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**The relationship between Safety Audit effectiveness and Client Satisfaction. A case study of
Private Schools in Embakasi Constituency, Nairobi, Kenya.**

Oyoo Willis Odhiambo

Strathmore University

Faculty of Commerce

Student No. 035796

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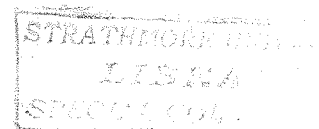
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ABSTRACT

The purpose of this paper was to establish if there exists a relationship between safety audit effectiveness and client satisfaction amongst private schools in Embakasi constituency in Nairobi. To address this objective, a cross sectional design approach was adopted whereby the various heads of the school safety programs were surveyed using research questionnaires. Safety audit effectiveness was established by key indicators of effectiveness as identified from related literature. The indicators studied were: Standard Setting, Feedback Mechanism and Behavior Modification. The study found a strong positive relationship between Standard setting and client satisfaction. Between feedback mechanism and client satisfaction the study found a weak positive relationship which was not significant. Behavior Modification and client satisfaction depicted a negative relationship. The study also established that half the schools had a good understanding of the school safety and procedures manual despite about 68% of the institutions indicating that the levels of emergency preparedness in the institutions were not enhanced by the safety audits.

Primary data was obtained by using a questionnaire which was submitted to the various schools heads of safety programs within Embakasi Constituency. Embakasi constituency consist of 38 private secondary schools and is the most populous zone in Nairobi County. The National Institute of Health (2006) in its study on emergency call workload and population density concluded that the higher the population density, the higher the emergency call rate. Feedback derived was used to draw relationships between the safety audit effectiveness and client satisfaction. The research further made recommendations on areas based on it findings it felt the safety officers would improve to enhance satisfaction. Additionally, the research has made proposals for additional research into client satisfaction with safety audits.

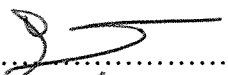
This paper contributes to the body of occupational health and safety program within Kenya which was enacted in 2007 with an objective of minimizing business and human losses to organizations arising from emergencies. The findings give incite to what could be a contributor to the rising levels of emergencies in schools despite having legislation in place.

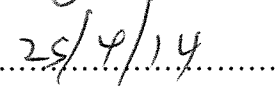


DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Name: Oyoo Willis Odhiambo

Signature:.....

Date:.....

Approval

The thesis of Oyoo Willis Odhiambo was reviewed and approved by the following:

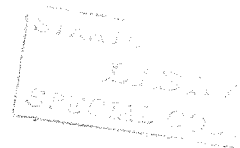
Dr. Freshia Mugo

School of Management and Commerce

Strathmore University

Prof. Ruth Kiraka

Dean, School of Graduate studies.



LIST OF TABLES

Table 1: Standard setting as a measure of safety audit effectiveness.....	30
Table 2: Spearman's Rank correlation between Client satisfaction and Standard Setting.....	31
Table 3: Feedback Mechanism as a measure of safety audit effectiveness.....	33
Table 4: Spearman's correlation between Client satisfaction and Feedback Mechanism.....	35
Table 5: Behavior modification as a measure of safety audit effectiveness.....	36
Table 6: Spearman's rank correlation between Client satisfaction and Behavior Modification...	37
Table 7: Spearman's correlation between independent variables.....	39
Table 8: Spearman's correlation between independent variables combined.....	40
Table 9: Regression table showing dependent and independent variables.....	42
Table 10: Table showing relationship between Client Satisfaction and the Independent Variables combined.....	43
Table 11: Table showing multicollinearity test.....	45
Table 12: Table showing overall model.....	45

LIST OF FIGURES

Fig. 1 : Conceptual framework.....	18
Fig. 4.1: Age of School.....	26
Fig 4.2: Knowledge of school safety manual.....	27
Fig 4.3 Setting standards for safety audits.....	28
Fig 4.4 Feedback Mechanisms in safety audits.....	30
Fig 4.5 Behavior Modification.....	32
Fig 4.6 Level of client satisfaction with safety audits.....	36

