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## Risk Assessment and Financial Accountability: Lessons from the Kenyan National Public Secondary Schools

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### **Abstract:**

*The overall objective of the study was to ascertain the effect of risk assessment on financial accountability in national public secondary schools in Kenya. The Kenyan education system is burdened with financial management risks that compromise the quality of education. Risks are assessed in order to determine the likelihood of an event occurring, the impact, and risk tolerance level. If the risks are identified and classified then tolerance level can then be determined. The study was carried out in 103 national public secondary schools in Kenya. The study was guided by; Agency theory, Fraud triangle theory and accountability theory. Survey research design was used. The target population consisted of; 103 principals, 103 bursars, 103 BOM chairs. Purposive and simple random sampling were used to select principals, bursars and BOM chair. Primary data was collected by use of questionnaires, while secondary data was collected through audited financial statements. Reliability of the research instruments was tested through Cronbach's Alpha. Factor analysis was used to assess construct validity. Simple linear regression was used to establish the relationship between risk assessment and financial accountability. The results for the regression model show an R-square of 0.221. The Analysis of Variance (ANOVA) had an F-statistic of 9.920 which has a p-value of 0.000. The p-value of the F-statistic is less than 0.05 showing that the model on the influence of Risk Assessment on financial accountability is generally significant. The regression coefficient estimate of Risk Assessment was ( $\beta = 0.453$ ,  $Z = 3.150$ ,  $p\text{-value} = 0.000$ ). The study will support BOM and principals of national public secondary to devise effective risk assessment and mitigation programs for improved financial accountability.*

**Keywords:** Financial accountability, risk assessment, risk identification, risk prevention, sound accounting.

### **1. Introduction**

The mission of the Ministry of Education (MOE) is to provide, promote and coordinate lifelong education, training and research for sustainable development. Since 2003, the government has initiated many reforms in the education sector including the introduction of Free Primary Education. In 2008, the MOE increased its support to public secondary schools by providing some level of funding to support schools' operational and development expenditure. Some of these resources are used for procurement of books, other educational learning materials and facilities for the learning institutions (Wango & Gatere, 2014).

Over time, various publications and guidelines have been produced by the ministry of education to ensure that the procedures in the procurement of goods, services and works for schools are transparent and that they guide the school management committees at all stages of procurement. Risk assessment involves a dynamic and iterative process for identifying and assessing risks to the achievement of objectives. Risks to the achievement of these objectives from across the entity are considered relative to established risk tolerances.

Financial accountability in some public secondary schools is still wanting, a report by Ethics and Anti-Corruption Commission established that thirty percent of funds channeled to subsidized secondary education could not be accounted for by the various school principals (Ethics and Anti-Corruption Commission, 2015/2016). An audit report by the ministry of finance revealed that Kenyan shillings 4.2 billion from donors and Kenyan taxpayers had been misappropriated by senior Ministry of education officials and head teachers which made the international development partners that were funding free primary education to withdraw from the project (Transparency International Kenya, 2014). A survey by the auditor general on financial statements from the ministry of education revealed that the government could be losing millions of shillings of capitation funds in public schools. The 2016/2017 financial appraisals showed that an audit inspection carried out on the free day secondary schools in Nairobi, Kiambu, Kajiado and Machakos counties revealed fraudulent deals that include; inflation of enrolment, irregular allocation of funds, procurement of goods and questionable expenditure (Auditor General, 2016/2017).

With such misappropriations, the objectives of free day secondary school cannot be fully achieved. Many more students who would benefit from the funds are left out and drop out of school. Funds that could be used in other development projects are also being wasted and go to the pocket of a few people. None of the researches reviewed has directly tackled the issue of internal control systems and financial accountability in public secondary schools in Kenya. Those who have tackled this topic have covered other government institutions or private businesses while they have done their studies outside Kenya. It is on the basis of the aforementioned gaps that this study seeks to establish the effect of risk assessment on financial accountability in national public secondary schools in Kenya.

## 2. Theoretical Framework

Agency theory, fraud triangle theory and accountability theory guided the study.

### 2.1. Agency Theory

This theory was postulated by Jensen and Meckling (1976). The theory describes how to effectively manage relationships organize relations where one an individual decides the work to be done while another party does the work. In this relationship, the principal hires an agent to do the work, or to perform a task on behalf of the principal. Sometimes the agent may portray self-interest behavior at the expense of the principal. Agency theory is key in this study since the board of management (BOM) act on behalf of the stakeholders such as the government, parents and other stakeholders to run the school on their behalf. The BOM are expected to act in the best interest of the stakeholders. The Kenyan government has put in place internal risk assessment and mitigation measures as to support effective management of finances.

