE examinations. Although this measure does not establish causal relationship, it gives us an important lead into our enquiry. What this means is that as accountability is enhanced, more and more resources are used for the purpose they were meant for and consequently results improve. However there was no sufficient evidence to support the hypothesis that accountability influences improvement index. The moderately positive correlation coefficient r were 0.404, 0.494 and 0.513 for accounting, governance and auditing and control respectively with significant values of 0.041, 0.010 and 0.009 respectively which means that the correlations were significant at 95% level of confidence. For the improvement index, all the significance test scores were above the critical p -value of 0.05 for a one tail test the scores being -0.0403, -0.228 and 0.077 for accounting, governance and auditing and control with measures of significance of 0.835, 0.264 and 0.713 respectively. This might have come as a result of the fact that well performing schools would find it very hard to improve but poorly performing schools would find it easier to improve as they have wider latitude over which to improve.

The above observations imply that accountability is correlated to value delivery in form of performance at KCSE examination where accountability is split into accounting, auditing controls and governance. The contention of this study was that the previous findings that availability of resources does not impact on performance was based on a wrong premises because it ignored the accountability of those resources by ignoring the possibility of leakage of resources before they are used for the purpose for which they were meant for (De-Groot, 1994; Devore & Peck, 2005; Crouch and Winkler, 2009). From this it can be seen that improving on accountability will improve on performance with auditing and controls being significant even at 99% level of confidence. All this is in agreement with global view as sighted in the following extract from the literature review.

Researchers have demonstrated how accounting auditing and other forms of financial knowledge have become important aspects of governance process in various contexts (Neu & Rahaman, 2009). In a research aimed at exploring the increasing role of financial auditing in the fight against government sector fraud and financial mismanagement in Ghana, using the Foncauldian inspired theoretical framing, Rahaman concluded that contrary to the view that auditing is an alien phenomenon in most parts of the world and more so Africa, Financial auditing is the preferred approach to fighting government sector frauds in Ghana (Rahaman, 2009). The researcher also observed that financial auditing is privileged over other technologies of government in the context that it re-enforces the hegemony of international development agencies like the World Bank and international Monetary Fund (Rahaman, 2009).

The results for Spearman's rank correlation between value delivery and accountability are as given in Table 4.7.

Table 4.7 Spearman's Rank Correlation Coefficient on Accountability and Value Delivery.

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|----------|-------------------|----------------------------|
| 0.716 | 0.513 | 0.383 | 1.501 |

From the results in Table 4.7, it is apparent that accountability as a variable is highly rank correlated to value delivery with an R value of 0.716 and an adjusted value of R of 0.383 and an error of estimate of 1.501. What this means is that although there appears to be a high rank correlation coefficient, the adjusted score is relatively low and the accompanying error is also high and this relationship should be interpreted with caution.

The results of a regression analysis of Accountability and Perceived Leakage as independent variable with the value delivery based on the KCSE average performance as the dependent variable are as given in Table 4.8.

Table 4. 8: Regression Analyses of Accountability and Perceived Leakage.

| Variable | Coefficient | p-value |
|----------------------|--------------------|----------------|
| Constant) | -1.500 | .486 |
| Accountability | -.153 | .453 |
| Governance | .180 | .079 |
| Auditing and control | .236 | .061 |
| Perceived leakage | .002 | .927 |

From the results in Table 4.8, it can be seen that although the academic performance shows some degree of causative effect from auditing and control, governance, accountability and perceived leakage, the causative effect is weak and as per the analysis is not significant having significance scores (p-values) above the critical value of p of 0.05 for a one tail test. The t scores significant test p-values are all above the critical values 0.05 for a 95% confidence level. This means the probability that the scores as obtained could have occurred by chance is higher than the critical value of 0.05. This implies that they are not significant in determining academic performance. However it is important to acknowledge that the t-value auditing and control is 2.024 with a p-value of 0.061 which implies it is significant at 93.9% confidence level. It would be important to test the combined effect of the accountability aspect on performance which is beyond the scope of this study.

These findings are in agreement with earlier findings by De-Groot (1994); Devore & Peck (2005); and Crouch and Winkler (2009). The implication of this is that looked at separately

accountability seem not to be a determinant of performance at KCSE also looked at separately resources do not seem to affect performance but are correlated to performance.

On the side of accounting and audit control, when respondents were asked about frequency of audits it was obvious that auditing was not done consistently and stake holders have no forum to air their grievances as the annual general meetings are converted into praise arenas and grounds to ask for fee increments. One of the most disheartening thing was when a bursar clearly indicated that an audit was done but he was not aware whether a report was given to the stake holders yet he was the accountant of the school. It was also noted that audit queries are normally not followed to their logical conclusions.

On matters of discipline, most of the issues tend to revolve around the head teacher and the disciplining of the head teacher was not very well defined and the result was when community is dissatisfied with their performance they result to civil disobedience. In one outstanding case, a teacher asked what changes he would desire in the way school are managed, he indicated that, "Head teachers should be made to teach more lessons, should not be included in the board of governors and school finances should be managed by the PTA." In response to how head teachers exercise administrative authority, a respondent retorted, "I do not know because it is the deputy who does that, the head teacher is rarely seen." This was a clear indication of resentment.

4.7 Relationship of Prices Paid By Public Schools and those Paid by Private Schools

The third objective of this study was to investigate relationship of prices paid by public schools and those paid by private schools as far as procurement of resources is concerned.

Table 4. 9: Data used to Generate Table 4.10 and Table 4.11

| School_Id | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------|------|------|--------|--------|-------|-------|
| Maize/90 kg. | 3000 | 3500 | 3600 | 3,000 | 3,500 | 3,000 |
| Beans/90kg | 4600 | 4500 | 5800 | 6,000 | 5,300 | 6,000 |
| Rice/ 90kg | 9000 | 5500 | 5424 | 35,000 | 2300 | 6,000 |
| Sugar/50 kg | 6000 | 6500 | 6272 | 9,500 | 4800 | 6,500 |
| kales Price/kg. | 19 | 0 | 15 | 10 | 20 | 25 |
| Cabbage/kg. | 10 | 0 | 15 | 15 | 20 | 25 |
| Cooking fat/kg | 180 | 90 | 1682 | 1,700 | 220 | 165 |
| Salt/ kg | 23 | 30 | 22.6 | 19 | 30 | 21 |
| Foolscap/ream | 400 | 500 | 500 | 1,111 | 450 | 250 |
| printing papers/ kg | 350 | 500 | 850 | 833 | 500 | 450 |
| fire wood/tonne | 2143 | 700 | 1571.4 | 5,000 | 3000 | 4,800 |

The null hypothesis was that Private schools pay lower prices as compared to public schools. This came from the basic assumption that private schools, having direct control from owners and the owners consequently exercising closer controls on procurement get better bargains in comparison to public schools. The following Table 4.9 represents an analysis of the prices paid by private schools and public schools.

Table 4.10 Levene’s test for equality of variance of prices paid by private and public schools.

| Variable | F-value | p-value |
|--------------------------|----------------|----------------|
| Maize/90kg | 4.486 | .044 |
| Beans/90kg | .270 | .608 |
| Rice/50kg | 5.619 | .026 |
| Sugar/50kg | .061 | .807 |
| Kales/per kg | 8.348 | .009 |
| Cabbages/per kg | 1.731 | .202 |
| Cooking fat/per kg | .382 | .542 |
| Salt/per kg | 16.278 | .000 |
| Foolscap/per ream | 15.240 | .001 |
| Printing papers/per ream | 14.284 | .001 |
| Fire wood-price per ton | 26.871 | .000 |

From the results in Table 4.10 on Levene’s test (non-parametric test) which is a test for homogeneity of variance, it is evident from the p-values that some variances of specific items are significant ($p < 0.05$) this means that the variability of those prices are significantly different. Of specific interest are kales, salt, foolscaps, printing papers and fire wood whose significant levels are high at 100 and 99% confidence levels. This could be a fertile avenue for leakage of resources from schools. The variability of sugar, cooking fat beans and cabbages are not significant ($p > 0.05$). This could mean that these items are not used to leak resources from schools and this appears to be reasonable as prices of sugar and beans which are goods in short supply are likely to have their prices fixed by the market.

To determine if there were any significant difference in the mean of the prices paid by private schools and public schools using a two sample t-test. The results are given in Table 4.11.

Table 4.11: Test of the Difference of Means for the Prices Paid by Public and Private Schools.

| Variable | Mean Public | Mean Private | Difference (Pub-Pri) | t | p-value |
|--------------------------|------------------------|-------------------------|---------------------------------|----------|----------------|
| Maize/90kg | 3215.79 | 2850.00 | 365.789 | 1.444 | .161 |
| Beans/90kg | 5710.53 | 4687.50 | 1023.026 | 2.866 | .008 |
| Rice/50kg | 5135.70 | 4262.50 | 873.204 | 1.242 | .226 |
| Sugar/50kg | 6783.00 | 5677.14 | 1105.857 | 1.282 | .213 |
| Kales/per kg | 347.19 | 1964.98 | -1617.796 | -1.273 | .218 |
| Cabbages/per kg | 157.65 | 16.43 | 141.218 | .630 | .535 |
| Cooking fat/per kg | 187.84 | 176.43 | 11.414 | .475 | .639 |
| Salt/per kg | 49.92 | 1690.57 | -1640.648 | -1.680 | .106 |
| Foolscap/per ream | 368.33 | 2832.86 | -2464.524 | -1.619 | .119 |
| Printing papers/per ream | 752.63 | 4804.29 | -4051.654 | -1.571 | .129 |
| Fire wood-price per ton | 3376.02 | 8531.43 | -5155.406 | -1.855 | .076 |

At 95% level of confidence, the difference in of means of prices paid by public schools and those paid by private schools ranges from negative to positive for different items. This means that the prices paid by private schools are higher while in some items the prices are lower. Where the

difference of means is negative, it means that the prices paid by private schools are higher than those paid by public schools and the converse is correct. The magnitude of the difference can also be used to measure the extent of the difference. However it can be observed that the difference in the mean price of beans paid by public and private schools is significant having a t-score of 2.866 and a p score of 0.008 which is significant at 95% confidence level. All the other differences of means are not significant. This means that the prices paid by private and public schools are not significantly different.

All these point to the fact that the prices paid by private schools and those paid by public schools are not significantly different as far as prices paid for common items are concerned. The hypothesis that private schools negotiate lower prices than those paid by public schools is thus rejected as there is no evidence to support it and the alternate hypothesis accepted that is; there is no difference in the prices paid by public and private secondary schools in Nakuru County. This conclusion is supported by the finding that the mean difference in the prices paid by public schools and those paid by private schools are not significantly different. As surprising as this may be, the reality on the ground is that private schools are not managed by owners but by agents who are subject to agency theory where adverse selection and moral hazards are present. This is also in support of the fact that schools do not use pricing as a tool to leak resources this would imply that the prices paid are market prices and the variability observed is just the market dynamism.

4.8 Effect of Availability of Financial Resources on Value Delivery

The main interest in this study was to establish whether availability of resources has any influence on performance in national examinations. To accomplish this, a number of variables were identified and their influence on KCSE grades determined by calculating correlation coefficient and regressing the factors against performance at KCSE. This section dealt with the influence of professional characteristics factor of the accounting officers of the schools on performance in KCSE examinations. The factors considered were; Head's score, where the heads experience as a teacher, as a head, his age, education level and professional training were all captured and scored. The bursar was similarly assessed and the score captured. Other factors

considered were total income of the school and books given to each student and physical facilities, all to represent availability of resources. Other factors included budgetary variances and price variance. On analysis, the factors revealed the following.

Table 4.12 Regression of Performance on Accounting Officer’s Professional Scores and Total Income

| Model | Un-standardized Coefficients B | t | Sig. |
|------------------------|-----------------------------------|-------|------|
| (Constant) | 4.105 | 2.452 | .020 |
| heads score | -.036 | -.319 | .752 |
| bursars score | -.048 | -.484 | .632 |
| total income of school | 8.590E-008 | 3.740 | .001 |

Earlier findings contended that availability of resources had no significant influence on the performance of students in National examinations (Pincus & Rolph, 1986; Das, Dercon, Habyarimana & Krishnan, 2004; and Dowd & Grant, 2006). While others contended that availability of resources has significant influence on academic score (Akinyemi & Akinyemi 2012) According to Bold et al, (2010), low resources availed to schools in Kenya on inception of the free primary education led to low academic performance. They acknowledged reduced demand in response to a price decrease for public schools provides prima facie evidence of a decline in public school quality, consistent with exam results (Akinyemi & Akinyemi, 2012)

From Table 4.12, on the student t scores recorded, it is only total income that has a significant t score of 3.740 and a significant p score of 0.001. This means that the probability that the t score could have been a chance occurrence is 0.001 which is below the critical value of 0.025 for a two tailed test at 95% confidence level standardized B coefficient of 0.643 and a t-score of 3.740 with a b score that is positive at 95% confidence level. This means that the t score is significant

at 95% confidence level. The other two factors are not significant in determining performance in KCSE. The heads experience both as a teacher and a head, age and professional training had a t-score of -0.319 and a significance score of 0.752 which is way above the critical p-value of 0.025 for a two tail test. The B score of -0.036 though insignificant, being negative suggests a negative relationship thus as one increases the other moves in the opposite direction. The other accounting officer, the bursar's experience, professional training age and education all summed up had no significant influence on academic performance at KCSE. The bursar's t-score was -0.484 a significance score of 0.632 and a coefficient b-score of -0.048. This implies that the factor under consideration has no causal influence on performance at KCSE at 95% level of confidence.

The null hypothesis that availability of resources affects performance in KCSE cannot be rejected for total income since the probability that the regression could have been caused by chance factors is 0.000 well below the critical value 0.05. But there is no sufficient evidence to accept the hypothesis for heads score and bursars score that is the professional factors of the accounting officers.

This means that income has a significant predictive capacity as far as KCSE performance is concerned while the other two professional characteristics of the accounting officers do not.

To further investigate the relation between resources and performance in National examinations, a multi-regression analysis was carried out to test the regression of total income, books with students, physical facilities available, market value of the schools, and perceived provision of resources. The result of the analysis, are summarized in Table 4.10 below.

Table 4.13 Multiple Regression of Performance Against Measures of Resource Availability.

| Model | Un-standardized Coefficients | | | | Correlations | | | |
|---------------------------------|------------------------------|-------|-------|------|--------------|-------|-------|--|
| | a | b | t | Sig. | | | | |
| 1 (Constant) | 2.153 | 1.116 | 1.929 | .067 | | | | |
| perceived resource availability | .014 | .016 | .861 | .399 | .376 | .185 | .111 | |
| Market value of school | 1.058E-09 | .000 | .455 | .654 | .415 | .099 | .059 | |
| total income of school | 4.501E-08 | .000 | 2.707 | .013 | .641 | .509 | .348 | |
| physical facilities | -.001 | .005 | -.129 | .898 | .373 | -.028 | -.017 | |
| books with students | .154 | .048 | 3.239 | .004 | .630 | .577 | .417 | |

a. Dependent Variable: KCSE average performance

From Table 4.13 it is apparent that the coefficient a for total income of schools is negligibly small while the b coefficient or the gradient is 0. However, the t score and the correlation coefficients are significant at 2.707 and 0.641 respectively with a p value of 0.013 and books availed to the students have regression coefficients of 0.154 and 0.456 respectively with p-scores of 0.000 and 0.048 respectively. The P-values for the two parameters are below the critical p-value of 0.05. This means that there is a causal relationship between performance at KCSE and books availed to students and total income of the school. The implication is that there is no sufficient evidence to reject the hypothesis that availability of resources has significant influence on national examination performance. This finding is in contrast to earlier studies that resources have no significant influence on academic performance (Pincus & Rolph, 1986; Das, Dercon, Habyarimana & Krishnan, 2004; and Dowd & Grant, 2006). These findings are in agreement with the findings of Akinyemi & Akinyemi, (2008). The other factors, perceived resource availability, market value of school and physical facilities are not significantly related to performance in National examinations. These simply points to the fact that where finances available are used to increase physical facilities, their impact on academic performance may be overshadowed and thus give the false impression that resources do not impact on academic

performance. It is important to note at this point that one of teachers in response to the question, “If you are given an opportunity to change three things in the way management of secondary school is conducted in Kenya, what you would change? He responded, “I would have all board members as retired teachers and teachers would be the ones to purchase teaching material.” This is an indication that there is mistrust between the teachers and the board.