ABBREVIATIONS

NDOC:	National Disaster Operation Centre
NFPA:	National Fire Protection Association
APELL:	Awareness and Preparedness for Emergencies at Local Level
CAR:	Capabilities assessment for readiness
NEMA:	National Emergency Management Association
FEMA:	Federal Emergency Management Agency
ILO:	International labour organization
MOE:	Ministry of Education
USAID:	United States of America AID
CWS:	Church World Service
SSZ:	School safety zones
NFPA:	National Fire Protection Agency
NRC:	National Resuscitation Council
VaR:	Value at Risk
OHS:	Occupational Health and Safety
HSE:	Health and safety executive
WHO:	World Health Organization

Table of Contents

ABSTRACT.....	ii
DECLARATION.....	iii
LIST OF TABLES	iv
LIST OF FIGURES.....	v
ABBREVIATIONS.....	vi
Chapter 1.....	1
1.0 Background.....	1
1.0.1 Emergency Preparedness.....	1
1.0.2 Emergency Preparedness Safety Audits	2
1.0.3 Emergency Preparedness in Kenya	4
1.0.4 Emergency Preparedness in Embakasi.....	6
1.0.5 Emergency preparedness and operational risk.....	6
1.2 Statement of the Problem	7
1.3 Research Objectives	8
1.4 Research Questions	9
1.5 Scope of the study.....	9
1.6 Research Justification	10
1.6.1 Ministry of Education.....	10
1.6.2 Bench Marking of Schools	10
1.6.3 Kenya National Disaster Operation Centre	11
1.6.4 Health and Safety Officers.....	11
1.6.5 Academicians.....	11
1.6.6 Insurance Companies	11
1.6.7 Embakasi Constituents	11

1.7 Chapter Summary	11
Chapter 2 Literature Review	13
2.1 Introduction	13
2.2 Theoretical Frameworks.....	13
2.2.1 Emergency Preparedness.....	13
2.2.3 Client satisfaction.....	16
2.2.4 Effectiveness of Safety Audits.....	17
2.2.4.1 Standard Setting	17
2.2.4.2 Feedback	18
2.2.4.3 Behaviour Modification.....	19
2.2.5 Research Gap	20
2.3 Conceptual framework of Health and Safety audit effectiveness attributes and client satisfaction	20
2.4 Operationization of variables	22
2.5 Chapter summary.....	24
Chapter 3 Research Methodology	25
3.1 Introduction	25
3.2 Research design	25
3.3 Study Population.....	25
3.4 Data collection procedure.....	25
3.4.1 Type of Data	25
3.4.2 Data Collection Instrument.....	26
3.4.3 Data collection Procedure overview	26
3.5 Data Analysis	26
Chapter Four	27
4.1 Introduction	27

4.2 General respondents information.....	27
4.3 Safety audit effectiveness and client satisfaction	29
4.3.1 The Relationship between Standard Setting and Client Satisfaction	29
4.3.2 The Relationship between Feedback Mechanism and Client Satisfaction	32
4.3.3 The Relationship between Behavior Modification and Client Satisfaction.....	36
4.3.4 Relationship amongst the safety audit effectiveness indicators.....	38
4.4. Client Satisfaction.....	41
4.5 Regression Analysis.....	42
4.6 The relationship between safety audit effectiveness and Client Satisfaction	45
Chapter Five.....	47
5.1 Introduction.....	47
5.2 Discussion and Implications.....	47
5.2.1 Relationship between safety audit effectiveness and client satisfaction	47
5.2.2 Level of client satisfaction with safety audits in Embakasi constituency.....	48
5.2.3 Safety audit effectiveness amongst private secondary schools in Embakasi constituency	49
5.3 Recommendations.....	49
5.4 Recommendations for further research	50
5.5 Limitations of the study	51
5.6 Summary Conclusion.....	51
REFERENCES.....	52
Appendices.....	57