### 2.2. Fraud Triangle Theory

The proponent of the theory was Cressey (1953) as he studied the behavior of fraudsters. He asserts that for fraud to occur, pressure, opportunity and rationalization must be present. The theory suggests that employees commit fraud when they have the opportunity to do so, when they are motivated to do so, and when they can justify or rationalize their behavior (Cressey, 1953). Fraud triangle theory is relevant in ensuring that opportunity, rationalization and pressure to commit fraud is minimized so as to secure finances invested in education.

### 2.3. Accountability Theory

This theory was formulated by Tetlock and Lerner (1999). The theory explains how the perceived need to justify one's behaviors to another party causes one to consider and feel accountable for the process by which decisions and judgments have been reached. In turn, this perceived need to account for a decision-making process and outcome increases the likelihood that one will think deeply and systematically about one's procedural behaviors (Tetlock & Lerner, 1999). They assert that several mechanisms such as; the presence of another person, identifiability, and expectation of evaluation may increase accountability. The expectation of assessment, awareness of monitoring, and social presence improves employee's accountability toward organizational system. (Trevor, Anderson & Didier, 2016). Accountability theory can be applied in this study to enhance accountability can be enhanced through risk assessment. BOM will then embrace the perceived need to account for their actions thus leading to high degree of accountability. If the BOM expects evaluation and are aware of monitoring, then fraud will reduce and accountability will improve.

### 2.4. Empirical Literature Review

(Simeyo & Onyiego, 2013) carried out a study entitled, "The effectiveness of internal control procedures on management efficiency of FPE funds in public primary schools in Kisii Central District." Descriptive survey research design was used on a target population of 267 respondents which consisted of 132 head teachers, 132 chairpersons of school committees and 3 District Education staff in Kisii Central District, Kisii County. A sample of 117 was selected for study. Descriptive statistics was used to analyze data. The study findings revealed that risk assessment improves management efficiency of funds in schools. It was recommended that risk assessment as part of the internal control procedures be enhanced to improve financial management.

(Transparency International Kenya, 2014) Carried out a study entitled "Assessing corruption risks in the education sector in Turkana County". The objective of this assessment was to identify areas of potential resource leakages and formulate appropriate strategies to remedy this situation. A total of 16 schools were randomly sampled from Turkana Central, Loima and Turkana West. Qualitative methods were adopted in the assessment in a bid to get rapid insight, perceptions and practices as narrated by the respondents in primary schools. Formal and informal interviews, focus group discussions were used to collect data. It was discovered that many schools did not have procurement committees in place and there was a conflict of roles by the School Management Committees (SMCs). Some valuable assets for example, land was not secured in some schools. Security of finances was not assured therefore increasing the risk of the leakage of education resources. Audit of schools was limited to a few due to limited capacity. Lack of auditing was found as a huge risk that could lead to continued financial malpractices as not all culprits may be discovered. The study recommended that principals, especially those newly promoted, should be trained on prudent financial management.

(Mugenda, Momanyi & Naibei, 2012) carried out a study on the implications of risk management practices on the financial performance of sugar firms in Kenya. Exploratory research design and survey were used. Pearson Product moment correlation coefficients ( $r$ ) was used to determine the interplay of risk management practices and performance of Sugar manufacturing firms. The results of the study indicate a positive relationship between risk management practices and performance ( $r = 0.67$ .) The researchers, therefore, recommended the adoption of an integrative risk management

perspective that considers the pursuit of upside potential alongside countering of downside losses in order to minimize the negative impact of risk on returns.

(Mwachiro, 2013) in a study purposed to establish the Effects of Internal Controls on Revenue Collection: A Case of Kenya Revenue Authority used both qualitative and quantitative approaches. Primary data was collected on a population of 38 respondents using questionnaires. Findings showed that revealed the five components of the control environment, risk assessment, control activities, information and communication, and monitoring must be are positively related to revenue collection hence financial performance.

(Otieno & Nyagechi, 2013) Carried out a study entitled, "The effectiveness of internal control procedures on management efficiency of FPE funds in public primary schools in Kisii Central District." The study used a descriptive survey research design and targeted 267 respondents comprising of 132 head teachers, 132 SMCs chairpersons and 3 District Education staff in Kisii Central District, Kisii County, from which a random sample of 117 was taken for study. Data was analyzed using descriptive statistics. The findings of the study revealed that the use of internal control procedures is effective in the management efficiency of funds in schools. The study further established that computerized procedures were seldom used as an internal control procedure in public primary schools; staff accounting skills were low in public primary schools and audit staff was still inadequate. This interfered with the collection of audit evidence for purposes of early detection and prevention of fraud. The study, therefore, recommends embracing enhanced internal control procedures in their resolve to efficient management.