Table 4. 14: Correlation Coefficients of Value Delivery against the Availability of Resources

Correlations

| | | KCSE av. performan ce | total income of school | physical facilities | books with students | budget variance s |
|------------------------|---------------------|-----------------------------|------------------------------|------------------------|---------------------------|-------------------------|
| KCSE av. performance | Pearson Correlation | 1 | .592** | .317 | .502** | .338 |
| | Sig. (2-tailed) | | .000 | .067 | .002 | .051 |
| total income of school | Pearson Correlation | .592** | 1 | .500** | .262 | .598** |
| | Sig. (2-tailed) | .000 | | .003 | .141 | .000 |
| physical facilities | Pearson Correlation | .317 | .500** | 1 | .216 | .091 |
| | Sig. (2-tailed) | .067 | .003 | | .219 | .610 |
| Books with students | Pearson Correlation | .502** | .262 | .216 | 1 | .089 |
| | Sig. (2-tailed) | .002 | .141 | .219 | | .615 |
| budget variances | Pearson Correlation | .338 | .598** | .091 | .089 | 1 |
| | Sig. (2-tailed) | .051 | .000 | .610 | .615 | |

** . Correlation is significant at the 0.01 level (2-tailed).

From Table 4.14 it can be seen that there is a positive Pearson’s correlation coefficient between total income of the school (availability of resources) and performance in national examinations

of 0.592 with a p-value of 0.000 showing that the probability that the coefficient could have been as a result of chance is below the critical value of 0.05 thus we have no reason to reject the hypothesis that availability of resources is significantly correlated to performance at KCSE

The same argument can be fronted for the relation between physical facilities and KCSE performance. The Pearson's coefficient is 0.317 with a p-score of 0.067 is well outside the critical value of 0.025 for a two tail test at 95% confidence level and thus the null hypothesis that physical facilities are significantly correlated to KCSE performance has no particular evidence to support it. This means that the probability that the correlation exhibited by the data could have occurred by chance was 0.067 and the probability is far above the critical value of 0.01.

The relationship between books with students and KCSE performance stands at 0.502 with a p-score of 0.002 which is far below the 0.025 critical value for a two tail test, indicating that the correlation is significant and thus we cannot reject the null hypothesis that the books with students affects performance at KCSE

The Pearson's correlation coefficient for budgetary variance and KCSE performance was 0.338 with a p-score of 0.051 which is above the critical value of 0.025 thus there is no evidence to accept the null hypothesis that the budgetary variance is related to performance in KCSE. This may be due to the fact that budgetary variance is a random variable or that the big schools have large incomes and the higher variances.

A by-product of this analysis is the relation between budgetary variance and total income of the schools with a Pearson's correlation coefficient of 0.598 with a p-score of 0.000 implying that the probability that the correlation could be a chance occurrence is 0.000. This implies that the correlation is significant at 95% confidence level. In the same way physical facilities and total income of a school are correlated. Pearson's correlation coefficient between the two variables is 0.500 with a p-score of 0.003 which is below the critical value of p the probability that the correlation could be a chance correlation.

Table 4.15: Comparative Correlations of Private and Public Schools, Public schools

| Category of school | | books with students | income of school | heads score | KCSE av. performance | governance | accountability | |
|--------------------|----------------------|---------------------|------------------|-------------|----------------------|------------|----------------|--------|
| public schools | books with students | Pearson r | 1 | .533* | -.165 | .751** | .110 | .189 |
| | | Sig.(2-tailed) | | .013 | .453 | .000 | .634 | .411 |
| | school income | Pearson r | .533* | 1 | -.071 | .736** | .408 | .228 |
| | | Sig. (2-tailed) | .013 | | .759 | .001 | .066 | .320 |
| | heads score | Pearson r | -.165 | -.071 | 1 | -.244 | .174 | .195 |
| | | Sig. (2-tailed) | .453 | .759 | | .330 | .451 | .398 |
| | KCSE av. performance | Pearson r | .751** | .736** | -.244 | 1 | .205 | .149 |
| | | Sig. (2-tailed) | .000 | .001 | .330 | | .414 | .555 |
| | governance | Pearson r | .110 | .408 | .174 | .205 | 1 | .654** |
| | | Sig. (2-tailed) | .634 | .066 | .451 | .414 | | .001 |
| | accountability | Pearson Correlation | .189 | .228 | .195 | .149 | .654** | 1 |
| | | Sig. (2-tailed) | .411 | .320 | .398 | .555 | .001 | |

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

When the schools were split into public and private secondary schools and the correlation of the factors calculated, Table 4.16 was obtained. From the Table it can be observed that at 95 % degree of confidence the following variables had significant correlation coefficient.

For public schools books with students and income of the schools had a correlation coefficient of 0.533 and a 2-tail significant score of 0.013, books with students and KCSE performance had a score of 0.751 with a 2 tail significant score of 0.000.the rest of the variables have no significant correlation coefficient their 2-tail significant score being above 0.05 which means that the probability that the exhibited correlation could be attributed to chance is higher than the critical value of 0.05. School income has significant correlation coefficient with books with students and KCSE performance.

Table 4.16: Comparative Correlations of Private and Public Schools, Private schools

| | | | | | | | | |
|------------------|---------------------|-----------------|-------|------|------|-------|-------|------|
| private school s | Books with students | Pearson r | 1 | .199 | .315 | .800* | .532 | .229 |
| | | Sig. (2-tailed) | | .607 | .375 | .017 | .175 | .585 |
| | School Income l | Pearson r | .199 | 1 | .569 | .242 | .446 | .236 |
| | | Sig. (2-tailed) | .607 | | .086 | .531 | .268 | .574 |
| | heads score | Pearson r | .315 | .569 | 1 | .370 | .477 | .205 |
| | | Sig. (2-tailed) | .375 | .086 | | .326 | .194 | .597 |
| | KCSE performanc e | Pearson r | .800* | .242 | .370 | 1 | .730* | .617 |
| | | Sig. (2-tailed) | .017 | .531 | .326 | | .040 | .104 |
| | governance | Pearson r | .532 | .446 | .477 | .730* | 1 | .519 |
| | | | | | | | | |
| | accountabil ity | Pearson r | .229 | .236 | .205 | .617 | .519 | 1 |
| | | Sig. (2-tailed) | .585 | .574 | .597 | .104 | .152 | - |

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

Comparing this with the score of private schools it is observed that books with the students have no significant correlation with the income of the school. What this implies is that the money collected by the schools is not necessarily used to provide learning materials to the students and to ensure that students get value for their money a government intervention may be required to direct that a certain portion of income must be dedicated to books. The correlation coefficient is 0.199 and the two tailed significant score of 0.607. The only time it seems to exhibit a reasonable correlation though insignificant is when the accountability is high. When it comes to books with students, the correlation with performance in KCPE is significant at a score of 0.800 and a two tailed significant score of 0.017 and the score on governance and books is also reasonably high though not significant. This indicates that where governance is good students have a higher chance of having with them more books.

Heads score had no significant correlation with any of the factors both in private and public schools. The implication of this is that the principal's experience as a teacher, experience as head, age and educational background have little influence if any on the factors under observation. This observation is important in that so far no empirical study has been done to determine the effects of heads age, professional qualification, educational qualification and experience both as a teacher and a head teacher on academic performance yet the factors continue being used as criteria to determine the persons to be promoted to head secondary schools. Factors that have been sighted to influence academic performance include; death of one or both parents, engagement in manual labor by students, too much engagement in family chores, level of income of the parents, students being sent home to collect fees, business as a source of income for parents, engagement of students in social ceremonies, discipline, time spent on studies (Awiti, 2012; Kalembana et al., 2013).

Research has also identified the following as factors that affect performance in learning: teacher training, teacher experience, teacher's abilities, the pupil's abilities, teacher's salaries, teacher pupil ratio, instructional spending and expenditure per pupil (Kalembana et al., 2013; Ndege and Magati, 2013).

In an analysis of factors that impact academic achievement among Asian American, African American and Hispanic students,” it was observed that Asian Americans continued to outperform whites and other minority students even though they had experienced the same atrocities as other minority groups. The aim of the study was to find out factors that contributed to their success and to implement those factors into educational practices of other minority groups. The study found that the Asian American students were more optimistic and viewed America as a land of opportunity. They trusted the American society and worked hard in school and their jobs to succeed. The parents hold their youth, not the school, accountable for school success. The study isolated the following factors as the major factors; time spent on studies, study habits and parents involvement in their children’s school work (Nickerson & Kritsonis 2006). Educational achievement has been found to be a function of: family factors, class room and school factors, Head teacher and teacher factors. Home factors have been identified as; father’s education level, house-hold income, family material possession and to a lesser extent mother’s education level. Class room conditions include; peer influence, teaching methodology and teacher attendance, marking of learner’s books, shortage of teachers and teaching and learning materials and involvement of the learner in the learning activities. School conditions include; political influence and management competencies (Ford, 1957; Pincus *et al.*, 1986; Devor & Peck, 2005; Oduol 2006; Hijazi & Naqvi, 2006; Kalembana *et al.*, 2013; Ndege& Magati 2013). All these findings are in agreement with the findings of this study.

Implications of the Findings

In public schools, governance is only related to accountability while in private schools it is significantly correlated to performance in KCSE

It is also worth noting that school income in public schools has a high correlation coefficient of 0.766 with a 2-tail significant score of 0.001 which is significant at 0.05 critical p-value but the same cannot be said of private schools the correlation coefficient between income of the school and performance at KCSE is 0.242 and a significant 2-tail score of 0.531 meaning that the probability that, that score could be by chance is 0.531. What this means for policy purposes is that private schools do not invest back the money they get to acquire grades The government

needs to come up with a policy to guide the private schools as to how much of their total collection should be re-invested in providing service to the learners. This will ensure that learners get value for their money. This will also curtail the exploitation of the learners by schools. This is in step with what would be expected as the profits made are for the enrichment of the owners and this is part of the adverse selection where the owners despite knowing that by reinvesting the resources in the schools would be benefiting the learners chooses to satisfy his own needs.

It is also proposed that the private schools, since they provide services that are desirable and that compliment government efforts, should enjoy the same status as non-governmental and charitable organizations that are engaged in sourcing funds to alleviate the suffering of Kenyans. By providing education, private schools directly reduce government burden, play a role in closing the gap between the rich and the poor by providing education albeit at a higher cost than the government, private schools directly reduce pressure on government by reducing the numbers seeking education from the government. So they should not be subject to income tax on profits so long as the profit is reinvested in provision of education. The schools should be taxed on any payments made to employees through pay as you earn and this would create room for volunteers to work for private schools as well as public schools. If the owners of the schools were to derive any benefits from the schools, this should be taxable benefits but should be allowed to withdraw their capital from the schools once the schools become self supporting without being taxed.

The constitution has guaranteed access to education by all from nursery to secondary schools and makes it mandatory. The government also introduced free education in secondary schools where every registered student is allocated an amount of money per year. The unfortunate thing about this fund is that it is only available to public secondary schools.

This study recommends the introduction of a voucher system where students would be allowed to choose a school of their choice be it private or public. The system would allow students determine the school to attend and bring the public schools at par with private schools and at the same time, allow the reinvestment of the funds so provided. The schools would thus compete on

a level ground and this would challenge the public schools to improve on their service delivery and then enrolment can be used as a measure of performance in the schools. The final beneficiary would be the learner and the community at large. In this system all eligible students would be identified and allocations by the government would be done via community involvement to ensure transparency in dealing with the funds and to stem the possibility of capture of the resources before they reach the beneficiaries.

The professional scores of the accounting officers were obtained by adding their score on professional experience as a teacher, as a headmaster, educational qualification and professional experience and correlating the score to performance in the respective schools.

Table 4.17: Category of school

| School type | Frequency | Percent |
|----------------|-----------|---------|
| Public school | 23 | 67.6 |
| Private School | 11 | 32.4 |
| Total | 34 | 100.0 |

From Table 4.17 we notice that the private sector participation in provision of education is less than half that of the public sector, the private sector provides about 30% of the total. The ownership structure of secondary schools is shown on figure 3

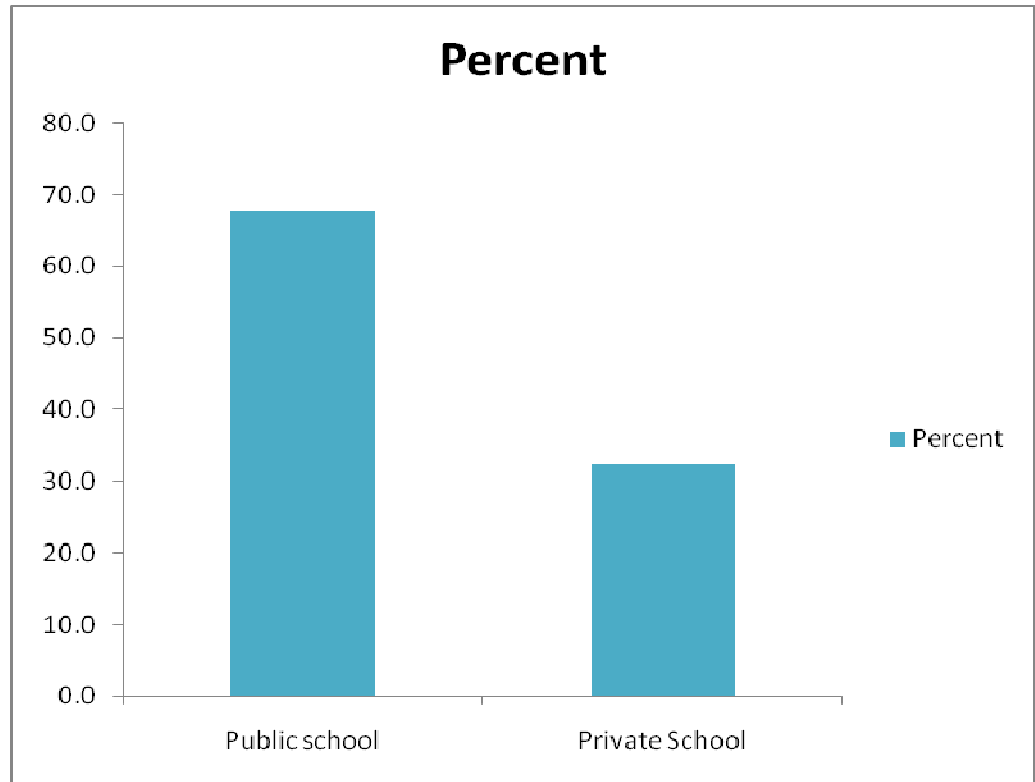


Figure 3: Category of secondary schools.

Table 4.18: Gender of respondents

| gender | Frequency | Percent |
|--------|-----------|---------|
| Female | 8 | 23.5 |
| Male | 26 | 76.5 |
| Total | 34 | 100.0 |

The management of the education sector as per the data collected does not meet the gender requirement of 30%. It stands at 23% females and 67% males. This implies that something needs to be done to bring parity in the management of education in the country. This can be achieved by promoting more women teachers to head public and private schools or arranging succession plans to include more women than men.

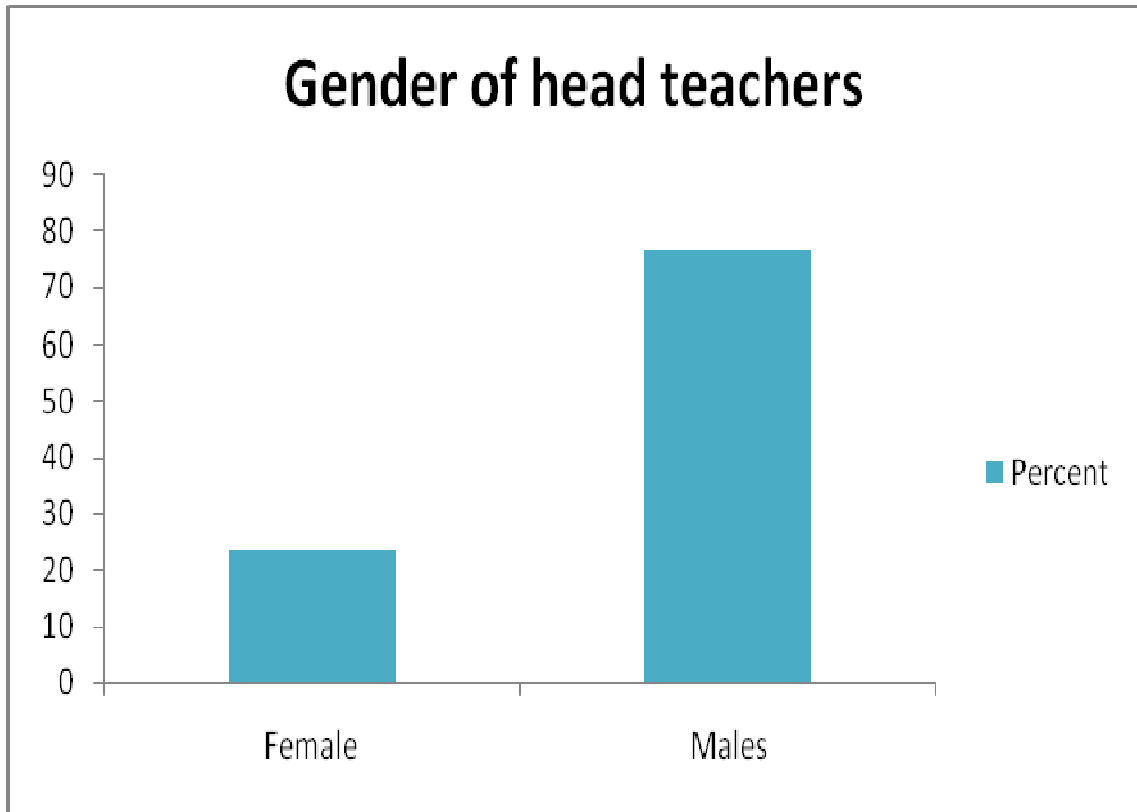


Figure 4: Headship of secondary schools by gender

Table 4.19: Education level of head teachers

| Formal education | Frequency | Percent |
|------------------|-----------|---------|
| S1 | 2 | 5.9 |
| Diploma | 1 | 2.9 |
| First Degree | 17 | 50.0 |
| Masters | 11 | 32.4 |
| Doctorate | 2 | 5.9 |
| Total | 33 | 97.1 |
| No information | 1 | 2.9 |

When head teachers were asked to state their education levels the data obtained was as given by Table 4.19. What came out clearly is that the head ship of secondary schools is in very able hands academically. The data indicated that over 80% of the heads are either fist degree or second degree holders and about six% have doctorate qualification thus only less than 9% are diploma or S1 holders.