Chapter 1

1.0 Background

1.0.1 Emergency Preparedness

Emergency Preparedness refers to an ongoing process to prevent, mitigate, prepare for, respond to and recover from an incident that threatens life, property, operations or the environment (Bigelow & Robson, 2005). Protecting the health and safety of employees or members of the public who may be affected by your activities is an essential part of risk management (Health and Safety Executives, 2011). According to the World Health Organization (World Health Organization, 2012), the Primary objective in an emergency is to reduce avoidable loss of life and the burden of disease and disability (WHO Emergency Risk Management and Humanitarian Response department, 2006). Every day, hundreds of millions of people face threats to health and livelihoods because local or international systems that support their health and lives are overwhelmed or too weak to withstand crises or extreme events, (WHO Emergency Risk Management and Humanitarian Response department, (2006) and Office for Coordination of Humanitarian Affairs (2012). In the United States of America, Emergency preparedness is significant and run by the Federal Emergency Management Agency (FEMA) which is incorporated in the department of Homeland Security. Its goal is to ensure that America is able to prevent, prepare for, respond to and recover from disasters, natural and manmade. Awareness and Preparedness for Emergencies at Local Level (APELL) is a tool for bringing people, principally company staff, community representatives and local authorities, together to allow effective communication about risks and planning for emergency response (Emery, 2005). Experience has shown that open and informed communication between emergency response partners about potential risks results in better organized emergency response (Emery, 2005).

Wasserman & Nicole (2007) contend that emergency preparedness audits are generally assessed by clients on the basis of a) Validity which is to the effect that they measure the attributes they seek to measure, b) Reliability which is to the effect that the audits provide consistent measures over time c) Feasibility, the extent to which the measures are friendly and d) Utility, the extent to which the findings support improvement. Client satisfaction in safety audits is driven by three

key factors as identified in various literatures. Jones (2006), Covington & Simpson (2006), Lasker (2004), Health and Safety Executives (2011), McEntire & Mathis (1990) indicate Feedback on audit report, Rapidity of the audit report and responsiveness of the audit report to changes by management in its healthcare systems as key factors that influence client satisfaction. The private schools audit is generally characterized by pressure from the schools to receive favorable audit reports in order to avoid closure of the institutions. However, an expectation gap exists between the safety audit of the institution and satisfaction of the schools with audit.

1.0.2 Emergency Preparedness Safety Audits

Emergency Preparedness Safety Audits is a systematic process for assessing compliance and verifying conformance with established guidelines or best practices in occupational health and safety (Phillip, 2005). Emergency Preparedness Safety Audits has matured overtime and is becoming increasingly integrated with modern management (Institute of Directors, Health and safety executives 2011). According to the Emergency Management Audit manual produced for the ministry of civil defense public advisory committee by Auckland City defense, emergency preparedness audit entails taking a formal approach to assess the adequacy and completeness of an emergency plan. The National Safety Council (NSC) of India (National safety Council of India, 2012) denotes that the objective of carrying out safety audits is to verify compliance with established standards, identify deviations from designed or planned operating procedures and identifying conditions or procedures that could lead to an accident. Safety Audit is carried out by experts in the respective fields who examine management system, facilities and activities of the organization on safety aspects assess the prevailing hazards, the level of prevention, protection and emergency management preparedness and subsequently prepare a recommendation to upgrade safety inputs to avert mishaps and limit consequences (National safety Council of India, 2012). Audits consist of reviewing and monitoring current practice and evaluation against agreed predefined standards (Bowling, 2002). Such audits can be carried out internally by organizations, members of a discipline, individuals or external bodies who systematically review their work or that of other teams (Bowling, 2002).

Audit is a systematic and wherever possible independent examination to determine whether activities and related results conform to planned arrangements and whether these arrangements

are implemented effectively and are suitable to achieve the organizations policy and objectives (BS8800: 1996 Guide to Occupational health and safety management systems).