2.5. Conceptual Framework

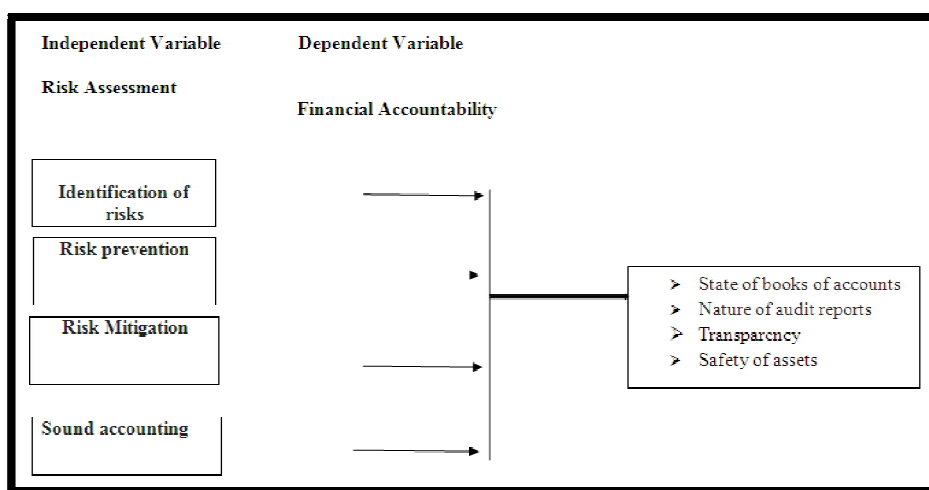


Figure 1: Conceptual Framework

3. Methodology

The study employed descriptive design. This design was deemed appropriate because the study purposed to finding out the relationship between risk assessment and financial accountability. The target population for this study was 309 respondents from 103 national public secondary schools consisting of; 103 principals, 103 bursars, 103 BOM chairs.

3.1. Research Instruments

Questionnaires were used to collect primary data while secondary data was collected by use of audited financial statements.

3.2. Validity

Factor analysis was used to assess construct validity of the questionnaire and also further used for dimension reduction of the observed variables (indicators) to yield the latent constructs. Uni-dimensionality of the study constructs was assessed by confirmatory factor analysis (CFA) and multi-dimensionality of the constructs and items assessed by Exploratory Factor Analysis (EFA) to explore the set of indicators that measure the constructs.

	Items retained	AVE	Squared Correlations	KMO	Bartlett's test		
					$\chi^2$	df	P-value
Risk assessment	6	0.564	0.141	0.507	56.73	15	0.000
Financial Acc	7	0.514	0.188	0.6	62.261	21	0.000

Table 1: CFA Results Used to Assess Construct Validity

### 3.3. Reliability Analysis

Cronbach alpha was used where a value of 0.70 or higher was considered sufficient.

Construct	Number of Items	Cronbach Alpha	Number of Items Retained	Cronbach Alpha After Deletion	Conclusion
Risk assessment	10	0.611	6	0.734	Reliable
Financial Acc	11	0.697	7	0.801	Reliable

Table 2: Cronbach's Alpha Reliability Table

## 4. Data Analysis and Presentation

Descriptive statistics comprised frequencies; mean, standard deviation and variance. Inferential statistics was used to measure the relationships and differences between variables. This comprised regression analysis, testing for autocorrelation and multicollinearity.

### 4.1. Response Rate

252 respondents were targeted in 84 schools. Responses were only got from 74 schools which is 88.095%. From the targeted 252 respondents, 222 questionnaires were returned giving a response rate of 88.095%.

Targeted		Returned Questionnaires		Response Rate	
schools	respondents	Schools	Respondents	Schools	Respondents
84	252	74	222	88.095%	88.095%

Table 3: Response Rate

### 4.2. Descriptive Results

On the perception of the respondents that the BOM identifies risks that affect the achievement of the set objectives. The majority (31.7%) of the respondents agreed, 47.1% of the respondents agreed or strongly agreed that the BOM identifies risks that affect the achievement of the set objectives while 24.1% of the respondents disagreed or strongly disagreed.

The between results show that for some (13.2%) of the schools, there were at least some respondents who strongly disagreed that the BOM identifies risks that affect the achievement of the set objectives while some (55.3%) of the schools, there were at least some respondents who were neutral. The "within" results show the proportion of respondents who actually responded to each category of the responses within a school. On average, within the 24 schools that at least had respondents who strongly disagreed, only 60% of the studied respondents actually strongly disagreed that the BOM identifies risks that affect the achievement of the set objectives.