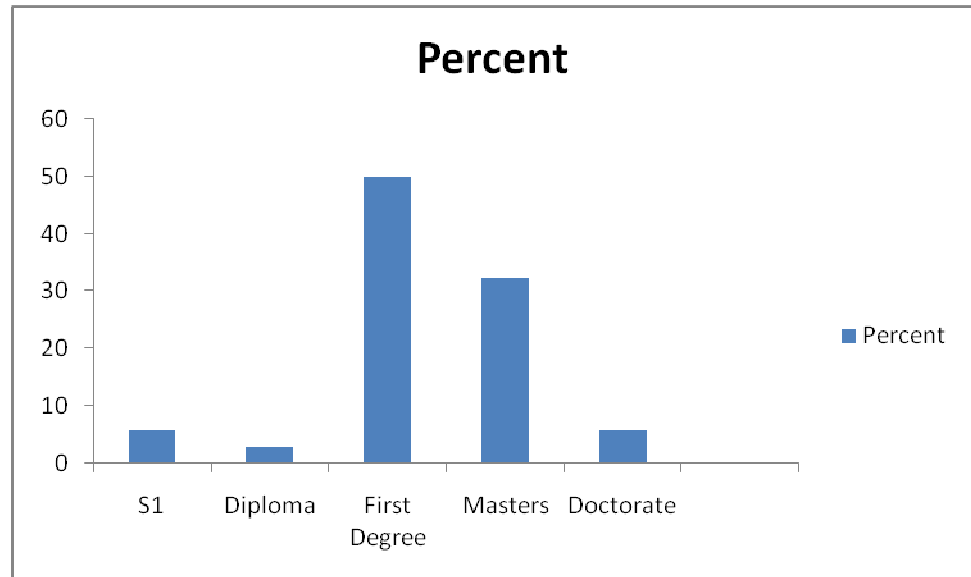


Figure 5: Education levels of head teachers.

It can be observed that teacher education as far as head teachers are concerned is almost normally distributed with fist degree as the mean. However it can be observed that those with first degree and above constitute the majority of the heads (above 90%). The data is leptokurtic with a high kurtosis value.

Table 4.20 Years of experience as a teacher

| Experience (yrs) | Frequency | Percent |
|------------------|-----------|---------|
| < 5 | 3 | 8.8 |
| 6-10 | 4 | 11.8 |
| 11-15 | 3 | 8.8 |
| 16-20 | 4 | 11.8 |
| 21-25 | 8 | 23.5 |
| > 25 | 12 | 35.3 |
| Total | 34 | 100.0 |

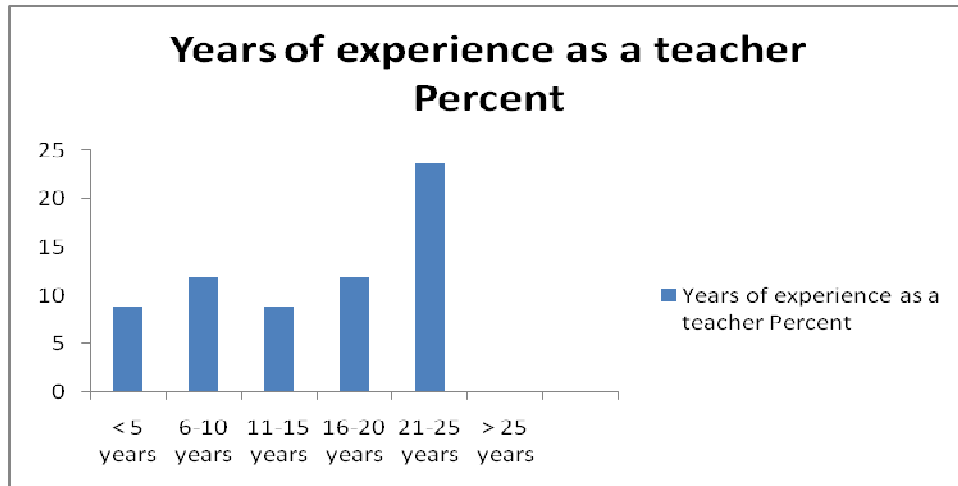


Figure 6: Years of experience as a teacher

When the head teachers were asked about their number of years of experience as teachers, the responses were as given in Table 4.20 which indicate that teachers are generally promoted after an average of 16 to 20 years of experience as teachers. However, those that were promoted after 20 years of experience were 58%, prompting the feeling that teachers wait too long to be promoted and no wonder we have teachers threatening to go on strike every now and then. If on the other hand we look at the possibility of a teacher getting to headship, it's remote and promotion to headship may be seen as a signal to retirement.

From the bar graph, it can be seen that the distribution of the data is heavily skewed to the left. The implication of this is that the mean promotion experience is below the mode and the median experience.

Table 4.21: Experience as a head teacher

| Experience (yrs) | Frequency | Percent |
|------------------|-----------|---------|
| < 5 | 10 | 29.4 |
| 6-10 | 13 | 38.2 |
| 11-15 | 5 | 14.7 |
| 16-20 | 4 | 11.8 |
| 21-25 | 2 | 5.9 |
| Total | 34 | 100.0 |

Years of experience as a head teacher

When it comes to experience as head teachers, it can be observed that more than 60% of the heads of institutions have ten or less years of experience this can be explained by the rapid development of the education sector and also the fact that majority of teachers are promoted when they have served for over twenty years and thus retire before they have gained enough experience or when they get the right experience they are retired and new comers have to be trained to take over. This policy is not tenable as a lot of resources are wasted in training the teachers to become head masters. It's proposed that a study can be carried out to determine the effects of the head teacher's promotion policy and its costs

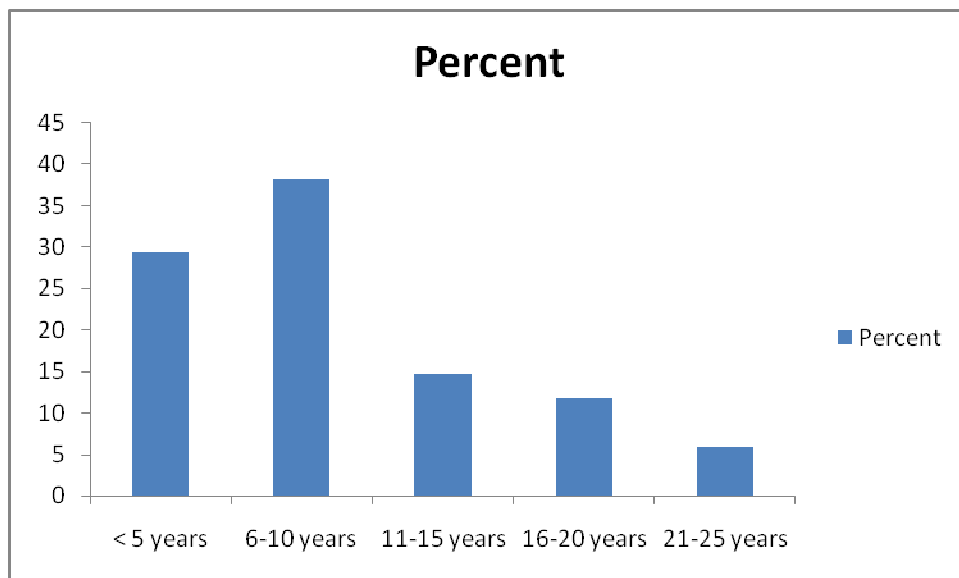


Figure 7: Years of experience as a head teacher

From figure 6 it can be seen that the distribution is skewed to the right. This means that the mean experience for head teachers as head teachers is less than the mode and the median. This implies that the mean experience of heads is less than ten years. It also means that Head masters retire before they have ten years of experience and another head has to be trained. This would require either the cost of training a head teacher be minimized or the number of years a head-teacher works be increased to utilize the knowledge gained in the training

Table4. 22: Procurement Prioritization Criteria

| Procurement criteria | Frequency | Percent |
|-----------------------|-----------|---------|
| None response | 3 | 8.8 |
| availability of funds | 20 | 58.8 |
| Needs | 3 | 8.8 |
| Budgetary allocation | 4 | 11.8 |
| government guidelines | 4 | 11.8 |
| Total | 34 | 100.0 |

From Table 4.22 it can be observed that schools do not use government guidelines to prioritize purchases. In actual facts, availability of funds, needs, and budgetary allocations account for over 88%

Implication of the observations

Prioritizing criteria, important as it has been ignored in secondary schools. Government guidelines are not being followed. Use of need, availability of resources and budgetary allocations are too much latitude for the school management. The Government needs to either make the guidelines more practical, user friendly or carry out a study to determine the best way to guide procurement of school needs.

When respondents were asked about custodial arrangement of the documents of title, majority of the respondents were not sure who kept the documents of title but it turned out that it was mainly the head teacher and the bursar who were aware of the documents of title

When suppliers were asked about the possibility of paying bribes they were fast to accept that bribes were paid but not by them but by their competitors which was an indication that bribery could be going on but we could not establish the extent of the bribery.

When students were asked to state the changes they would desire in the way the school buys goods, principle exercises his powers the way goods are procured The students were very clear as to what they would want. They emphasized the need to procure study materials, appropriate food items and lab equipment. On admi9nnistration many students agreed with their head teachers and supported them against their teachers.

4.9 Principal Component Analysis (PCA)

PCA is a multivariate technique for examining relationship among several quantitative variables; we wished to determine the relationship between the following variables; perceived leakage /extent of corruption, price leakage, Budgetary leakage, accountability, governance, auditing and control, perceived resource availability, budget variances, entry average grade and KCSE average performance. We carried out multiple correlation and thereafter principal component analysis

Table 4.23: Correlation Matrix of the Factors Under Investigation

| variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|
| 1 | 1.000 | | | | | | | | | |
| 2 | 0.188 | 1.000 | | | | | | | | |
| 3 | 0.077 | 0.047 | 1.000 | | | | | | | |
| 4 | 0.083 | -0.010 | -0.190 | 1.000 | | | | | | |
| 5 | -0.073 | -0.171 | 0.245 | 0.458 | 1.000 | | | | | |
| 6 | 0.121 | -0.027 | -0.204 | 0.646 | 0.341 | 1.000 | | | | |
| 7 | 0.208 | -0.517 | 0.188 | 0.077 | 0.306 | 0.158 | 1.000 | | | |
| 8 | 0.209 | 0.019 | 0.744 | -0.062 | 0.290 | -0.262 | -0.025 | 1.000 | | |
| 9 | 0.342 | -0.023 | 0.144 | 0.448 | 0.627 | 0.437 | 0.391 | 0.243 | 1.000 | |
| 10 | 0.262 | -0.125 | 0.399 | 0.239 | 0.382 | 0.429 | 0.546 | 0.368 | 0.743 | 1.000 |

Where variables are given as follows:

| | | |
|----|---|----------|
| 1 | perceived leakage /extent of corruption | x_1 |
| 2 | price leakage | x_2 |
| 3 | Budgetary leakage | x_3 |
| 4 | Accountability | x_4 |
| 5 | Governance | x_5 |
| 6 | Auditing and control | x_6 |
| 7 | perceived resource availability | x_7 |
| 8 | budget variances | x_8 |
| 9 | entry average grade | x_9 |
| 10 | KCSE average performance | x_{10} |

From the Table 4.23 on the correlation matrix of the different variables and their correlation to each other it can be observed that the measures of accountability that is 4, 5, and 6 are negatively related to measures of leakage in general that is 1, 2, 3 and 8. This is in agreement with the findings of Glewwe, Hanushek, Humpage & Renato (2011). It is important to note the relationship between budgetary variance and accountability, auditing and control and perceived resource availability. There is positive correlation between KCSE and other factors except price

leakage. Budgetary variance is positively correlated to perceived leakage, price leakage, budgetary leakage and even KCSE performance.

Implications of the findings

From the observations of Table 4.23, the negative relationship between measures of accountability and measures of resource leakage simply imply that where there is high accountability, auditing and good governance, the results of leakage is lower. This implies that governance accountability and good governance including auditing controls can be used to curb resource leakage in secondary schools and thus enhance value delivery in secondary schools. The aspect of value delivery can be seen from the point that performance is positively correlated to all other aspect except price leakage. And at this point it is important to ask why value delivery is directly correlated to budgetary leakage and it would be good to carry out a study to determine why. It is here argued that the relationship is explained from the fact that schools that do well have more latitude to determine how to spend resources and no wonder they are able to pay tuition to their teachers. All these is in agreement with the findings of Glewwe, Hanushek, Humpage & Renato (2011) and Neu & Rahaman (2009)

From Table 4.23 of the principal component factors it can be observed that the main principal factors are the first three factors which account for about 70% of the variability. The other seven factors accounting for the remaining 30%. Up to the 4th factor the variability is accounted for up to 80 %. Thus the principal factors as determined by their variability are perceived leakage, price leakage and budgetary leakage accounting for about 70% of the variability. It is important to note that the next group of factors is accountability factors about 25% of the variability with value delivery accounting for only 5% of the variability.

Implication of the findings

The implication of this finding is that the importance of resource leakage cannot be under-plaid. They are important and as postulated at the beginning of the study that they could be the factors impeding the direct relationship between resources availability and value delivery in secondary schools and this simply implies that, that postulation was justified. This concurs with the findings

of Andre-Pascal (2002) and Shenkin & Caulson (2007). From Table 4.20 and from the principle factor we retained three principle factors, that is, perceived corruption, price leakage and budgetary leakage. From the equations given under Table 4.20 it can be observed that the main causes of change in these factors are both negative and positive. The positive influence is negated by the negative influence.

Table 4. 24: Principal components and the cumulative variance Composition

| Components | Variances | Proportion | Cumulative (%) |
|------------|-----------|------------|----------------|
| 1 | 3.353 | 0.335 | 33.53 |
| 2 | 2.091 | 0.209 | 54.45 |
| 3 | 1.457 | 0.146 | 69.01 |
| 4 | 1.141 | 0.114 | 80.43 |
| 5 | 0.598 | 0.060 | 86.41 |
| 6 | 0.516 | 0.052 | 91.57 |
| 7 | 0.386 | 0.039 | 95.43 |
| 8 | 0.283 | 0.028 | 98.26 |
| 9 | 0.123 | 0.012 | 99.48 |
| 10 | 0.052 | 0.005 | 100.00 |

Table 4.25: Eigen Vectors of the Principal Components

| 1D | Eigenvectors | | | | | | | | | |
|----|--------------|--------|-------|--------|--------|--------|-------|--------|--------|--------|
| | Prin1 | Prin2 | Prin3 | Prin4 | Prin5 | Prin6 | Prin7 | Prin8 | Prin9 | Prin10 |
| 1 | 0.178 | 0.091 | 0.321 | 0.700 | -0.481 | 0.0601 | 0.125 | -0.252 | -0.039 | -0.227 |
| 2 | -0.114 | 0.049 | 0.719 | 0.031 | 0.363 | -0.336 | 0.333 | 0.178 | 0.251 | 0.1269 |
| 3 | 0.191 | 0.565 | 0.028 | -0.164 | 0.224 | 0.2658 | 0.438 | -0.064 | -0.54 | -0.09 |
| 4 | 0.294 | -0.393 | 0.220 | -0.247 | -0.337 | 0.3406 | 0.201 | 0.600 | -0.083 | -0.113 |
| 5 | 0.393 | -0.029 | -0.04 | -0.48 | -0.249 | -0.447 | 0.244 | -0.388 | 0.223 | -0.302 |
| 6 | 0.304 | -0.444 | 0.151 | -0.014 | 0.304 | 0.4413 | 0.070 | -0.534 | 0.064 | 0.326 |
| 7 | 0.322 | 0.016 | -0.51 | 0.346 | 0.074 | -0.147 | 0.483 | 0.249 | 0.261 | 0.3552 |

| | | | | | | | | | | |
|----|-------|-------|--------|--------|-------|--------|--------|-------|--------|--------|
| 8 | 0.200 | 0.550 | 0.164 | -0.201 | -0.29 | 0.2654 | -0.268 | 0.033 | 0.4363 | 0.4147 |
| 9 | 0.476 | -0.05 | 0.136 | 0.057 | 0.003 | -0.447 | -0.393 | 0.093 | -0.503 | 0.3651 |
| 10 | 0.464 | 0.111 | -0.021 | 0.166 | 0.478 | 0.1039 | -0.343 | 0.183 | 0.268 | -0.531 |

Key to the ID

1. Perceived leakage /extent of corruption; 2. Price leakage; 3. Budgetary leakage; 4. Accountability, 5. Governance, 6. Auditing & control, 7. Perceived resource availability; 8. Budget variances, 9. Entry average grade, 10. KCSE average performance

From the Principal analyses we retained the first three principal components that were able to account to 69% Bartholomew, *et al*,(2002) of the total variability, i.e. Y_1, Y_2, Y_3 given from the Table above as follows:-

$$Y_1 = 0.178x_1 - 0.114x_2 + 0.191x_3 + 0.294x_4 + 0.393x_5 + 0.304x_6 + 0.322x_7 + 0.2x_8 + 0.476x_9 + 0.464x_{10}$$

$$Y_2 = 0.091x_1 + 0.049x_2 + 0.565x_3 - 0.393x_4 - 0.029x_5 - 0.444x_6 + 0.016x_7 + 0.55x_8 - 0.05x_9 + 0.111x_{10}$$

$$Y_3 = 0.321x_1 + 0.719x_2 + 0.028x_3 + 0.22x_4 - 0.04x_5 + 0.151x_6 - 0.51x_7 + 0.164x_8 + 0.136x_9 + 0.021x_{10}$$

The first principal component represents the weighted average of each variable to the model. The second principal component represents budgetary leakage and budgetary variances contrasted with accountability and auditing and control variables. The third principal component represents perceived leakage and price leakage contrasted with perceived resource availability

4.10 Recommended Accounting System for Schools

In order to ensure that the resources availed to schools are used for the purpose for which they were meant, the study proposes an integrated accounting system for schools. It is integrated in the sense that it incorporates academic scores, accounting information, accounting controls and segregation of duties. The system incorporate community participation, emphasizes on segregation of duties and capture of data as and when the transactions take place

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is a brief summary of the conclusions and recommendations that the study arrived at after the analysis of the data. The chapter is a recap of the objectives of the study and the conclusions that emerged from the study. The chapter also gives recommendations for further actions and desirable enquiry. This study sought to investigate the effects of accountability on value delivery in secondary schools in Nakuru county of Kenya.