The school safety standard number four (4) states that a school environment should be safe to promote learners concentration on learning and to facilitate the development of their social skills without compromising in any way sustainable biodiversity. The standard provides for a regular schedule for inspecting schools facilities including roofs, ceilings, walls and floors for water leakage, stains or discoloration, and mould growths or odors. It is a requirement under the Occupational Safety and Health Act, 2007 that, every occupier of a Workplace shall cause a thorough safety and health audit of the workplace to be carried out at least once in every period of twelve months by a health and safety adviser. The ILO encyclopedia (International Labour Organization, 2004) defines auditing as the structured process of collecting independent information on the efficiency, effectiveness and reliability of the total safety management system and drawing up plans for corrective action. The workplace inspection therefore is not only the final stage in setting up a safety management programme but is also a continuing process in its maintenance (International Labour Organization, 2004). It can be conducted only where a properly devised management system for safety has been established. Such a system first envisages a formal policy statement from management setting out its principles for creating a healthy and safe working environment and then establishing the mechanisms and the structures within the organization whereby these principles will be effectively implemented. Management must furthermore be committed to providing adequate resources, both human and financial, to support the system's mechanisms and structures (International Labour Organization, 2004). Thereafter, there must be detailed planning for safety and health, and the defining of measurable goals. Systems must be devised to ensure that safety and health performance in practice can be measured against established norms and against previous achievements. Only when this structure is in place and is operating can an effective management audit system be applied (International Labour Organization, 2004). If measurement is not carried out correctly, the effectiveness of the health and safety management system is undermined and there is no reliable information to inform managers how well the health and safety risks are controlled (Health and Safety Executives, 2011).

1.0.3 Emergency Preparedness in Kenya

In Kenya, Emergency preparedness is under the Ministry of State For Special Programs in the Office of the President. The Kenya Parliament in 2007 enacted the Occupational Safety and Health Act which led to the establishment of the National Council for Occupational health and Safety. The council therefore has oversight authority in enforcing the requirements of the Occupational Health and Safety Act of 2007 (Ministry of Labour, 2007). The council has accredited various health and safety auditors to carry out audits of the respective workplaces with an aim of ensuring compliance to the requirements of the Act. To this effect, the council has in collaboration with the Ministry of Education developed a School safety and standards procedures manual aimed at empowering all schools with the requisite skills for emergency preparedness. The manual was successfully piloted in 2003. All schools are therefore meant to comply with standards and procedures manual.

Schools are generally considered to be safe havens for millions of children and the greatest socializing institutions after the family. However, the recent experiences with natural disasters, in-school violence, acts of terrorism, and the threat of pandemic flu demonstrate the need for schools to be prepared for all-hazard crisis possibilities (American Academy of Pediatrics, 2008). Preparedness for disasters is critical for households business and communities, but many remain unprepared (Jeannete and Kathleen, 2006). The Ministry of Education in 2008 indicated that the number of students whose learning was disrupted during the 2008 unrest in Kenya was significant thus the need for a special focus on safety of schools. These and many other cases of child abuse according to the Ministry of education made it necessary to develop a school safety and procedures manual. A government commissioned report (Ministry of education (MOE), 2008) highlighted the need for the embracing of school safety programs. This led to the setting up of School Safety Zones (SSZ) by collaboration between the MOE and the Church World Services (CWS). The partnership was deemed timely given the Governments implementation of free primary education in Kenya which led to an influx in the number of persons seeking basic education.

The School safety program was piloted in Kajiado, Muranga and Nairobi districts in 2003 which then led to the successful deriving of the Safety standards manual for all schools. The safety and

standards manual 2008 are closely linked to the Occupational and Health Act of 2007 (Ministry of Labour, 2007) through which it is made enforceable. The Act has therefore administratively created the council for occupational safety and empowered its director to enforce compliance to the Act by training and certifying health and safety officers. Such officers are mandated to walk into any occupational building or place and carry out audits with a view of producing a health and safety report. The end result of this process is certification by the Health and safety officers which is aimed at revealing an entities state of preparedness for emergencies.