These results attest to the fact that in many national public secondary schools the BOM identifies risks that affect the achievement of the set objectives. This will assist in the prevention and mitigation of such risks thus less financial loss. Objectives will be easily achieved and any obstacles to the achievement of the objectives will be identified early enough and remedial action is undertaken. However, in some national public secondary schools, the BOM does not regularly identify risks that affect the achievement of the set objectives. This means that such risks cannot be prevented and remedial action may be undertaken when it's already too late.

Regarding the question of whether the BOM has criteria for the ascertainment of which fraud-related risks to the School are most critical. The majority (37.5%) of the respondents agreed, 62.5% of the respondents agreed or strongly agreed that the BOM has criteria for the ascertainment of which fraud-related risks to the School are most critical, 12.5% of the respondents were neutral while 25% disagreed or strongly disagreed.

The between results show that for some (13.2%) of the schools, there were at least some respondents who strongly disagreed that the BOM has a criterion for ascertainment of which fraud-related risks to the School are most critical while some (29%) of the schools, there were at least some respondents who were neutral. The "within" results show the proportion of respondents who actually responded to each category of the responses within a school. On average, within the 23 schools that at least had respondents who strongly disagreed, only 73.3% of the studied respondents actually strongly disagreed that the BOM has criteria for the ascertainment of which fraud-related risks to the School are most critical.

These results indicate that in many schools, the BOM has criteria for the ascertainment of which fraud-related risks to the School are most critical. Such risks can, therefore, be prevented and mitigated. However, in some national public secondary schools, the BOM lacks criteria for the ascertainment of which fraud-related risks to the School are most critical. This means that such risks cannot be prevented and remedial action may be undertaken when it's already too late and risks that may have been curbed early enough become too difficult to remedy.

The study also sought how the respondents perceived the question that identification of risk plays a role in enhancing accountability. The majority (34.6%) of the respondents agreed, 52.9% of the respondents agreed or strongly agreed that identification of risk plays a role in enhancing accountability, 15.4% of the respondents were neutral while 31.8% disagreed or strongly disagreed.

The between results show that in most (57.9%) of the schools, there were at least some respondents who agreed that identification of risk plays a role in enhancing accountability while some (26.3%) of the schools, there were at least some respondents who were neutral. The "within" results show the proportion of respondents who actually responded to each category of the responses within a school. On average, within the 22 schools that at least had respondents who disagreed, only 86.7% of the studied respondents actually disagreed that identification of risk plays a role in enhancing accountability.

From the foregoing results, the majority of the respondents agree/ strongly agree that identification of risk plays a role in enhancing accountability. Thus, if public schools were to identify risks before the implementation of any activity, then such risks/loopholes will be sealed. Proper risk management/mitigation techniques will be established and thus improve transparency and financial accountability.

Regarding the question of whether the BOM has put in place mechanisms for mitigation of critical risks that may result from fraud. The majority (33.7%) of the respondents agreed, 53.9% of the respondents agreed or strongly agreed that the BOM has put in place mechanisms for mitigation of critical risks that may result from fraud, 14.4% of the respondents were neutral while 31.7% disagreed or strongly disagreed.

The between results show that in most (60.5%) of the schools, there were at least some respondents who agreed that the BOM has put in place mechanisms for mitigation of critical risks that may result from fraud while for some (21.1%) of the schools, there were at least some respondents who disagreed. On average, within the 23 schools that at least had respondents who strongly disagreed, only 73.3% of the studied respondents actually strongly disagreed that the BOM has put in place mechanisms for mitigation of critical risks that may result from fraud.

From the results more in more than 60% of the schools, the BOM has put in place mechanisms for mitigation of critical risks that may result from fraud, such schools, therefore, have effective measures of dealing with any risks that may occur and corrective measures/action is promptly taken to prevent reoccurrence of such risks. However, in more than 20% of the schools, the BOM has not put in place mechanisms for mitigation of critical risks that may result from fraud. Such schools, therefore, may be caught unawares of heavy losses as a result of risk and reactive rather than a proactive approach is adopted yet losses due to the stipulated risks may never be recovered.

The results also determined the distribution of the indicator that all risk prone activities such as handling cash are closely monitored to minimize risk. The majority (26%) of the respondents agreed, 45.2% of the respondents agreed or strongly agreed that all risk prone activities such as handling cash are closely monitored to minimize risk, 16.4% of the respondents were neutral while 38.5% disagreed or strongly disagreed.