5.2 Summary of the Findings

The first objective sought to determine the extent and relationship between leakage of resources and value delivery in secondary schools in Nakuru County. To determine the extent of leakage, price leakage, budgetary leakage and perceived leakage were used. It was found that schools do not use pricing to leak resources as depicted on Table 4.2 and the subsequent analysis in 4.3 (b). Perceived leakage was also found to be insignificant while budgetary leakage was found to be significant as shown by Kolmogorov smirnov test. Budgetary leakage was found to be significant as discussed in 4.3.2(a). Further analysis to establish the relationship between measures of service delivery and leakage found that budgetary leakage had a significant relationship with performance at KCSE as depicted on Table 4.4. The other measures as expected showed no significant relationship with measures of value delivery as also depicted on Table 4.8. The hypothesis related to this objective was that there is significant leakage of financial resources and that there is no subsisting relationship between leakage of resources and value delivery in secondary schools in Nakuru County. There was no enough evidence to support the hypothesis on price leakage and perceived leakage and the hypothesis was rejected but there was significant leakage as far as budgetary variance was concerned and thus the hypothesis is accepted. As far as the relationship between leakage and value delivery is concerned, there was no significant leakage from price leakage and perceived leakage and as such any correlation with value

delivery would be spurious. There was a significant budgetary leakage and significant correlation between budgetary leakage and value delivery of 0.514 as per Table 4.4. The null hypothesis is thus rejected and the alternate hypothesis accepted.

The second objective was to establish the relationship between accountability (accounting, governance and auditing control) and value delivery in secondary schools in Nakuru County. The corresponding null hypothesis and alternate hypothesis were:

H₀: There is no significant correlation between measures of accountability and value delivery in secondary schools in Nakuru County.

It was established that there was a significant correlation between performance at KCSE and Accounting, governance and auditing control of 0.404, 0.494 and 0.513 respectively (see Table 4.6). However, no significant correlation existed between accounting, auditing and governance and improvement index. The null hypothesis is thus rejected and the alternate hypothesis accepted that performance at KCSE is significantly correlated to accountability at 95% confidence level but improvement index has no supportive evidence to reject the null-hypothesis.

The third objective was to establish the influence of availability of resources on value delivery where a simple regression analysis was carried out as evidenced on Table 4.13 and a multiple regression analysis on perceived resource availability, market value of school, total income of school, physical facilities of the school and books with students was regressed against value delivery as evidenced on Table 4.14. In the simple regression of Table 4.13, Total income of the school had a t-value of 3.740 and significant score of 0.001 and the constant B had a significant score of 0.020. This means that there is a significant causal relationship between total income of the school and value delivery. The hypothesis related to this was that; a) H₀: Availability of resources has no effect on performance in KCSE in Nakuru County. This means that there is sufficient evidence to reject the null hypothesis and accept the alternate hypothesis that total income of the school has a significant causal relationship with the academic performance at KCSE. The same case held true for total books availed to the students. The surprise finding here was that physical facilities have a negative impact on value delivery

however the correlation was insignificant. Perceived availability of resources was also found to have no significant correlation to performance at KCSE. The proposal of this study was that the seeming lack of correlation between availability of resources and performance in National examinations as found by earlier research, was as a result of the influence of leakage of those resources to the extent that the leakage distorts the relationship that would otherwise have been apparent (Pincus & Rolph, 1986; Hanushek, 1996; Reinikka & Svensson, 2001; Das *et al.*, 2004).

The fourth objective was to investigate the management of private secondary schools vis-a-vis public secondary schools in Nakuru County. On this front as depicted by Tables 4.14 and 4.15, it was found that there was no significant difference on the prices paid by private and public schools. The related null-hypothesis was, H_0 : The prices paid by public secondary schools are not significantly different from the prices paid by private schools. From Table 4.12 on the difference of the means whose main purpose was to test whether there was any significant difference in the means of the prices paid public schools and private schools. According to Table 4.12, there was no significant difference in the means and thus the null-hypothesis is accepted and the alternate hypothesis, the prices paid by public secondary schools are significantly different from the prices paid by private secondary schools, is thus rejected.

Objective five was to determine the relationship between professional characteristics of the accounting officers and value delivery. The accounting officers were identified as the principal and the bursar. As depicted on Table 4.17, the heads' score and bursars' score were found to have insignificant causal relationship with p-values of 0.752 and 0.632 respectively. This means that the probability that the regression coefficient obtained from the analysis could be by chance is 0.752 and 0.632 respectively which is way above the critical value of 0.025 and 0.05 for a two and one tail test respectively, to value delivery in secondary schools. That is in determining performance at KCSE examinations or the improvement index.

It was also found that most of the financial decisions and activities were undertaken by the principal or the bursar. Segregation of duties in the accounting department is not up to standard in our secondary schools. From the observation guide of the accounting department, the

observation guide revealed that it is mainly the bursar or the principal who performs most of the activities. It was found that the principals authorize writing of cheques, they keep the cheque book, are supposed to ensure that goods are received, authorize payment and recommendations of the procurement committee are not strictly followed.

Objective number six was to suggest an accounting system that would incorporate aspects of control, segregation of duties; data capture at source and integrate financial and academic data to give comprehensive relevant, timely and corruption resistant reports. Having found in objective 2 that accounting, auditing and governance are correlated to value delivery in secondary schools, it is imperative that an accounting system that incorporates many of the accounting qualities auditing and governance would be desirable for secondary schools. Attached in the appendix is a user guide that will guide a user on how to use the integrated secondary schools management information system (ISSMIS).

5.3 Conclusions

From the findings of objective one, it can be concluded that secondary schools in Nakuru County do not use prices to leak resources and perception of leakage of resources by stake holders is not significant. However, schools use budgets to leak resources.

From the findings of objective two, it can be concluded that performance at KCSE is significantly correlated to accounting, governance and auditing controls. This is in close agreement with earlier findings and the fact that accounting, auditing and governance are generally held to be desirable and generally practiced.

As far as objective three was concerned, it was found that availability of different types of resources affects value delivery in different ways. This is in contrast to earlier findings by Pincus & Rolph (1986) Das, Dercon, Habyarimana & Krishnan (2004) and Dowd & Grant (2006) who, in an attempt to establish a link between resources and academic scores through multiple linear regressions found no significant relationship. Total income and total books with the students, both have a positive correlation with value delivery while availability of physical facilities has no

significant correlation to value delivery. From this, it can be concluded that resources availability is correlated to value delivery and the earlier findings that resources are not important in determining value delivery in secondary schools could be accounted for by the fact that available resources are not used directly to provide learning and teaching materials. It can also be concluded that the acquisition of physical facilities should be subordinate to books and other learning facilities as physical facilities have no significant correlation to value delivery.

From the findings of objective five, it can be concluded that professional qualifications of the accounting officers, experience and academic qualifications are not directly linked to value delivery.

It can also be concluded from the findings of objective four that the management of public schools and that of the private schools in terms of purchasing price for commodities is not markedly different. This is in contrast to expectation as private schools would be expected to have very close supervision from the owners while public schools lack such a structure.

5.4 Recommendations

Objective number one found that pricing is not a major course of leakage. People's perception about leakage is that, there is no significant leakage. However, budgetary variance is a major source of resource leakage. It is also recommended that stake holders in secondary schools both private and public view budgeting more seriously as it can and is used to leak resources. Once budgets are established deviations should be keenly scrutinized to establish causes. Also, budget making process should be viewed more seriously and be participatory.

Objective two established that there was a significant relationship between accounting, auditing and governance, that is, accountability and value delivery as perpetuated by performance at KCSE examinations. These finding leads to the need to develop a strong accounting, auditing and governance structure that will ensure the implementation of these desirable aspects of control. And this study has recommended and developed an accompanying integrated secondary schools management information system ISSMIS as per objective number six.

On objective number three, it was established that there is no difference in the prices paid by private schools for commodities and that paid by public schools for the same commodities. This seems to suggest that prices paid are genuine and schools do not use prices to leak resources. This is in support of the earlier finding that prices are not used to leak resources. It is therefore recommended that inspectors and auditors concentrate more on other channels of leakage as opposed to price leakage. This also implies that the government can if necessary control fees for private schools.

Objective number four was on effect of availability of resources on value delivery in secondary schools. It was found that total income and books with students affect value delivery in secondary schools. However, it was found that physical facilities do not influence value delivery in secondary schools. This points to the fact that there is need to prioritize acquisitions according to their contribution to value delivery in secondary schools and this provides persuasive evidence as to why schools should concentrate more on provision of items that go directly towards provision of learning and subordinate provision of physical facilities like buses, elaborate social halls, amphitheatres, auditoriums, elaborate sports facilities etc.

Objective five found that, characteristics of accounting officers of a secondary school i.e. the principal and his bursar's professional qualifications experience age and academic qualifications do not have a significant correlation to value delivery. Strange as this may sound, it points to the facts that the qualities of the principals and bursars that have hitherto been emphasized should be supplemented with other considerations.

Objective six was to develop a management information system in order to overcome the accounting, auditing, governance and information challenges that are facing secondary schools in Kenya. It is recommended that checks and balances be enhanced in secondary schools by developing a computer based accounting system that will have an authorization and data capture procedures to ensure:

- Capture of data at source to avoid misplacement of data and irretrievability of data
- To enhance data integrity at all times and avoid loss of assets due to lack of records

- To tie up the accounting function with the main purpose of educational institutions. This is to impart knowledge to learners by integrating academic records with the accounting records.
- To make accounting faster, more accurate, reliable, systematic and error free.
- The system should capture acquisition of assets when it takes place and record the asset appropriately.
- In public institutions assets should not be depreciated but instead should have a professionally determined life span after which the assets can be disposed off on valuation openly and through competitive bidding and this should be captured in the system.
- The system should capture all income irrespective of the source and proper receipting be done to avoid capture of resources before they are recorded. So all who deal with the system must ensure that proper documentation is done.
- Entry behaviour of students should be captured as they join the school and all their bio data. This should accompany academic reports at any given time. The continued performance of the student should be an integral part of any academic report generated from the system.
- Any item given to a student should be captured by the system and should be properly serialized and on leaving the school, all this should be reconciled. The same should be done to the teachers and other workers who on leaving should be cleared.
- For consumables the acquisition should be controlled through procurement process and requisition process that is captured by the system and compared to existing well established and authenticated norms.
- The system should automatically produce an operational statement for the period (i.e. a trading profit and loss account for private schools), a balance sheet or a statement of financial position for the individual school, a bank reconciliation statement and a cash flow statement for the period in question.

Operation of Integrated Secondary Schools Management Information System

For every student who is admitted, all their bio data is recorded and stored including their entry behaviour. Any items issued to the student throughout their stay in the school is recorded in the system and in case of exit of the student at any time clearance is a one stop affair where the candidate returns all the items and is cleared at one point rather than having to go round clearing with teachers and other staff members.

For academic performance every teacher will be given a pass word with which to access the system. The school will have the discretion to decide on the number of continuous assessments to be administered and the ability to determine the marks to be awarded to them. Once this is done the class teacher will record the marks for CATs and examinations where only those teaching the specific subject will have the authority to record the marks thus ensuring that only authorized teachers can change or record the marks. The system will calculate the totals, give corresponding grade, rank the candidates subject wise and class-wise and automatically produce cumulative grade for candidates and report forms that include performance from the time the candidate joined the school to date.

On the side of procurement the schools will be expected to adhere to government procurement legislations. The school will have a tendering committee and this will be used to determine prices and issue tender numbers which will be used to record the transactions both for disposal and procurement.

5.5 Recommendations for Further Studies

It is recommended that a further study can be done to establish the reasons as to why people do not want to acknowledge leakage of resources in their own institutions and also why variability of prices is very high.

It is also recommended that a study be carried out to determine what really makes a principal and his bursar correlate to value delivery. Is it their conviction, believe, interpersonal skills, their intelligence or what is it that makes the team tick, as professional characteristics were found not

to be significantly related to value delivery yet it is the factor that is used to select principals or promote teachers.

There is a need to carry out a study on why performance tends to increase with leakage of financial resources in Kenya which goes against expectation. What would be expected would be performance to decrease with increase in leakage of financial resources. Farraz, Finan & Moreira (2012), using data from the auditing of Brazil's local government to construct objective measures of corruption involving educational block grants transferred from the central government to municipalities found a significant negative association between corruption and school performance of primary school students residing in municipalities where corruption was detected. They found that students in these areas scored 0.35 standard deviations less on standardized tests and had a significant higher dropout rate. They also found that, where there was corruption, school inputs such as computer laboratories, teaching supplies, and teacher training were reduced

It is also recommended that a study be undertaken to determine the considerations that school management uses to prioritize procurements and what needs to be done to ensure that schools consider what would give the school the best opportunity to value deliver rather than engaging in acquisitions that are only prestigious.

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APENDICES

Appendix I: Questionnaire for the Head Master.

This questionnaire is a tool for collecting data for this research. Any information collected will be treated with utmost confidentiality and shall not be used for any other purpose. You are therefore requested to give honest and accurate information. Please use an X to indicate your choices where options are given.

- i. Heads gender: Male Female
- ii. Age: Between 20 and 30 years Between 31 and 40 years Between 41 and 50 .. Above 51
- iii. Level of Education: doctorate masters degree. First degree. diploma. S1..... Any other (specify).....
- iv. Year of appointment as a teacher.....
- v. Year of appointment as a head teacher:
- 1 Total number of students in the school; form one..... form two..... form three..... form four..... total.....
- 2 Number of streams in the school; form one..... form two..... form three..... form four
- 3 Number of teachers employed by the teacher's service commission.

| JOB GROUP | NUMBER OF TEACHERS | JOB GROUP | NUMBER OF TEACHERS |
|-----------|--------------------|-----------|--------------------|
| H | | N | |
| J | | P | |
| K | | Q | |
| L | | R | |

| | | | |
|---|--|---|--|
| M | | S | |
|---|--|---|--|

4 Number of teachers employed by the board/sponsor/proprietor.

| NUMBER OF TEACHERS | GRADE | PAY PER MONTH |
|--------------------|-------|---------------|
| | | |
| | | |
| | | |
| | | |
| | | |

Others (specify).....

5 What was the total income of the school? (Including donations, fees, development and from income generating activities for the year 2011.....

6 What was the total fee charge for the year 2011 per student for; form one.....

form two..... form three.....form four..... (this should include tuition, development, PTA funds, activity fees, library fees, hospital fees, motivation fee)

7 In the months of January and February 2012 what price did the school pay for the items below

| ITEM | QUANTITY USED | PRICE PER UNIT |
|---------------------------|---------------|----------------|
| Dry maize (90kgs) | | |
| Dry beans (90 kgs) | | |
| Maize floor (90 kgs) | | |
| Rice (50 kgs) | | |
| Sugar (50kgs) | | |
| Kales (per kg) | | |
| Cabbages (per kg) | | |
| Cooking fat (20kgs/L) | | |
| Salt (kg) | | |
| Foolscaps (per rim) | | |
| Printing papers (per rim) | | |
| Fire wood (per ton) | | |

2 How do you as a head master prioritize procurements? By following government guidelines. by following budgetary allocations. by following needs. availability of funds. all the above.