The proponents of Basic theory hold that as population density increases, stress on human animal will also increase (Sociation Today, 2004). Manifestations of this would include increased level of social disorder compared to less dense areas. Society Today (2004) indicate that measures of this include increased crime and rise in emergency cases. Ladds study (as cited in Sociation Today (2004) indicates that population loss costs money and so does population growth. The study indicates that population density shows a J shaped relationship against public safety. This implies that only at very low population levels are costs high and decline until a particular base after which the costs of safety increase. Ladds study (as cited in Sociation Today, (2004) established that public spending on safety is higher on more densely populated area. Solle-Olle & Rico (2010) in there study of Spain municipalities held a contrary of opinion to the effect that population density does not increase the cost of public services such as emergency care. Instead, Solle-Olle & Rico (2010) argue that the Government enjoys economies of scale where populations are high hence reduced costs.

The Ministry of Education indicates that Private Secondary schools in Kenya have increased from 483 schools in 2003 to 1,305 in 2007. Nairobi has recorded the highest growth rate moving from 48 schools in 2003 to 283 in 2007. Additionally, Nairobi has recorded the second highest number of private schools after the Rift valley. The increase in number has seen various safety auditors focus attention to the private secondary schools in Nairobi. Although making a quantitative response to emergency preparedness of corporate is challenging (Jackson, 2008, (Emery, 2005), significant advantages exist for doing so including such information helping policymakers and the public to see the benefits of investments in emergency preparedness.

Health and safety audits help in identifying major threats to responses activities and lead to corrective or preventive measures aimed at lowering the risks of emergencies (Jackson, 2008).

1.0.4 Emergency Preparedness in Embakasi

Kenya Bureau of Statistics in its Census results for 2009 indicates that Embakasi constituency within Nairobi County has a population of 925,775 persons making it the most populous constituency out of the 210 constituencies. Its population density stands at 4,546 people per kilometer squared being ranked the 8th most densely populated constituency with an average household size of 3 persons per household leading to a significant number of private schools being set up in the area. Stephenson (1994), argue that decision makers who ignore the relationship between disasters and development do a disservice to the persons placing there trust in them. According to the Ministry of state for Special programs, high population growth rate and poverty increase vulnerability to disasters. The proponents of Basic Theory hold the view that the higher the population, the higher the cost of providing services. The Ministry contends that casualties occur mainly at the time and place of impact and require immediate medical care, while the risks of increased disease transmission take longer to develop and are greatest where there is overcrowding and standards of sanitation have declined. Embakasi is densely populated with various schools set up to tap into the market. In 2010, next to the Kenya Pipeline depot, fire outbreak led to the death and displacement of various persons, in 2009, Fire at a leading Supermarket led to further displacement of persons. Embakasi boasts of having a significant share of Nairobi's industrial area making it more prone to emergency outbreaks.

1.0.5 Emergency preparedness and operational risk

Business risks of an organization refers to the uncertainty of operating income caused by the firms industry (Pride and Ferell, 1995, Herbert, 2008, Frank & Keith, 2006). St Johns (2005) argue that the economic objectives of emergency preparedness are to ensure the continuing financial health of a business and to avoid the costs associated with accidents which directly affect the operational risk profile of an organization. Private schools like other Kenyan institutions are required by the Occupational and health Act of 2007 to

conduct safety audits so as to minimize operational risks. Frank & Keith (2006) define operational risk as the uncertainty of operating income caused by the firms industry. This uncertainty is driven by the firms' products, customers and the production methods (Frank & Keith, 2006). Herbert (2008) argues that a firms operating earnings varies overtime and is measured by the volatility of the firms operating income over time which is due to the sales over time and methods of production. Herbert (2008) associates business risk with the nature of the enterprise itself. Operational risk is generally measured by the variability of the firms operating income over time. St Johns (2005) contend that emergency preparedness directly impacts on the operational risk of a firm.