The between results show that in most (50%) of the schools, there were at least some respondents who agreed that all risk prone activities such as handling cash are closely monitored to minimize risk while for some (34.2%) of the schools, there were at least some respondents who disagreed. On average, within the 19 schools that at least had respondents who strongly disagreed, only 66.7% of the studied respondents actually strongly disagreed that all risk prone activities such as handling cash are closely monitored to minimize risk.

The results depict that in many schools (above 50%), all risk prone activities such as handling cash are closely monitored to minimize risk. Thus, handling of cash is minimal in such schools and thus loss of cash through theft, misappropriation and unauthorized expenditure is minimal. However, in more than 30% of the schools, risk-prone activities such as handling cash are not closely monitored and thus large amounts of cash may be kept in the office. This may, therefore, create opportunities for committing fraud and rationalization can easily be done by the offenders, such frauds may also be covers in the pretext of emergency expenditures.

The respondents were also asked whether persons performing stock taking do not have custody of items. The majority (32.7%) of the respondents agreed, 57.7% of the respondents agreed or strongly agreed that Persons performing stock taking do not have custody of items, 14.4% of the respondents were neutral while 27.9% disagreed or strongly disagreed.

The between results show that in most (55.3%) of the schools, there were at least some respondents who agreed that persons performing stock take do not have custody of items while for some (26.3%) of the schools, there were at least some respondents who disagreed. On average, within the 21 schools that at least had respondents who strongly disagreed, only 66.7% of the studied respondents actually strongly disagreed that Persons performing stock taking do not have custody of items.

These results indicate that in the majority of the schools (above 50%), persons performing stock taking do not have custody of items. This segregation of duties, therefore, leads to transparency and can unearth any anomalies that may occur. Any loses of stock can be easily identified and collusions will be avoided. However, in more than 20% of the schools, persons performing stock taking have custody of items. This creates a big opportunity to commit fraud as the stock balances can easily be doctored by the same individual. Stock balances may be 'cooked' to suit the true stock balance available without being detected.

Another indicator of the variable sought to find out the perception of the respondents that the school security system identifies and safeguards institutional assets. The majority (30.8%) of the respondents agreed, 61.6% of the respondents agreed or strongly agreed that the school security system identifies and safeguards institutional assets while 31.7% of the respondents disagreed or strongly disagreed.

The between results show that in most (55.3%) of the schools, there were at least some respondents who agreed that the school security system identifies and safeguards institutional Assets while some (13.2%) of the schools, there were at least some respondents who were neutral. The "within" results show the proportion of respondents who actually responded to each category of the responses within a school. On average, within the 21 schools that at least had

respondents who disagreed, only 66.7% of the studied respondents actually disagreed that the school security system identifies and safeguards institutional Assets.

The results depict that in many schools, the school security system identifies and safeguards institutional assets. It is, therefore, possible to monitor and track all school assets and any losses will be easily identified. This, therefore, will reduce the opportunity to commit fraud due to fear of the fraudulent activity being exposed. However, in more than 20% of the schools, the school security system is unable to identify and safeguards institutional assets. In such schools, valuable assets can easily be lost without the BOM noticing.

The results also determined the distribution of the indicator that risk mitigation techniques are assessed and modified regularly. The majority (29.8%) of the respondents agreed, 43.3% of the respondents agreed or strongly agreed that risk mitigation techniques are assessed and modified regularly, 24% of the respondents were neutral while 32.7% disagreed or strongly disagreed.

The between results show that for some (21.1%) of the schools, there were at least some respondents who strongly disagreed that risk mitigation techniques are assessed and modified regularly while some (42.1%) of the schools, there were at least some respondents who were neutral. The "within" results show the proportion of respondents who actually responded to each category of the responses within a school. On average, within the 19 schools that at least had respondents who disagreed, only 62.8% of the studied respondents actually disagreed that risk mitigation techniques are assessed and modified regularly.

This is an indication that risk mitigation techniques are assessed and modified regularly in the majority of the schools. Thus, any new ways developed by fraudsters will be easily identified. Better risk prevention and mitigation techniques can also be developed over time. Such schools, therefore, have limited risk occurrence thus improved financial accountability. However, in some few schools, risk mitigation techniques are not assessed and modified regularly thus if fraudsters developed new ways of leakages and misappropriations, it will go unnoticed/undetected.

Regarding the question of whether prevention, control, and management of risk affect financial accountability. The majority (37.5%) of the respondents strongly agreed, 58.7% of the respondents agreed or strongly agreed that prevention, control, and management of risk affect financial accountability, 9.6% of the respondents were neutral while 31.8% disagreed or strongly disagreed.