3 Does the school have a procurement committee yes. no.

4 Does the school apply tendering system Yes. No.

5 Which criteria do you use to choose a supplier? Price Ability to supply. Knowledge of committee members concerning the supplier. A combination of price ability and knowledge of committee members. Any other criteria (specify)

6 Does the school have a (TRSC) teaching resources selection committee? Yes..
 No....

7 If the school was sold out as a going concern, how much would it fetch in the market?

8 What is the total book value of all the assets of the school?.....

9 Fill in the following Table with the budgetary and actual expenditure for the year 2012.

| Item | Budgetary allocation | Actual expenditure | Variance(difference between actual and budget) |
|------------------------------------|----------------------|--------------------|--|
| boarding | | | |
| development | | | |
| TLRs(teaching, learning resources) | | | |
| Local travelling and transport | | | |
| Electricity water and conservancy | | | |
| Office expenses | | | |
| Teacher and student motivation | | | |

10 What is the average loading (number of lessons) per teacher per week in;

| department | work load | Department | work load |
|-------------|-----------|------------------|-----------|
| Mathematics | | Humanities | |
| Science | | Applied sciences | |
| Languages | | Creative arts | |

17. Using an X to indicate your preferred choice answer the following questions where

5=strongly agree, 4=agree, 3= neither agree nor disagree, 2=does not agree and 1-strongly Disagree.

| | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 17.1 Jobs are clearly defined for each worker in the accounting department | | | | | |
| 17.2 Workers in the accounting department are well inducted | | | | | |
| 17.3 Operational manuals are availed to workers in the accounting dept. | | | | | |
| 17.4 There is effective separation of duties in the accounting dept. | | | | | |
| 17.5 There is a secure overnight storage of cash | | | | | |
| 17.6 The books are balanced every day | | | | | |
| 17.7 If any theft was to take place, the school would discover the same day | | | | | |
| 17.8 The books of accounts are audited internally regularly | | | | | |
| 17.9 The school maintains an inventory of all assets and documents of title | | | | | |
| 17.10 External yearly audits take place without fail | | | | | |
| 17.13 External audit recommendations are implemented immediately | | | | | |
| 17.14 All cheque signatories are aware of their obligations. | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| 17.15 External auditors come to school and carry their audit from the school | | | | | |
| 17.16 External auditors take more than two weeks to complete the audit | | | | | |
| 17.17 External auditors audit all aspects of the school including books of accounts, stores, physical facilities, accounting , management and security | | | | | |
| 17.18 Only accounting books are taken to the district office for audit | | | | | |

18 What was the KCSE mean grade in the last five years for the school 2011 mean mark mean grade..... 2010 mean mark..... mean grade..... 2009 mean mark..... mean grade.....2008 mean mark.....mean grade.....2007 mean grade..... mean mark.....

19 What was the entry mean grade for the classes in 18 above at KCPE level 2003.....2004.....2005.....2006.....2007.....

Appendix 2: Questionnaire for the Head of Department.

This questionnaire is a tool for collecting data for this research. Any information collected will be treated with utmost confidentiality and shall not be used for any other purpose. You are therefore requested to give honest and accurate information.

1. What is your lesson load in the current term per week?

2. Do teachers as members of the school community take part in the following activities? I) Procurement of school supplies Yes..... No. ii) Budgeting process Yes. ..No. iii) Capital investment decisions Yes.. No.

3. If you were to rate your school on a scale of 1-100, how many marks would it score in:

- 4.

| Area of assessment | score | Area of assessment | score |
|--|-------|-----------------------------------|-------|
| Provision of physical facilities | | reliability of financial controls | |
| reliability of accounting reports | | Extent of corruption | |
| Provision of financial information | | Remuneration of workers | |
| Provision of teaching and learning resources | | Honesty in financial dealings | |
| Value for money delivery of services | | timeliness of financial reports | |

5. Governance status:

Using a rating scale of 5-1 rate the performance of the management as far as governance of the school is concerned by placing an X in the appropriate space provided.

5= strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1= strongly disagree

| Statement | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 4.1. Management of financial resources is free, fair and open to scrutiny | | | | | |
| 4.2. The head consults widely before making important decisions. | | | | | |
| 4.3. Internal controls are adequate to ensure objectivity in utilization of funds | | | | | |
| 4.4. Wastage of financial resources is strictly controlled | | | | | |
| 4.5. procurement is done in an open free and fair manner | | | | | |
| 4.6. Procurement reports are availed to stake holders promptly | | | | | |
| 4.7. Financial reports are given to stakeholders at the end of each year | | | | | |
| 4.8. The financial reports are relevant | | | | | |
| 4.9. The financial reports are comprehensive | | | | | |
| 4.10. The financial reports are free from errors | | | | | |
| 4.11. The financial reports meet the users needs | | | | | |
| 4.12. The school is a corruption free zone | | | | | |
| 4.13. The role of the BOG is clearly identifiable in the management | | | | | |

5 If the school was sold out as a going concern, how much would it fetch in the market?

.....

6 What is the total book value of all the assets of the school?.....

Appendix 3: Questionnaire for the Class Teacher.

This questionnaire is a tool for collecting data for this research. Any information collected will be treated with utmost confidentiality and shall not be used for any other purpose. You are therefore requested to give honest and accurate information.

What is your lesson load in the current term per week?.....

Do teachers as members of the school community take part in the following activities? I) Procurement of school supplies Yes.No.ii) Budgeting process Yes. ..No.. .. iii) Capital investment decisions Yes.No..

If you were to rate your school on a scale of 1-100, how many marks would it scores in:

| Details | marks | Details | marks |
|--|-------|--------------------------------|-------|
| Provision of teaching/learning resources | | Efficiency in service delivery | |
| Provision of physical facilities | | Extent of corruption | |
| Honesty in financial dealings | | motivating student | |
| Providing information to stake holders | | Remuneration of workers: | |
| Value for money delivery of services | | Motivating teachers | |

4 Using the rating scale of 5-1 rate the performance of the management as far as governance of the school is concerned by placing an X in the appropriate space provided.

5= strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1= disagree

| Statement | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 4.1. Management of financial resources is free, fair and open to scrutiny | | | | | |
| 4.3. The head consults widely before making important decisions. | | | | | |
| 4.4 There are adequate checks to ensure proper utilization of funds | | | | | |
| 4.5. There is a lot of wastage of utility physical and financial resources. | | | | | |
| 4.6. procurement is done in an open free and fair manner | | | | | |
| 4.7. Procurement reports are availed to stake holders promptly | | | | | |
| 4.8. Financial reports are given to stakeholders at the end of each year | | | | | |
| 4.9. The financial reports are relevant | | | | | |
| 4.10. The financial reports are comprehensive | | | | | |
| 4.11. The financial reports are free from error | | | | | |
| 4.12. The financial reports meet the users needs | | | | | |
| 4.13. The school is a corruption free area | | | | | |
| 4.14. The role of the BOG is clearly identifiable in the school management. | | | | | |

6. Procurement Procedures and Practice:

The following are issues which you might have strong opinions on. Using the scale of 1-5 provided below, asses and rates the procurement procedures and practices by inserting an X in the appropriate box. 5= strongly agree 4= agree, 3= neutral, 2=disagree, 1= strongly disagree

| Statement | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 5.1. Appointment of procurement committee is objective. | | | | | |
| 5.2. Procurement committee members are appointed competitively on merit | | | | | |
| 5.3. Committee members are not representatives of vested interests. | | | | | |
| 5.4. Procurement committee members are independent of management. | | | | | |
| 5.5. Decisions by the procurement committee are always honored. | | | | | |
| 5.6. The pricing mechanism is not used to inflate prices | | | | | |
| 5.7. The prioritization of items to be bought is objective and professional | | | | | |
| 5.8. Budgetary allocations are objective, purposeful and is not inflated | | | | | |
| 5.9. The dealing between management and the suppliers is objective. | | | | | |
| 5.10. There are no underhand deals between store keeper and suppliers | | | | | |
| 5.11. There are no underhand deals between bursar and suppliers | | | | | |
| 5.12. There are no underhand deals between teachers and suppliers | | | | | |
| 5.13. There are no underhand deals between librarian and suppliers | | | | | |
| 5.14 Supplies are always: | 5 | 4 | 3 | 2 | 1 |
| 5.14.a. Received on time, | | | | | |
| 5.14.b. Inspected on delivery, | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| 5.14. C. Of recommended quantity and quality | | | | | |
| 5.14.d. Priced as per the tendering documents, | | | | | |
| 5.14.e. Replaced if they are damaged, of the wrong quality or specification, | | | | | |
| 5.14.f. Delivered during working hours | | | | | |

Appendix 4: Questionnaire for the Bursar/Accountant/Accounts Clerk.

This questionnaire is a tool for collecting data for this research. Any information collected will be treated with utmost confidentiality and shall not be used for any other purpose. You are therefore requested to give honest and accurate information.

Please fill in the blank spaces with the appropriate information or numbers;

Bursar's gender: Male Female

Age: Between 20 and 30 years between 30 and 40 years between 40 and 50
..... above 50

Level of Education: doctorate masters degree.. First degree.. diploma. A-
level.. O-level Others specify.....

Professional qualification: CPA(K) CPA II CPA I KATC ACNC
CPS(K) CPS II CPS I others specify.....

Area of specialization: Accounting Mathematics. Economics Business
administration Purchases Others specify.....

Number of years of experience.....

What was the total income of the school? (Including donations, fees, development and from
income generating activities for the year 2011.....

What was the total fee charge for the year 2011 per student for; form one.....

form two..... form three..... form four..... (this should include tuition,
development, PTA funds, activity fees, library fees, hospital fees, motivation fee)

In the months of January and February 2012 what prices did the school pay for the items below

| ITEM | QUANTITY USED | PRICE |
|---------------------------|---------------|-------|
| Dry maize (90kgs) | | |
| Dry beans (90 kgs) | | |
| Maize floor (90 kgs) | | |
| Rice (50 kgs) | | |
| Sugar (50kgs) | | |
| Kales (per kg) | | |
| Cabbages (per kg) | | |
| Cooking fat (20kgs/L) | | |
| Salt (kg) | | |
| Foolscaps (per rim) | | |
| Printing papers (per rim) | | |
| Fire wood (per ton) | | |

Does the school have a procurement committee yes..... No.....

Does the school apply tendering system Yes.... No.....

Which criteria do you use to choose a supplier? Price Ability to supply.....
 Knowledge of committee members concerning the supplier..... A combination of price
 ability and knowledge of committee members.... Any other criteria (specify)

Does the school have a (TRSC) teaching resources selection committee? Yes.. . No...

If the school was sold out as a going concern, how much would it fetch in the market?

.....

What is the total book value of all the assets of the school?.....

Please fill in the following Table with the requested information for the year 2011.

| Item | Budgetary allocation | Actual expenditure | Variance(difference between actual and budget) |
|------------------------------------|----------------------|--------------------|--|
| Boarding | | | |
| Development | | | |
| TLRs(teaching, learning resources) | | | |
| Local travelling and transport | | | |
| Electricity water and conservancy | | | |
| Office expenses | | | |
| Teacher and student motivation | | | |

Please fill in the spaces provided with the Number of workers in the specified areas.

| Area of work | numbers | Area of work | numbers |
|---------------------|---------|--------------|---------|
| Accounts department | | Laboratories | |
| administration | | Catering | |

| | | | |
|---------------------|--|------------------------------|--|
| Grounds maintenance | | Sanitary | |
| Security | | games | |
| boarding | | Income generating activities | |
| General maintenance | | Medical/Health workers | |
| teachers | | Casual workers | |

Total payment to all the workers in the school in form of salaries for the year 2011.....

Total payment per month to; a) Teachers service commission's teachers Kshs b)
Board of governors teachers Kshs...c) casual workers (average per month for the year)
Kshs..... total pay roll per year.....

What was the total expenditure on income generating projects.....

What was the total income from income generating projects.....

How much profit/loss did the school make in the last five years

Governance status: Using the rating scale of 5-1 rate the performance of the management as far as governance of the school is concerned by placing an X in the appropriate space provided. 5= strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1= strongly disagree

| Statement | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 17.1 Management of financial resources is free, fair and open to scrutiny | | | | | |
| 17.2 The head does not make unilateral decisions but consults widely | | | | | |
| 17.3 There are adequate checks and balances to ensure accountability | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| 17.4 Wastage of financial resources is evidently under very strict control | | | | | |
| 17.5 procurement is done in an open free and fair manner | | | | | |
| 17.6 Procurement reports are availed to stake holders promptly | | | | | |
| 17.7 Financial reports are given to stakeholders at the end of each year | | | | | |
| 17.8 The financial reports are relevant | | | | | |
| 17.9 The financial reports are comprehensive | | | | | |
| 17.10 The financial reports are free from errors | | | | | |
| 17.11 The financial reports meet the user's needs | | | | | |
| 17.12 The school is a corruption free zone | | | | | |
| 17.13 The financial records are comprehensive, accurate and professional | | | | | |
| 17.14 Financial records reflect a true and fair view of the financial affairs. | | | | | |
| 17.15 Auditing is done regularly and openly. | | | | | |
| 17.16 The financial records and financial reports are generally in agreement | | | | | |
| 17.17 The role of the BOG is clearly visible in the management. | | | | | |
| 17.18 The chairman of the board is qualified academically and professionally | | | | | |
| 17.19 Board members are qualified professionally and academically | | | | | |
| 17.20The head master does not use intimidation to silence descent | | | | | |
| 17.21 Teachers have very high regard both for the head master and the board. | | | | | |

18. Procurement Procedures and Practice:

The following are issues which you might have strong opinions on. Using the scale of 1-5 provided below, assess the procurement procedures and practices by inserting an X in the appropriate box. 5= strongly agree 4= agree, 3= neutral, 2=disagree, 1= strongly disagree

| Statement | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 18.1 Procurement committee members are appointed objectively. | | | | | |
| 18.2 Procurement committee members are appointed competitively on merit. | | | | | |
| 18.3 Committee members are not representatives of vested interests. | | | | | |
| 18.4 Procurement committee members are independent of management. | | | | | |
| 18.5 Decisions by the procurement committee are always honored. | | | | | |
| 18.6 The pricing mechanism is used professionally and advantageously. | | | | | |
| 18.7 Prioritization of procurement items is objective. | | | | | |
| 18.8 Budgetary allocations are objective, and do not inflate the requirements | | | | | |
| 18.9 The dealing between management and the suppliers is at arm's length. | | | | | |
| 18.10 There are no underhand deals between store workers and suppliers | | | | | |
| 18.11 There are no underhand deals between bursar and suppliers | | | | | |
| 18.12 There are no underhand deals between teachers and suppliers | | | | | |
| 18.13 Supplies are always: | 5 | 4 | 3 | 2 | 1 |

| | | | | | |
|---|--|--|--|--|--|
| 18.13.a Received on time, | | | | | |
| 18.13.b Inspected on delivery, | | | | | |
| 18.13. c Of recommended quality, | | | | | |
| 18.13.d Priced as per the tendering documents, | | | | | |
| 18.13.e Procured transparently, | | | | | |
| 18.13. f Of recommended quantity, | | | | | |
| 18.13. Replaced if they are damaged, of the wrong quality or specification, | | | | | |
| 18.13.h Delivered during working hours | | | | | |
| 18.13.i Procured through request for quotation | | | | | |

Appendix 5: Questionnaire for the Students.

This questionnaire is a tool for collecting data for this research. Any information collected will be treated with utmost confidentiality and shall not be used for any other purpose. You are therefore requested to give honest and accurate information.

1. How many books has the school provided to you for this term?

. How many books have your parents bought for you this term?

2. How do you rate your library in terms of book stock? Excessively stocked Well stocked,.. , fairly stocked.... . poorly stocked..... . No library.....

3. How do you rate your laboratory in terms of stock of chemicals and equipments? Excessively stocked.. .well stocked... .fairly stocked.... .poorly stocked..

4. What changes would you like to see as far as the following are concerned? a) The way your school buys goods
 b) The way the principal exercises administrative powers.
 c) prioritization of procurement.....

5. The following are issues which you might have strong opinions on. Using the scale of 1-5 provided below, asses the procurement procedures and practices by inserting an X in the appropriate box. 5= strongly agree 4= agree, 3= neutral, 2=disagree, 1= strongly agree

| Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 5.1 The school provides you with adequate food and a full balanced diet | | | | | |
| 5.2 School environment is conducive to studies | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| 5.3 Provision of teaching and learning resources is up to standard | | | | | |
| 5.4 School administration is honest and upright | | | | | |
| 5.5 Class environment contributes positively to achievement of high grades | | | | | |
| 5.6 Laboratory equipments and chemicals are adequate | | | | | |
| 5.7 Text books are adequate and sufficient for learning purposes | | | | | |
| 5.8 Administration consults students before making major decisions. | | | | | |
| 5.9 Financial resources are used strictly for purposes that they were meant | | | | | |

Appendix 6: Questionnaire for the Suppliers.

This questionnaire is a tool for collecting data for this research. Any information collected will be treated with utmost confidentiality and shall not be used for any other purpose. You are therefore requested to give honest and accurate information.

Which year were you first appointed as a supplier?

Items supplied(please list the items, quantities supplied in the year and prices charged in the months of January and February 2012 including the quantities supplied.

| Item | Unit price charged in the month of January and February 2012 | Quantity supplied in January and February 2012 |
|------|--|--|
| I | | |
| II | | |
| III | | |
| IV | | |
| V | | |
| VI | | |

How long does it take you to be paid for the supplies on average?

Do you have to give some favors to retain the supply? (Please specify).....

Do you supply any other school or institutions? Yes..........No..........

Are the prices you charge other schools same as above? Yes..........No..........