The between results show that in most (52.6%) of the schools, there were at least some respondents who strongly agreed that prevention, control, and management of risk affect financial accountability while for some (29%) of the schools, there were at least some respondents who disagreed. On average, within the 20 schools that at least had respondents who disagreed, only 68.2% of the studied respondents actually disagreed that prevention, control, and management of risk affect financial accountability.

The results imply that an improvement in prevention, control, and management of risk will lead to improved financial accountability, thus public school should device effective risk management techniques if they are to step up financial accountability. Such schools will be able to prevent and control risk rather than act on already suffered risks that may lead to heavy losses.

The study also sought what the respondents perceived of the question that sound and acceptable accounting procedures are adhered to, Majority (43.3%) of the respondents agreed, 70.2% of the respondents agreed or strongly agreed that the BOM identifies risks that affect achievement of the set objectives, 11.5% of the respondents were neutral while 18.2% disagreed or strongly disagreed.

The between results show that in most (63.2%) of the schools, there were at least some respondents who agreed that sound and acceptable accounting procedures are adhered to while some (21.1%) of the schools, there were at least some respondents who were neutral. The "within" results show the proportion of respondents who actually responded to each category of the responses within a school. On average, within the 24 schools that at least had respondents who strongly agreed, only 63.2% of the studied respondents actually strongly agreed that sound and acceptable accounting procedures are adhered to.

These results depict that in the majority of the schools, sound and acceptable accounting procedures are adhered to, such schools, therefore, prepare their books of accounts according to the stipulated regulations and financial statements will be free from error and therefore reflect a true and fair view of the school. However, in some schools, sound and acceptable accounting procedures are not adhered to, such schools, therefore, do not follow the stipulated regulations in preparing books of accounts. The financial statements may be prone to errors and thus may give misleading information about the state of affairs of the school. Table 4 shows the analysis of the 10 indicators measuring Risk assessment.

Indicator			1	2	3	4	5	Total
sd1	Overall	Freq.	18	31	59	65	31	204
		Percent	8.7%	15.4%	28.9%	31.7%	15.4%	100.0%
	Between (n = 68)	Freq.	9	18	38	43	27	135
		Percent	13.2%	26.3%	55.3%	63.2%	39.5%	198.5%
	Within	Percent	60.0%	53.3%	52.4%	52.1%	41.1%	50.7%
sd2	Overall	Freq.	20	31	26	76	51	204
		Percent	9.6%	15.4%	12.5%	37.5%	25.0%	100.0%
	Between (n = 68)	Freq.	9	16	20	41	27	113
		Percent	13.2%	23.7%	29.0%	60.5%	39.5%	166.2%
	Within	Percent	73.3%	63.0%	43.9%	64.5%	60.0%	60.3%
sd3	Overall	Freq.	18	47	31	71	37	204
		Percent	8.7%	23.1%	15.4%	34.6%	18.3%	100.0%
	Between (n = 68)	Freq.	9	18	18	39	29	113
		Percent	13.2%	26.3%	26.3%	57.9%	42.1%	166.2%
	Within	Percent	73.3%	86.7%	63.3%	57.6%	41.7%	60.3%
sd4	Overall	Freq.	39	26	29	69	41	204
		Percent	19.2%	12.5%	14.4%	33.7%	20.2%	100.0%
	Between (n = 68)	Freq.	18	14	20	41	25	118
		Percent	26.3%	21.1%	29.0%	60.5%	36.8%	173.5%
	Within	Percent	73.3%	56.3%	48.5%	55.1%	58.3%	57.6%
sd5	Overall	Freq.	35	43	33	53	40	204
		Percent	17.3%	21.2%	16.4%	26.0%	19.2%	100.0%
	Between (n = 68)	Freq.	16	23	21	34	25	119
		Percent	23.7%	34.2%	31.6%	50.0%	36.8%	175.0%
	Within	Percent	66.7%	66.7%	48.6%	53.5%	52.4%	56.7%
sd6	Overall	Freq.	28	29	29	67	51	204
		Percent	13.5%	14.4%	14.4%	32.7%	25.0%	100.0%
	Between (n = 68)	Freq.	13	18	20	38	32	121
		Percent	18.4%	26.3%	29.0%	55.3%	47.4%	177.9%
	Within	Percent	66.7%	55.0%	53.0%	56.4%	56.5%	56.7%
sd7	Overall	Freq.	23	41	14	63	63	204
		Percent	11.5%	20.2%	6.7%	30.8%	30.8%	100.0%
	Between (n = 68)	Freq.	14	20	9	38	36	117
		Percent	21.1%	29.0%	13.2%	55.3%	52.6%	172.1%
	Within	Percent	58.3%	66.7%	46.7%	55.6%	60.0%	58.5%
sd8	Overall	Freq.	22	45	49	60	28	204
		Percent	10.6%	22.1%	24.0%	29.8%	13.5%	100.0%
	Between (n = 68)	Freq.	14	23	29	34	18	118
		Percent	21.1%	34.2%	42.1%	50.0%	26.3%	173.5%
	Within	Percent	54.2%	62.8%	53.1%	60.5%	55.0%	57.6%
sd9	Overall	Freq.	28	37	20	42	77	204
		Percent	13.5%	18.3%	9.6%	21.2%	37.5%	100.0%
	Between (n = 68)	Freq.	14	20	13	27	36	110
		Percent	21.1%	29.0%	18.4%	39.5%	52.6%	161.8%
	Within	Percent	62.5%	68.2%	59.5%	52.2%	67.5%	62.3%
		Freq.	14	23	23	88	56	204
	Overall	Percent	6.7%	11.5%	11.5%	43.3%	26.9%	100.0%
sd10	Between (n = 68)	Freq.	11	14	14	43	36	118
		Percent	15.8%	21.1%	21.1%	63.2%	52.6%	173.5%
	Within	Percent	59.5%	57.4%	40.7%	56.5%	63.2%	56.7%