Do you experience a pricing competition in this business? Yes........No.....

How do you cope with such competition? I) lowering prices ...ii) forming cartels iii) using contacts.... iv) improving on business efficiency..........

Do you think some of your competitors pay bribes or commissions to have contracts given to them and what percentage do you think they give? Yes...No.... percentage

How do you think they are able to recover the bribes or commissions they give

Governance status: Procurement Procedures and Practices:

The following are issues which you might have strong opinions on. Using the scale of 1-5 provided below, asses the procurement procedures and practices by inserting an X in the appropriate box. 5= strongly agree 4= agree, 3= neutral, 2=disagree, 1= strongly disagree

| Statement | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| 11.1 Procurement committee members are appointed objectively | | | | | |
| 11.2 Committee members are not representatives of vested interests. | | | | | |
| 11.3 Procurement committee members are independent of management. | | | | | |
| 11.4 Decisions by the procurement committee are always honored. | | | | | |
| 11.5 Pricing mechanism is not used to inflate but to get competitive prices. | | | | | |
| 11.6 Only deserving suppliers are awarded tenders. | | | | | |
| 11.7 Budgetary allocations are objective and does not inflate the requirements | | | | | |

| | | | | | |
|--|---|---|---|---|---|
| 11.8 The dealing between management and the suppliers is at arm's length. | | | | | |
| 11.9 There are no underhand deals between store keeper and suppliers | | | | | |
| 11.10 There are no underhand deals between bursar and suppliers | | | | | |
| 11.11 There are no underhand deals between librarian and suppliers | | | | | |
| 11.12 Supplies are always: | 5 | 4 | 3 | 2 | 1 |
| 11.12.a Received on time, | | | | | |
| 11.12.b Inspected on delivery, | | | | | |
| 11.12.c Of recommended quality, | | | | | |
| 11.12.d Priced as per the tendering documents, | | | | | |
| 11.12.e Procured transparently, | | | | | |
| 11.12.f Of recommended quantity, | | | | | |
| 11.12.g Replaced if they are damaged, of the wrong quality or specification, | | | | | |
| 11.12.h Delivered during working hours | | | | | |
| 11.12.i Procured through request for quotation | | | | | |

Appendix 7: Observation Guide for the School

This is a guide for the research personnel to follow so as to gather relevant information

(For posterity, the observation is not limited to the stated items)

Physical address of the school.....

Distance of school from the District education office.....

Total acreage of the school.....General appearance of the school.....

Total built area.....

Type of buildings permanent.....semi permanent.....

Is the school compound fenced? Yes.....No.....

Rest room facilities; No of toilets in the school.....type of toilets; pit latrines.... .Pit latrines with hygienic modifications.....western style toilets.....Eastern style toilets.....others (explain).....

Safety provisions in the school:

How many lockers are there for keeping students' belongings?.....

How many fire fighting equipments are there in the school?.....

How many water points does the school have?.....

What are the fire emergency escape provisions?.....

What is the number of security personnel in the school?.....

Are there lockable garages for motor vehicles and other machineries.....

How many security lighting points are there?.....

Use an x to indicate the state of the facilities given below 5=excellent 4= above standard 3= standard 2= below standard 1= none

| | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| Health facilities: sick bay, health unit, or health centre | | | | | |
| Stock of drugs | | | | | |
| Health workers | | | | | |
| | | | | | |
| Recreational facilities: Soccer pitches (Number.....) | | | | | |
| Volleyball pitches (Number.....) | | | | | |
| Hockey pitches (Number.....) | | | | | |
| Athletics field | | | | | |
| Basket ball pitches (Number.....) | | | | | |
| Net ball pitches (Number.....) | | | | | |
| Rugby pitches (Number.....) | | | | | |
| Tennis court (Number.....) | | | | | |
| Indoor facilities: Squash (Number of courts.....) | | | | | |
| Table tennis (Number of Tables.....) | | | | | |
| Darts (number of darts boards.....) | | | | | |
| Chess (N umber of chess boards.....) | | | | | |
| Badminton (Number of courts.....) | | | | | |
| Others (list.....) | | | | | |
| Area set aside for indoor games (total area | | | | | |

Appendix 8: Observation/Interview Guide for the Accounting Department.

General organization of the department:

Number of workers..... Division of duties: (Use titles of people to fill the following section) who handles petty cash? Who checks the use of petty cash?..... Who authorizes expenditure?..... How is use of that authority checked?..... Who keeps the check book..... Who authorizes the writing of a check?..... Who writes the books of accounts?..... Who carries out the transactions that are recorded in the books of accounts..... Who authorizes the transactions?.....

Custodial arrangement;

a) Who keeps documents of title?..... b) Are the documents safe from theft, fire, or manipulation?..... c) Are the assets safe?..... d) What is the security provided to petty cash?..... e) Does the school have a night safe?..... f) How much has the school lost in cash theft in the last five years?.....

iv) Internal control;

- a) How often is petty cash balanced?.....
- b) How often are bank reconciliation statements made.....
- c) Who has authority to raise a check?.....
- d) Who authorizes the checks to be raised?.....
- e) Before a check is paid who ensures that the payment is for goods or for services actually received?.....

- g) How much cash does the school maintain at any given time?.....
- h) Does the school pay in cash at any time?.....
- I) Does the school receive cash any time?.....
- v) Accountability;
 - a) To who is the head master accountable to, for financial decisions?.....
 - b) To who are the financial accounting reports addressed?.....
 - c) Do the addressees have a forum where they can express appreciation or
displeasure in relation to the accounting reports.....
 - d) When was the last external audit done?.....
 - e) Was an audit report given to the stake holders?.....
 - f) Did the external auditors visit the school.....
 - g) Did the external auditors raise queries?.....
 - h) Were the queries answered to their satisfaction.....
 - I) Were the un-answered queries brought to the attention of the stake- holders?
.....
 - j) What are the sanctions available against an errant officer.....
 - k) Who can enforce the sanctions.....
 - l) For what purpose are the financial reports used and to what extent do the
reports meet those needs?.....

Documents to be collected from each school. a) School fees schedule for all classes term one to term three, (including form one admissions). b) A copy of the budget, c) A copy of the schools motto, core values, mission, vision, and any operational manual used by the school. d) A copy of the time Table for the class whose class teacher was interviewed.

Appendix 9: Interview Guide for the Board of Governors.

Use an X to indicate your choice.

2. Do you consider the current board to be legitimate? Yes No If no why do you think it's not legitimate?.....

3. Do you as a board meet regularly? Yes No

4. What is the role of the board of governors as far as the school management is concerned?

i).....

ii).....

iii).....

What is the hierarchical position of the board of governors as far as the management of the school is concerned? top level management middle level management.. operational level management..

6. Do you as a board receive financial reports? Yes No

The financial reports;

| | Yes | No |
|---|-----|----|
| Are comprehensive | | |
| Are timely | | |
| Are understandable | | |
| Are representative of financial situation of the school | | |
| Present a true and fair view | | |
| Are prepared using international public sector accounting standards | | |
| Serve the purpose for which they are prepared | | |
| Are always audited | | |
| Unanswered audit queries are always brought to the attention of the board | | |

7. What criteria do you as a board use to prioritize projects and expenditure? .need.....
 .Urgency.....government guidelines..... availability of funds
 budgetary allocation.....

8 If the school was sold out as a going concern, how much would it fetch in the market?

What is the total book value of all the assets of the school?.....

10. Accounting controls and Auditing; using a scale of 1-5 answer the following questions where; 5=strongly agree, 4=agree 3=neither agree nor disagree 2=does not agree and

1strongly Disagree.

| Details | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 10.1 There is clear job definition for each worker in the accounting department | | | | | |
| 10.2 Workers in the accounting department are well inducted | | | | | |
| 10.3 Operational manuals are availed to workers in the accounting dept. | | | | | |
| 10.4 There is effective separation of duties in the accounting dept. | | | | | |
| 10.5 There is a secure overnight storage of cash | | | | | |
| 10.6 The books are balanced every day | | | | | |
| 10.7 If any theft was to take place, the school would discover the same day | | | | | |
| 10.8 The books of accounts are audited internally regularly | | | | | |
| 10.9 The school maintains an inventory of all assets and documents of title | | | | | |
| 10.10 External yearly audits take place without fail | | | | | |
| 10.13 External audit recommendations are implemented immediately | | | | | |
| 10.14 All cheque signatories are aware of their obligations. | | | | | |
| 10.15 External auditors come to school and carry their audit from the school | | | | | |
| 10.16 External auditors take more than two weeks to complete the audit | | | | | |
| 10.17 External auditors audit all aspects of the school including books of | | | | | |

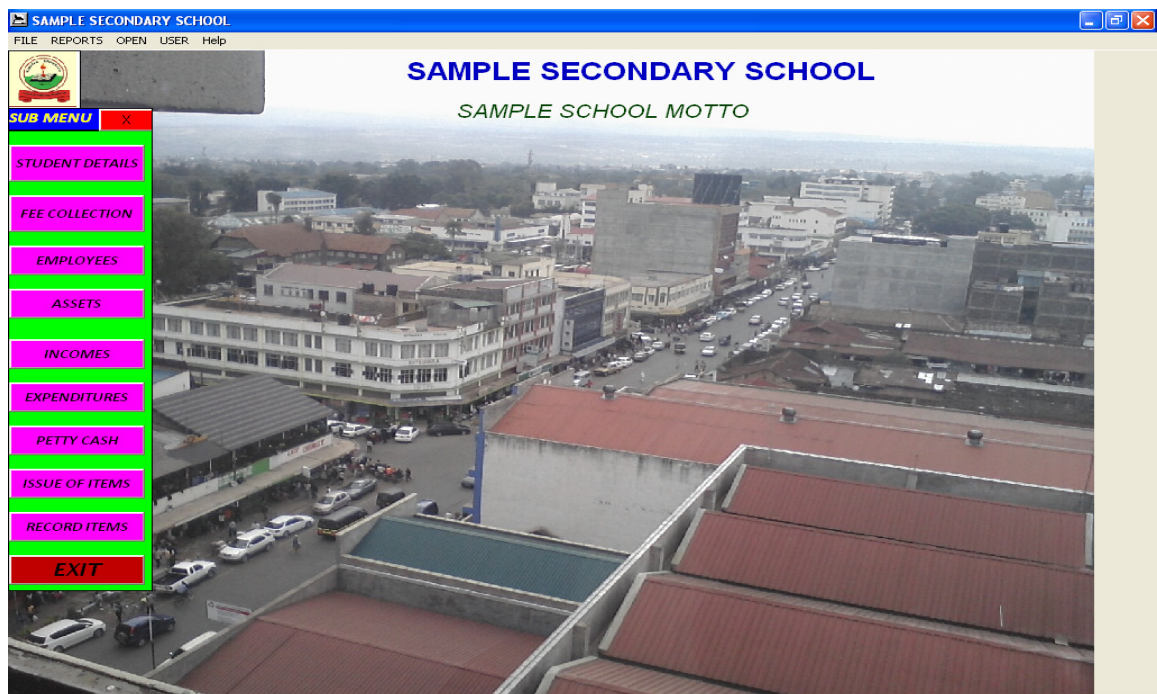
| | | | | | |
|--|--|--|--|--|--|
| accounts, stores, physical facilities, accounting systems, management systems and security | | | | | |
| 10.18 Only accounting books are taken to the district office for audit | | | | | |

USER MANUAL (ISSMIS).

Appendix 10: Secondary School Integrated Management Information System

This is a management information system that manages the school resources in both private and public secondary schools. The system comprise of modules in; Asset management, financial management, Accounting, Examinations and Pay roll management. Each module has sub modules that assist in management of the school resources in a computerized way.

The image below shows a home screen.



For the home screen to be displayed, the user has to supply the correct password and the user name. This helps to keep track of the person who is using the system and keep record of the transactions made by the user who logs in at any given time. The home screen contains the following items.

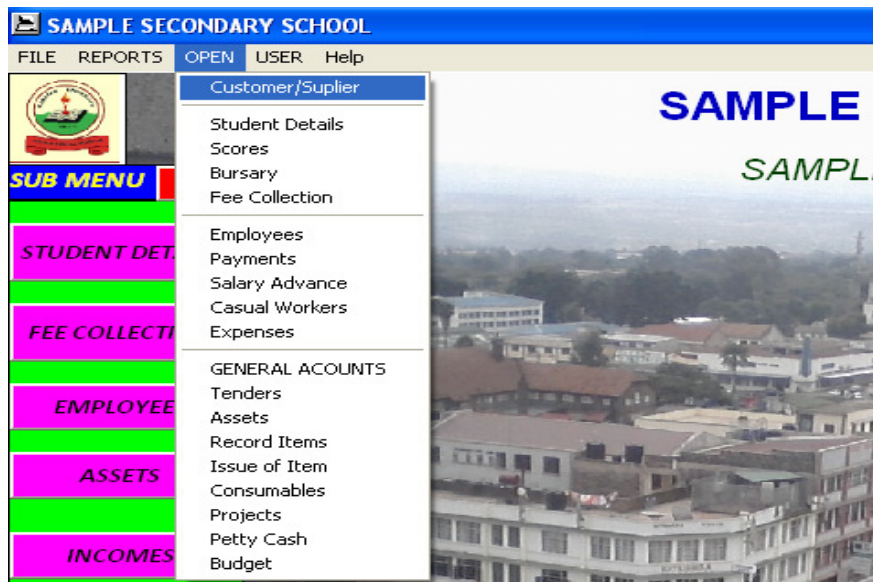
- Menu
- Sub menu
- Background image

The menu holds the commands that can take the user to various locations in the program. Each menu command has drop down list where the user can select the exact destination.

The sub-menu displayed on the screen is a shot cut to the main menu where the user can select the destination directly.

The background image is the picture that appears on the home screen and the user can change it in the configuration module.

Sample Drop-down Menu



File Menu

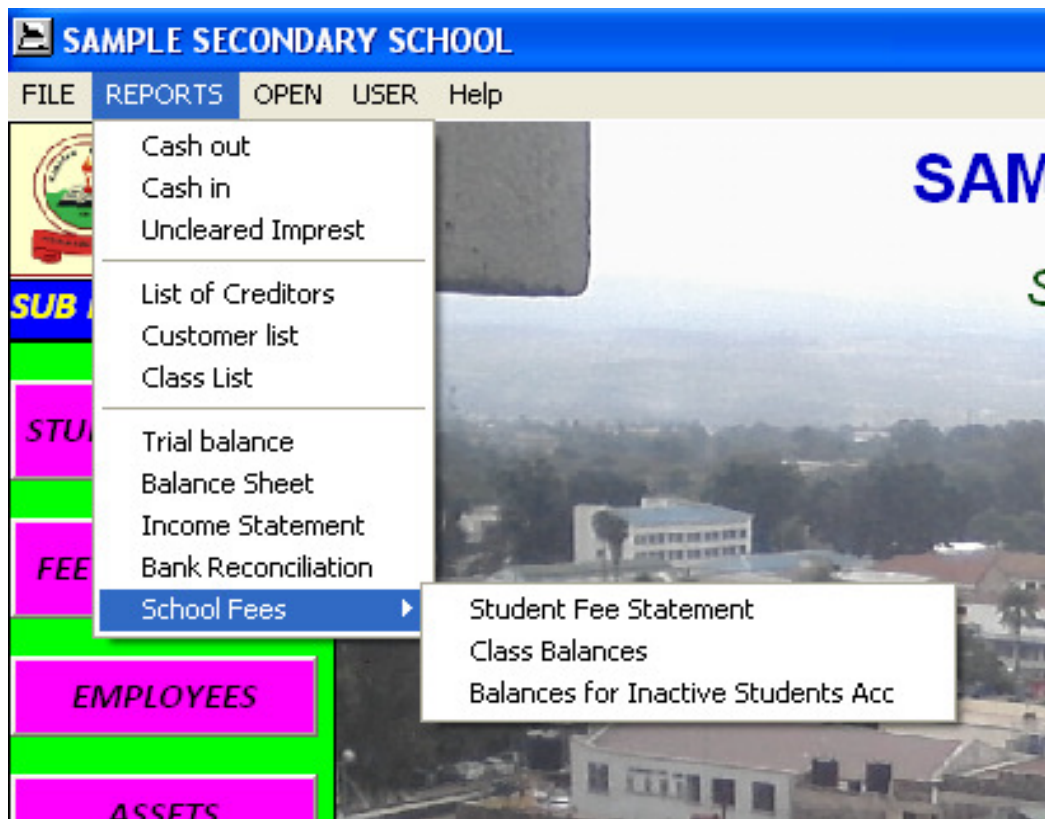
This menu comprises of configuration, Log off and the command for displaying the sub menu on the home screen.

Configuration is where you are supposed to do all the settings of the system e.g. allocating the subjects to teachers.

Log off sub menu helps the user to change the log in user name and password for security purposes. The user name and the pass word cannot be changed unless the user is logged in this is to ensure security but authorized persons are required to jealously guard their pass words and user name in order to ensure maximum security.

This menu also comprises of exit command.