Table 4: Descriptive Analysis of Risk Assessment

#### 4.3. Regression Results

Factor analysis was used to generate factor scores that were used as latent variables to assess the influence of Risk Assessment on financial accountability using simple linear regression. A scatter plot of financial accountability against Risk Assessment in figure 2 shows an increasing pattern which is also shown by an increasing linear function of the line of best fit. This is an indication of a positive linear relationship between Risk Assessment and financial accountability.

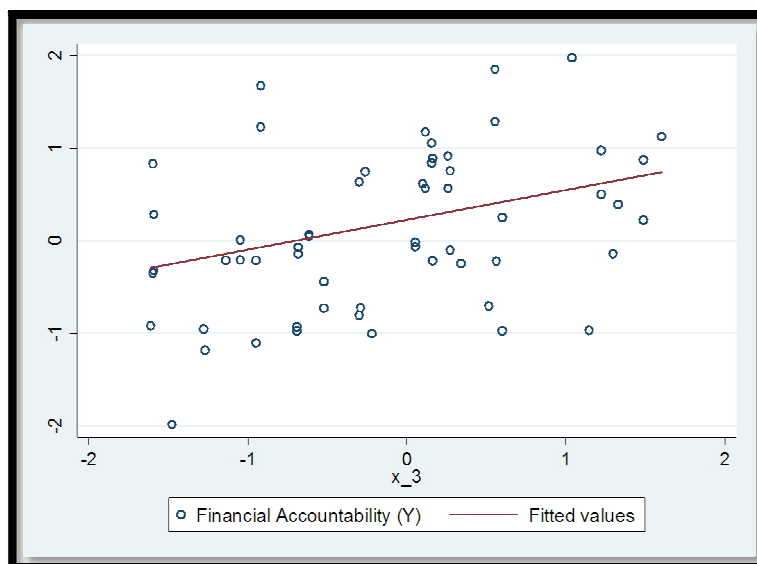


Figure 2: Risk Assessment and Financial Accountability

A bivariate simple linear regression was fitted to assess the influence of Risk Assessment on financial accountability. The results for the regression model in table 4. 1 Show an R-square of 0.121 implying that 12.1% of the variation in financial accountability is explained by the one predictor model. This further implies that 87.9% of the variation in growth is not explained in this model but by other factors not included in the model. The Analysis of Variance (ANOVA) has an F-statistic of 9.11 which has a p-value of 0.000. The p-value of the F-statistic is less than 0.05 showing that the model on the influence of Risk Assessment on financial accountability is generally significant. This is means that the coefficient of Risk Assessment in the model is at least not equal to zero. Diagnosis of this bivariate model showed that the classical assumptions are also not violated in the simple regression model. The normality assumption was met as shown by the JB statistic which has a p-value of 0.650 that is greater than 0.05.