Reports Menu

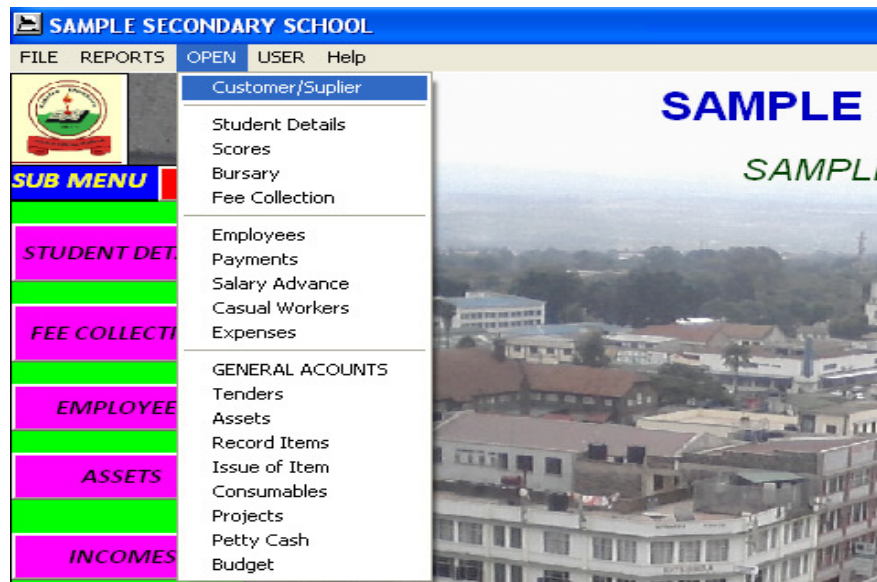


This menu command is used to produce the reports of the data as illustrated by the image above.

The user must ensure that the data whose report is required is correctly entered in the system.

Some of the reports like the academic reports can only be obtained from the scores module under the open command.

Open Menu



This command opens various modules depending on the users' interest. Most of the system modules are found here. Some of the sub menu here requires the user to enter more than one password for it to load. An example of such like command is employee.

The user menu is used to display the current user based on the user name supplied during log in.

The help command gives the contact details of the system designer and developer for more help in case the end user needs some consultation services.

Student Admission

The system requires that all the students must be registered first before any transaction regarding that student is conducted. To register a student, the user must supply all the student details and of the correct type in order to maintain the integrity of data in the system.

To load the student admission form, click on open from the main menu and select student details, or, from the sub menu, select the student details button. This form will be displayed.

STUDENT DETAILS

New Cancel Add Replacement Home

STUDENT ADMISSION FORM

| | | | |
|------------------------|----------------|----------------------|--|
| First Name | James | Stream | D2 |
| Middle Name | Kariuki | Form | Form One East |
| Sur Name | Kariuki | Year of Study | 2012 |
| Fathers' Name | Peter Kariuki | Date of Birth | 2 / 3 /1998 |
| Fathers' Occupation | Teacher | Date of Admission | 1 / 2 /2012 |
| Mothers' Name | Tabitha wambui | Term Admitted | 1/2012 |
| Mothers' Occupation | None | Admission Number | 1 |
| Guardian | N/A | Gender | <input checked="" type="radio"/> Male <input type="radio"/> Female |
| Siblings | 4 | Browse Photo | |
| No. of Sibling Working | 1 | Fees Balance | 8200 |
| Primary School | Elimu Primary | Total Course Balance | 100000 |

| | | | | |
|---------|--------------|------|-------------------------|--|
| Subject | Mean Grade | C+ | STATUS | <input checked="" type="checkbox"/> Active |
| Marks | Mean Mark | 55 | Reason for Deactivating | Active |
| Grade | Total Marks | 197 | Health Problems | None |
| Next | Year of KCPE | 2010 | | |

Eng 45 C Kisw 82 A Math 70 A-

| | | | |
|-----------|---------|--------------|-----------|
| Home Town | Nakuru | Home Address | 78 Nakuru |
| Location | Mawanga | Contact | 078374374 |

Navigation: < << >> >| New Edit Find Cancel

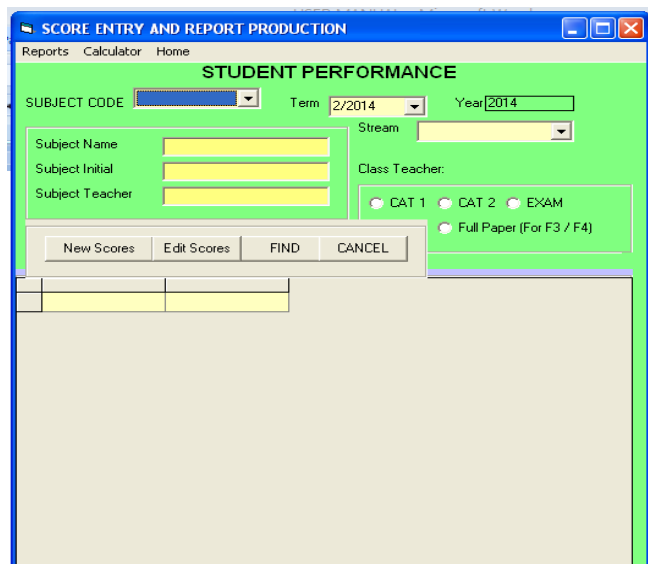
The form contains the navigation button that can help the user to scroll from one record to the other. This is time consuming; instead the user can use the find command to locate specific student information. In this case, user must supply the student admission number and the correct one for the information to be displayed. The button labeled “New” is used when the user wants to add a new record. The admission number should not resemble an existing number. This means that it must be unique since it’s the one used to identify the student’s record. It is suggested that the admission number can be derived from student arrival order (1,2,3,4,5 etc.) year of admission (2014,2015, 2016 etc.) school acronym or initials (JOMO, UBA, KOEL, NJOG, etc.) which must be coordinated in the county to ensure no duplication and a number for the District. For the user to edit any record, he or she must have the password to unlock the keys. When the student is

not active, i.e. not a school member any more either due to termination, completion etc, the record should be deactivated and the reason for deactivation provided.

The students' photo must be saved in the folder advised during the program installation. Failure to do this, the picture might be deleted which might lead to malfunctioning of the system.

The Capture of Academic Score

This is the module where the user enters the examination scores of the student. Note that the student must be registered first before his or her scores are entered



All the exam specification must be supplied correctly. The user should then select either “New scores” to enter the new score, “Edit scores” to edit the existing scores or “Find” to find the existing scores.

It is still in this module where the user can still generate the report of the student based on the scores that are already in the record.

The diagram below shows where the user is supposed to specify the type of the exam to produce the report for.

REPORT SPECIFICATIONS

Home Back

Produce Reports For?

CAT 1
 CAT 2
 EXAM (With C1+C2)
 EXAM (With C1)
 FULL PAPER(F3/F4)

Class Report

Term

Class Code

Class Name

Class Teacher

Student Report

Admno.

Term

Name

Class

Date of Admission

CHART TYPE

BAR GRAPH
 LINE GRAPH

View View Print All Subject Report

In this module, the user can produce a class report, form report, subject report and student report. The following is a sample of a student report. The report contains the students' photo, the graph and past performance analysis and other academic details.

SAMPLE SECONDARY SCHOOL



STUDENT'S PROGRESS REPORT



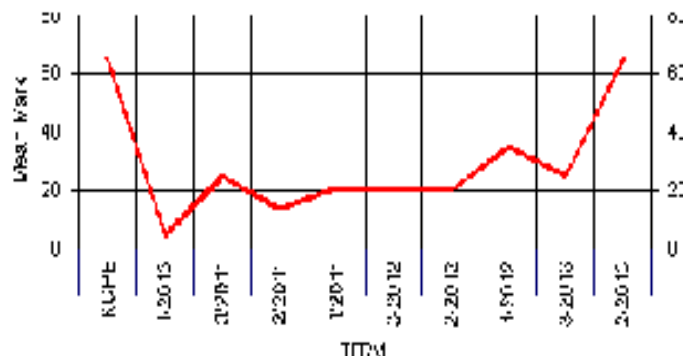
Name: **Agnes Jeptoo Kagiri** Adm. No. **5** Class: **Form One East** Term: **3/2013**

| Subject Name | C.A.T1 | C.A.T2 | Exam | Total | Grade | Sub Pos | Comment | Teacher |
|--------------|--------|--------|------|-------|-------|---------|-------------|--------------|
| English | 12 | 2 | 16 | 30 | D | | Work Harder | Mr. Gacka |
| Kiswahili | 9 | 2 | 13 | 24 | E | | Amka! | Mrs. Mureto |
| Mathematics | 8 | 7 | 10 | 24 | E | | Work Harder | Mr. Julia |
| Chemistry | 9 | 1 | 13 | 23 | E | | Work Harder | Mr. Githugi |
| Biology | 8 | 2 | 12 | 22 | E | | Work Harder | Mrs. Thairu |
| Physics | 12 | 2 | 17 | 31 | D | | Work Harder | Mr. Henry |
| CRE | 8 | 0 | 10 | 18 | E | | Work Harder | Mrs. Noak |
| Geography | 8 | 2 | 10 | 19 | E | | Work Harder | Mr. Fredrick |
| History | 10 | 4 | 14 | 28 | D- | | Work Harder | Mr. Julia |
| Business | 12 | 2 | 17 | 31 | D | | Work Harder | Mrs. Thairu |
| Agriculture | 12 | 0 | 16 | 28 | D- | | Work Harder | Mr. Henry |

Position **3** Out of **6** Overall Position **3** Out of **7** Total Marks **278**

Grade **D-** KCPE MARKS **247**

| Term | KCPE | 1/2013 | 3/2011 | 2/2011 | 1/2011 | 3/2012 | 2/2012 | 1/2012 | 3/2013 | 2/2013 | | |
|----------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Position | - | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Grade | B | E | D- | E | E | E | E | E | D- | B | | |



CLASS TEACHER'S REMARK

SIGNED _____ DATE _____

PRE-PAID FEE 1300 NEXT TERM FEE 12000 TOTAL 10700

PRINCIPAL'S REMARKS

SIGNED _____ DATE _____

NEXT TERM BEGINS ON _____ AT _____

Parent's/Guardian Signature _____ Date _____

Fee Collection

FEES COLLECTION

Admission Number Term

Time/ Date

Received From:

Name Replacement Charges

Class

Status Active

Payment Details

Payment Method

Slip Number

Amount Received

The image displayed above shows the module where the user is supposed to enter the details regarding the fees during the fee payment by the student. The only thing the user requires to have is the student admission number and all the other details will be displayed automatically. If the fee is being paid by any other person other than then student, the user should enter the name of the person making the payment under the received from section. Ones the all the fee details are fed correctly, the user should press the receive button and the receipt report will be displayed automatically. After entering the students' admission number, the user can display the fee statement i.e. the details of how the student has been paying and all the other details.

Sample Receipt

SAMPLE SECONDARY SCHOOL

SCHOOL MOTTO
STUDENT STUDENT RECEIPT



NAME Agnes Jeptoo Kagiri ADMNo. 5

CLASS Form One East DATE 6/29/2014

| S/N | PARTICULARS | AMOUNT |
|-----------------------|-------------|------------------|
| | Project | 10 |
| | Tuition | 50 |
| | Development | 30 |
| | ICT | 10 |
| CURRENT BALANCE -1400 | | TOTAL AMOUNT 100 |

Sample Fee statement

SAMPLE SECONDARY SCHOOL SAMPLE SCHOOL MOTTO

STUDENT FEE STATEMENT



NAME Agnes Jeptoo Kagiri

ADMNo. 5

| DATE | PAYMENT METHOD | DETAILS | AMOUNT |
|-----------|----------------|-----------|--------|
| 8/21/2012 | Cash | NIL | 10000 |
| 8/27/2012 | Bank | 354 | 0 |
| 8/27/2012 | Bank | 34534 | 0 |
| 8/27/2012 | Bank | 8888 | 100 |
| 8/27/2012 | Bank | 9999 | 100 |
| 8/27/2012 | Bank | 2222 | 100 |
| 7/29/2013 | Cash | NIL | 30000 |
| 7/31/2013 | Cash | NIL | 2000 |
| 7/31/2013 | Cash | NIL | 300 |
| 7/31/2013 | Cash | NIL | 200 |
| 8/10/2013 | Bank | 453 | 4000 |
| 4/22/2014 | Bank | 453463224 | 1000 |
| 4/23/2014 | Bank | 43546343 | 501 |
| 4/23/2014 | Bank | 24356 | 501 |
| 4/23/2014 | Bank | 45676543 | 500 |
| 4/23/2014 | Cash | NIL | 200 |
| 5/1/2014 | Cash | NIL | 5000 |
| 5/1/2014 | Cash | NIL | 5000 |
| 5/1/2014 | Cash | NIL | 702 |
| 5/5/2014 | Cash | NIL | 1000 |
| 6/28/2014 | | | 5000 |
| 6/29/2014 | Cash | NIL | 100 |

EMPLOYEE MODULE

This module enables the user to register all the staff and employees in a school. For the user to load this module, three passwords must be supplied. If one of the passwords is incorrect, the module will not be loaded.

The screenshot shows a software window titled "EMPLOYEE DETAILS" with a blue header bar. The main area has a pink background and contains the following fields and controls:

- ID No.**: Text input field.
- Home Town**: Text input field.
- Employment Number**: Text input field.
- Mobile No.**: Text input field.
- First Name**: Text input field.
- Date of Birth**: Date picker showing 3/17/2012.
- Middle Name**: Text input field.
- Date Employed**: Date picker showing 3/17/2012.
- SurName**: Text input field.
- Mode of Payment**: Radio buttons for "Permanent and Pensionable" (selected) and "Casual Worker".
- Retirement Date**: Date picker showing 4/29/2014.
- Pension Contribution**: Two input fields for "Employer" and "Worker", both containing "0".
- Grade**: Text input field.
- Salary**: Text input field.
- Overtime Rate(PH)**: Text input field.
- Title**: Dropdown menu.
- Incremental Date**: Date picker showing 8/28/2012.
- Increase By %**: Text input field.
- P.o Box**: Text input field.
- STATUS**: Check box for "Active".
- Buttons**: "New", "Edit", "Find", "Cancel", and a red button labeled "ASSIGN ALLOWANCES AND DEDUCTIONS".

CASUAL WORKER. X

DAILY REPORTING OF CASUAL WORKERS

Employment Number Total Hours Worked

Name Total Overtime Hours

Time In Time Out

Date Overtime Hours

SAVE

In this module, the user is supposed to supply all the details before saving. He or she can also edit an existing record or find employee details using the employee number. All the allowances and deductions are specified while registering the new staff. For casual workers, the user must enter the time in and time out. The program will compute the total hours worked and get the total pay based on the hourly rate set.

All the payments of the workers are made in the payment module. To launch the module, click on open then payments.

The screenshot shows a window titled "PAYMENTS" with a sub-header "PAYMENT DETAILS". The form includes the following fields and controls:

- Employee Number:** A dropdown menu.
- Month:** A dropdown menu.
- Year:** A text box containing "2014".
- National ID No.:** A text box.
- Name:** A text box.
- Title:** A text box.
- TOTAL NORMAL HOURS:** A text box.
- TOTAL OVERTIME HOURS:** A text box.
- Basic Salary:** A text box.
- Gross Salary:** A text box.
- Net Salary:** A text box.
- Buttons:** "SAVE", "EDIT", "FIND", and "View PaySlip".

Having entered the employee number, the program will compute all the total hours, overtime, basic salary, gross salary and get the Net salary. The user can display the pay slip and print it. An employee can take a salary advance, which will be deducted during payment. The user selects the employee number from the drop down and enters the amount to issue.

The screenshot shows a window titled "ISSUE OF ADVANCE" with a sub-header "ISSUE SALARY ADVANCE TO EMPLOYEES". The form includes the following fields and controls:

- EMPLOYMENT NUMBER:** A dropdown menu.
- EMPLOYEE NAME:** A text box.
- AMOUNT:** A text box.
- DATE:** A dropdown menu showing "4 /30/2014".
- Button:** "ISSUE".

Budget

Every item or services to be incurred by the school for a given year must first be budgeted for and recorded in the system. The tender should then be announced and the right tendering process followed. The supplier who wins the tender should be recorded and all the item descriptions. This information will be used during receiving of the item where the user only enters the tender number and other details are loaded. The image below shows the interface of capturing the budget.

| Income Sources | | Expenditures | |
|---------------------|--------------|---------------------------|--------|
| Source | Amount | Type of expenditure | Amount |
| | | | |
| Tuition Fees | 70000 | | |
| Rents | 7000 | | |
| Total income | 77000 | Total expenditures | |

If the user enters either income or expenditure wrongly, he/she can remove it selecting it first and then clicking on the remove button in the respective place. This module is meant to record the transactions and does not cover the legal requirements of tendering or budgeting process. After the items have been budgeted for, the tendering process should be followed to get the tender winners who are then recorded using the module below.

The screenshot shows a software window titled "TENDERS" with a sub-header "TENDER DETAILS". The form contains the following fields and controls:

- TENDER NO.:** A text input field.
- NUMBER OF UNITS:** A text input field.
- PRICE PER UNIT:** A text input field.
- ITEM NAME:** A dropdown menu with the value "cboitemname".
- ITEM DESCRIPTION:** A large text area for description.
- Timings:** A sub-section containing:
 - SUPPLY DATE:** A dropdown menu with the value "8 /16/2013".
 - QUANTITY:** A text input field.
 - ADD TIMMING:** A red button.
- EXPIRY DATE:** A dropdown menu with the value "4 /29/2014".
- SUPPLIER:** A dropdown menu with the value "cboSupplier".