The BP chi-square statistic for also had a p-value of 0.713 which is greater than 0.05 implying that the residuals to this model also exhibit homoscedasticity. The DW statistic generated for this model is also greater than the relative upper limit of the tabulated DW value at 0.05 implying independence of the residuals. The regression estimates of the regression model show that Risk Assessment has a significant effect on financial accountability. The table shows a significant regression coefficient estimate of Risk Assessment ( $\beta = 0.322$ ,  $t=3.020$ ,  $p\text{-value} = 0.000$ ). The P-value of the coefficient estimate is less than 0.05 implying significance at 95% level of confidence. This significant estimate shows that a unit increase in the levels of Risk Assessment in the national school set-up would increase the levels of the financial accountability index by 0.322 units through current ratio, debt collection rate, debt ratio and change in public equity.

ANOVA	Source	SS	df	MS	Number of obs	=	68
	Model	5.626	1	5.626	F( 1, 66)	=	9.110
	Residual	40.772	66	0.618	Prob > F	=	0.004
	Total	46.398	67	0.693	R-squared	=	0.121
Model diagnostics	BP chi2(1)	= 0.13	JB chi2(2)	= 0.86	Adj R-squared	=	0.108
	Prob > chi2	= 0.713	Prob > chi2	= 0.650	Root MSE	=	0.786
	D W values	2.036	LL =1.583	UL = 1.641			
	FA (Y)		Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
	Risk Assessment X_3		0.322	0.107	3.020	0.004	0.109 0.536
	_cons		0.226	0.098	2.300	0.024	0.030 0.421

Table 5: Risk Assessment and Financial Accountability

- $H_{03}$ : There no significant effect of risk assessment on financial accountability in national public secondary schools in Kenya.

The P-value of the t-statistic of the coefficient estimate of Risk Assessment was 0.000 which is less than 0.05 implying a significant effect of Risk Assessment on financial accountability. The null hypothesis was therefore rejected and a conclusion drawn that risk assessment has a significant effect on financial accountability in national public secondary schools in Kenya. The equation below is generated from the model. The constant term of the model was found to be significant with a p-value of 0.02 which is greater than 0.05 implying that the equation represents a linear function through the origin.



## 5. Conclusions and Recommendations

The results for the regression model show an R-square of 0.121 implying that 12.1% of the variation in financial accountability is explained by the one predictor model. This further implies that 87.9% of the variation in growth is not explained in this model but by other factors not included in the model. The Analysis of Variance (ANOVA) had an F-statistic of 9.11 which has a p-value of 0.000. The p-value of the F-statistic is less than 0.05 showing that the model on the influence of Risk Assessment on financial accountability is generally significant. The regression estimates of the regression model show that risk assessment has a significant effect on financial accountability.

The study results prove that there exists a positive and significant relationship between risk assessment and financial accountability in national public secondary schools in Kenya. Thus, the government should strive to improve risk assessment to step up financial accountability. Key financial risks in national public secondary schools should be identified, risk prone areas and activities should be preempted so that preventive measures are put in place well in advance. Minimal handling of cash either by the bursar or principal should be allowed in public schools as this may be a bait/temptation for misappropriations. No school fees should be paid in cash. The schools should adopt a cash less system so as to reduce risk of loss of cash through theft, misappropriations or leakages. Other mobile money transfer measures should be adopted by national public secondary schools to be used by parents to pay school fees. They should be linked to school bank accounts for easy tracking of the payments. The government should interlink the schools bank accounts to a central accounting information system so that any payments and withdrawals can be tracked. The schools should also have interlinked computers so that those involved in management of finances can easily track expenditures and receipts. All major expenditures must be approved not only by BOM but also relevant government authorities. This will eliminate collusion by BOM members to approve unjustified expenditures where they have self-interest.

Every national public secondary school has a risk management program which must be presented annually for review by experts. Frequent risk assessment must be done by BOM. Ongoing training should be given priority to all BOM members so that new developments and techniques of mitigating risk are made known to them. This ensures that risks are preempted and mitigation techniques planned for in advance. Frequent assessment of the internal controls will also ensure that new technological developments for improved risk management are adopted. As such the risk management technique will be proactive and thus opportunity and justification to commit fraud will be reduced thus improved financial accountability. Every national public secondary school should have CCTV to monitor all activities in the school. This will reduce pilferage and loss of school property through students and employees. It will also assist in tracking strangers within the school. There should be an insurance policy for all valuable assets of the school so as to avoid heavy losses and enable continued operations due to loss of such items. Security checks should also be tightened in all these schools. Fee collection should be improved to avoid huge fee balances in the national public secondary schools such funds could be used in development projects and to generate income for the said schools. A clear fee guideline/policy should be adopted and discussed with parents so that a workable solution is arrived at. Parents should be allowed to pay in a manner convenient to them including paying using agricultural farm products required by the school.

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