At the bottom of the window, there are four navigation buttons: "NEW", "EDIT", "<<", and ">>".

Before the tender details are recorded in the system, the supplier details must be recorded first so that the user will just select the supplier from the list. The timings are the intervals that the user is supposed to supply the items. The timing dates should not exceed the expiry date of the tender. Once the tender details are recorded, the user can now receive the items when supplied. To launch the module for receiving the items, click on assets from the sub menu or select Open from the main menu and then click on assets. The following module will be displayed.

The screenshot shows a software window titled 'ASSETS' with a sub-window 'NEW ITEM'. The form contains the following fields and controls:

- ACCOUNT TYPE**: A dropdown menu.
- SUB TYPE**: A dropdown menu.
- Item**: A dropdown menu.
- Description**: A large text area for item details.
- Number of Units**: A text input field.
- Price Per unit**: A text input field.
- Total Amount**: A text input field.
- Supplier**: A dropdown menu.
- Date**: A date picker showing '4 /23/2014'.
- Receipt Number**: A text input field.
- Consumable / Non-consumable**: Two radio buttons.
- Cash / Credit**: Two radio buttons.
- Navigation Buttons**: A pink-bordered box containing 'New', 'Cancel', '<<', and '>>' buttons.

At this point, the user is required to specify the account type and sub type that will be affected. When the item name is selected from the drop down menu, the program will load all the details that were supplied in the tender details including item description. The user should then specify whether the item is consumable or non-consumable and whether the items are bought in cash or credit.

Expenditure

All the school expenses and payments are made in the expenses module. To launch this module, the user should click on expenses button from the sub menu or open from the main menu, then click expenses. The following will be displayed.

The image shows a software window titled "Expenses" with a blue border and a close button in the top right corner. The window has two tabs: "EXPENSES" (which is selected and highlighted in yellow) and "PAYMENTS". The main area of the window is a form with the following fields:

- ACCOUNT TYPE**: A dropdown menu.
- SUB TYPE**: A dropdown menu.
- Vote Head**: A dropdown menu.
- Category**: A dropdown menu.
- Suplier No.**: A dropdown menu.
- Suplier Name**: A text input field.
- Charges (Kshs)**: A text input field.

At the bottom of the form, there are two buttons: "RECORD" and "CANCEL".

For the user to record expenses, the user has to click on the expenses tab. The creditors are also paid in this module. In this case the user is supposed to click on the payments tab and enter the payment details then click on pay button as shown bellow.

The image shows a screenshot of a software application window titled "Expenses". The window has two tabs: "EXPENSES" and "PAYMENTS", with "PAYMENTS" being the active tab. The form contains the following fields and controls:

- Supplier No.:** A dropdown menu.
- Supplier Name:** A text input field.
- Amount Due:** A text input field.
- Payment:** A text input field.
- Date:** A date picker showing "6 /29/2014".
- Payment Method:** Radio buttons for "Cash" and "Bank", with "Bank" selected.
- PAY:** A blue button at the bottom center.

Petty Cash

The program also allows the user to withdraw petty cash. The maximum amount of petty cash is set in the configuration and it's authorized by the highest level of security i.e. level 1. This module keeps track of the amount issued, amount accounted for and un-cleared imprest.

Once an amount is issued to the requisitioner, he/she must clear the imprest by accounting for the cash obtained. The cashier is supposed to specify the requisitioner and then select the edit command to enter the receipt value.

PETTY CASH TRANSACTIONS

PETTY CASHIER

Transaction Entries

Voucher Number

Details

Withdrawer

Date/Time
6/29/2014 2:02:09 PM

Amount Issued

Receipt Number

Receipt Value

New Entry **Edit** **Find** **Cancel**

The program also has the capability of producing the report of all the un-cleared imprest.


Click on reports and select the “Un-cleared imprest” menu.

UNCLEARED IMPREST

Zoom 100%

SAMPLE SECONDARY SCHOOL

SAMPLE SCHOOL MOTTO



UNCLEARED IMPREST

| VOUCHER No. | DETAILS | WITHDRAWER | DATE | AMOUNT |
|---------------------|---------------------------|--------------|---------------------|------------|
| 4534 | PURCHASE OF LAB CHEMICALS | Mr. KARILIKI | 8/2/2013 8:14:56 PM | 300 |
| 5344 | REPAIR OF COMPUTERS | Mr. OUMA | 8/2/2013 8:35:38 PM | 300 |
| Total Amount | | | | 600 |

Pages: 1

General Accounts.

During the program installation, this module of general accounts is used to enter all the opening balances.

Issue and Consumption of Items

After all the items have been received, they need to be given a unique number for easier record keeping purposes. The following module is used for recording the items.

Books and other items must be recorded differently for finer details by selecting the appropriate tab. If the items are to be issued to a student or any other person, he/she must be first recorded in the system.

For one to withdraw the consumables, password must be provided for verification purposes.

ALLOCATE ITEMS

STUDENTS T and Non-T STAFF

ALLOCATE ITEMS TO STUDENTS

Stream

AdmNo.

Class Name

Student Name

Item Number

Item Name

This student holds the following items

ALLOCATE FIND RECEIVE

To allocate item to students, select the students' tab, Select stream for easy search and select admission number. Enter the item number and allocate. After selecting the student number, the program will display all the items that the selected student have.

To receive the item from the student, select the item from the list and click the receive button.

ALLOCATE ITEMS

STUDENTS T and Non-T STAFF

ALLOCATE ITEMS TO TEACHING and NON-TEACHING STAFFS

Employee Number

Staff Name

Staff Position

Item Number

Item Name

This person holds the items listed below

Click on item to display its details

ALLOCATE FIND RECEIVE

Bursary

Various bursary funds received should be recorded first before they are issued to the student. The received bursary can then be allocated to the beneficiaries. In the fee collection the bursary option should be selected. The total amount received within a given year can be obtained by clicking the display button and specifying the year.

RECEIVING OF BURSARY FUNDS

BURSARY FUNDS

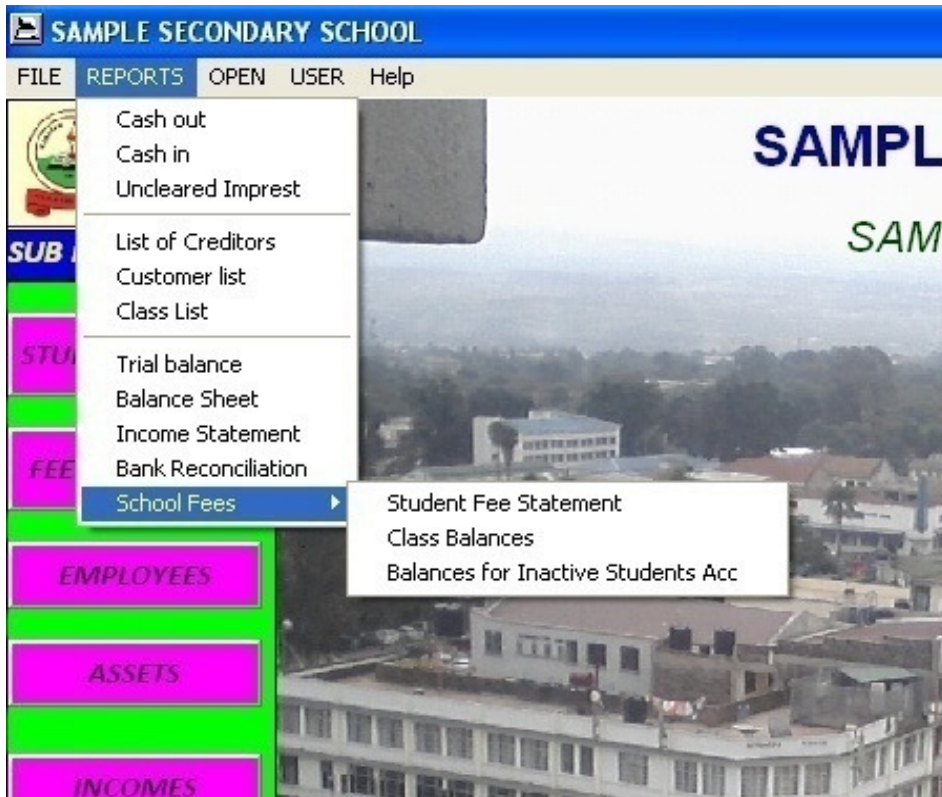
SOURCE

AMOUNT

DATE RECEIVED

5 / 1 /2014

NEW EDIT DISPLAY << >>



Reports

The reports produced by this program are based on the data entered by various users.

To obtain reports, click on the report menu and select the type of the report you want to produce. The reports include; financial reports, academic reports, clearance reports. The financial reports include; trial balance, income statement, statement of financial position, bank reconciliation statement and cash receipt documents, debtors list, un-cleared imprest, creditors and assets list, customer's list, individual students' fees statement and a bursary fund statement. The academic report include report forms for individual students with details on entry behavior, cumulative performance including a graphical presentation of performance of the student over time

Appendix 11: Research Budget.

| | | | |
|---|---|---|---|
| 1 | Proposal writing, vetting and reviewing Training of assistants Remuneration of assistants | Shs. 10,000 People @ shs. 3,000 7 people @ 10,000 per for one months | Shs 10,000 Shs. 21,000 Shs. 70,000 |
| 2 | Transport, accommodation & subsistence workshops and seminars Data collection Data analysis | Shs. 10,000 per year 1 workshops and seminars @ Shs. 15,000 Shs.1,000 per day for 30 days Shs. 500 per day for 10 days | Shs. 30,000 Shs. 15,000 Shs.30,000 Shs. 5,000 |
| 3 | Stationery: Photocopying Writing materials Type setting Proof reading Printing Binding Postage and communication Internet referencing Reference and study materials | 3000 copies @ Shs.3 50 writing pads @ Shs 50 1000 pages @ Shs. 5 3 readings @ Shs. 500 per reading 1000 copies @ Shs.10 100 copies @ Shs. 100 per copy 500 hours @ Shs. 60 per hour | Shs. 9,000 Shs. 2,500 Shs. 5,000 Shs.1,500 Shs. 10,000 Shs. 10,000 Shs. 10,000 Shs 30,000 Shs. 10,000 |
| 4 | Contingencies | (5% of total research cost) | Shs. 13,500 |
| | Total | | Shs. 282,500 |

Appendix 12: Permissions and Licenses

PAGE 2 PAGE 3

Research Permit No. NCST/RR/12/1/SS011/1

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs/Miss/Institution **Date of issue** **30th August 2011**
John Kamau Gathii **Fee received** **KSHS.2000**


(Address) Kabarak University
Private Bag . Kabarak


has been permitted to conduct research in

Location
Nakuru District
Kiit Valley Province

on the topic: Effects of financial resources
;A accountability in secondary schools in Kenya
: A case of Nakuru County.

for a period ending 30th December 2012


Applicant's
Signature


Secretary
National Council for
Science and Technology

CONDITIONS

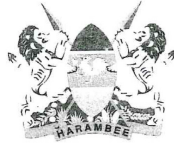
1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed with-out prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2)/four(4) bound copies of your final report for Kenyans and non-Kenyans respectively.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice


REPUBLIC OF KENYA
RESEARCH CLEARANCE PERMIT

(CONDITIONS—see back page)

GP60553m10/2011

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: **NCST/RRI/12/1/SS011/1176**

Date:
30th August, 2011

John Kamau Gathii
Kabarak University
Private Bag
Kabarak


Dear Sir,

RE:RESEARCH AUTHORIZATION

Following your application for authority to carry out research on; *"Effects of financial resources; accountability in secondary schools in Kenya: A case of Nakuru County"* I am pleased to inform you that you have been authorized to undertake research in *Nakuru District* Kenya for a period ending **30th December 2012**

You are advised to report to **The District Commissioner and The District Education Officer Nakuru District** before embarking on the research project.

On completion of your research project you are advised to submit **one hard** copies and **one soft** copy of your thesis/ project to this office.


P.N NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The District Commissioner
Nakuru District

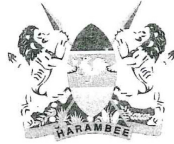
The District Education Officer
Nakuru District

*The bearer is hereby
permitted to carry out
the above mentioned
research in the Kuresoi
District - Please assist*


FOR DISTRICT EDUCATION OFFICER
KURESOI DISTRICT

For DEO
4/11/11

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: **NCST/RRI/12/1/SS011/1176**

Date:
30th August, 2011

John Kamau Gathii
Kabarak University
Private Bag
Kabarak

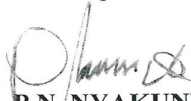
Dear Sir,

RE:RESEARCH AUTHORIZATION

Following your application for authority to carry out research on; *"Effects of financial resources; accountability in secondary schools in Kenya: A case of Nakuru County"* I am pleased to inform you that you have been authorized to undertake research in *Nakuru District* Kenya for a period ending **30th December 2012**

You are advised to report to **The District Commissioner and The District Education Officer Nakuru District** before embarking on the research project.

On completion of your research project you are advised to submit **one hard** copies and **one soft** copy of your thesis/ project to this office.


P.N NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The District Commissioner
Nakuru District

The District Education Officer
Nakuru District

The bearer is hereby permitted to carry out the above mentioned research in the Kuresoi District - Please assist


FOR DISTRICT EDUCATION OFFICER
KURESOI DISTRICT

For DEO
4/11/11

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123.
Fax: 254-020-2213215, 318245, 318249
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P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: **NCST/RRI/12/1/SS011/1176**

Date:
30th August, 2011

John Kamau Gathii
Kabarak University
Private Bag
Kabarak

Dear Sir,

RE:RESEARCH AUTHORIZATION

Following your application for authority to carry out research on;
"Effects of financial resources; accountability in secondary schools in Kenya: A case of Nakuru County" I am pleased to inform you that you have been authorized to undertake research in *Nakuru District* Kenya for a period ending **30th December 2012**

You are advised to report to **The District Commissioner and The District Education Officer Nakuru District** before embarking on the research project.

On completion of your research project you are advised to submit **one hard** copies and **one soft** copy of your thesis/ project to this office.

A handwritten signature in blue ink, appearing to read 'P.N. Nyakundi'.

P.N/NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The District Commissioner
Nakuru District

The District Education Officer
Nakuru District

MINISTRY OF EDUCATION

Telegrams: "LEARNING"
Telephone: 2216529/2216563
When replying please quote



DISTRICT EDUCATION OFFICE
NAKURU DISTRICT
P.O. BOX 1028

NAKURU

6th September, 2011

NKU/ED/122/VOL II (156)

ALL

PRINCIPALS

NAKURU DISTRICT.

RE; RESEARCH AUTHORIZATION- JOHN KAMAU GATHII

This is to inform you that the above named student from Kabarak University has been authorized to carry out research on (*effect of financial resources accountability in secondary school in Kenya. A case in Nakuru County*)

Please give him the necessary assistance to accomplish this important task.

For DISTRICT EDUCATION OFFICER

P.O. BOX 1028

NAKURU.

KAMAU CHRISTOPHER

FOR: DISTRICT EDUCATION OFFICER

NAKURU

MINISTRY OF EDUCATION

Telegrams: "LEARNING"
Telephone: 020-2103613
When replying please quote



DISTRICT EDUCATION OFFICE
NAKURU NORTH
P.O. BOX 50,
BAHATI

NKU.NTH/ED/

October 25, 2012

To Principals
Secondary Schools
NAKURU NORTH

**RE: AUTHORITY TO CARRY OUT RESEARCH –
JOHN KAMAU GATHII – KABARAK UNIVERSITY**

The above named is a student at Kabarak University and is hereby authorized to carry out research in secondary schools in Nakuru North District. His study is on "***The effects of financial resources accountability in secondary schools in Kenya: A case of Nakuru County***"

Kindly accord him the necessary assistance that he requires.

A handwritten signature in black ink, appearing to be 'L. Ongori', written over a circular stamp.

LEONARD K. ONGORI
For: DISTRICT EDUCATION OFFICER
NAKURU NORTH DISTRICT

FOR: DISTRICT EDUCATION OFFICER
NAKURU NORTH DISTRICT
P. O. Box 50 - 20113
BAHATI
TEL: 020-2103613

**OFFICE OF THE PRESIDENT
PROVINCIAL ADMINISTRATION**

Telegram: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote



THE DISTRICT COMMISSIONER
NAKURU DISTRICT
P.O. BOX 81
NAKURU.

Ref No. ED.12/10 Vol.V1/11

6th September 2011

TO WHOM IT MAY CONCERN

**RE:- RESEARCH AUTHORIZATION
MR. JOHN KAMAU GATHII**

The above named is a student at Kabarak University attached to National Council for Science and Technology Nairobi, Kenya.

He has been authorized by this office to carry out research on "effects of financial resources: accountability in secondary schools in Kenya – A case of Nakuru County" for a period ending 30th December 2012.

This office will appreciate any assistance accorded to him to facilitate his research.

A handwritten signature in blue ink, appearing to read 'Khalif D. Abdullahi', written over a horizontal line.

**KHALIF D. ABDULLAHI
FOR DISTRICT COMMISSIONER
NAKURU DISTRICT**

Copy to:-

The District Education Officer
NAKURU