According to the Occupational and Health Act of 2007, Emergency preparedness is measured by carrying out of safety audits by accredited safety officers. The safety auditors award scores and highlight key areas of non compliance to basic emergency preparedness requirements as stipulated in the Act. Emergency Preparedness Safety Audits is a systematic process for assessing compliance and verifying conformance with established guidelines or best practices in occupational health and safety (Phillip, 2005). Emergency Preparedness Safety Audits has matured overtime and is becoming increasingly integrated with modern management (Institute of Directors, Health and safety executives 2011). According to the Emergency Management Audit manual produced for the ministry of civil defence public advisory committee by Auckland City defence, emergency preparedness audit entails taking a formal approach to assess the adequacy and completeness of an emergency plan.

1.2 Statement of the Problem

Folks and Hirth (2011) argue that to most people safety audits entails the completion of a long list of relatively routine task since someone somewhere thought the tasks were important. Boyne, Day & Walker (2002) used the elements of Director, Detector and Effector to measure the effectiveness of an inspection system. The Cybernetic theory proponents agree and state that regulation has three sides, a) some method of standard setting (Director), b) Some way of gathering information about whatever is being controlled (Detector) and c) some way of

modifying behavior (effector). Robson, Macdonald, Gray, Van Eerd, & Bigelow (2012) in agreement with the Cybernetic theory proponents classified the safety audit effectiveness into similar classes. It is however not clear which aspects of regulation drive client satisfaction with the safety audits. The safety of the learner is central to the provision of quality education in any country (School safety and procedures manual, 2008). Nairobi has witnessed a significant growth in the number of private schools spanning from 47 Secondary schools in 2003 to 283 in 2007 compared to public schools which stood at 48 in 2003 and 55 in 2007.

The proponents of Basic theory hold that as population density increases, stress on human animal will also increase (Sociation Today, 2004). Manifestations of this include amongst other things rise in emergencies. The National Institute of Health (2006) in its study on emergency call workload and population density concluded that the higher the population density, the higher the call rate. Embakasi constituency in Nairobi is most populous with the number of persons per square kilometer standing at 4,546 hence it hosting the largest number of private schools in Nairobi. A variety of occupational health and safety systems have been designed and disseminated over time (Bigelow & Robson, 2005), a good understanding of the impact of this systems on clients is therefore timely. This research focused on aspects of regulation as identified in various literatures that determine safety audit effectiveness and to what extent schools are satisfied with the same. The purpose of this study therefore was to establish the relationship between safety audit effectiveness and Client satisfaction.

1.3 Research Objectives

The main objective of this study was to examine if there exists a relationship between safety audit effectiveness and client satisfaction of Private Secondary Schools in Nairobi Embakasi Constituency, Kenya. The specific objectives of the study were as follows:

1. To establish the relationship between safety audit effectiveness and client satisfaction in Private Secondary Schools in Embakasi, Nairobi.
2. To establish the level of client satisfaction with safety audits amongst Private Secondary Schools in Embakasi Nairobi.

3. To establish the level of safety audit effectiveness amongst private secondary schools in Embakasi, Nairobi.

1.4 Research Questions

The study addressed the following research questions:

1. Is there a relationship between safety audit effectiveness and client satisfaction in the Private Secondary Schools in Embakasi Nairobi, Kenya?
2. To what extent are schools in Embakasi, Nairobi satisfied with safety audits.
3. How effective are the safety audits amongst the Private Secondary Schools in Embakasi Nairobi, Kenya?

1.5 Scope of the study

The study examined client satisfaction of Embakasi Nairobi Private Secondary Schools by focusing on safety audits effectiveness as guided by various literatures. The study was limited to Embakasi Nairobi private secondary schools since statistics from the Kenya Bureau of statistics indicate that Embakasi constituency is the most populous zone in Nairobi with its population density at 4,546.3 persons per kilometer squared. The National Institute of Health (2006) in its study on Emergency Call rate and Population concluded that higher population attracts more emergencies. Safework Australia (1996) carried out its study on effectiveness of safety audit by focusing on specific organizations by indicating that internal controls on implementation of safety standards vary hence the need of focus per organization. Additionally, the bureau of statistics indicates that Embakasi has the highest spend on Administration on a Per Capita basis at Kshs 17.50 indicating the significance of it to the Government.

According to the task force on realignment of the education sector to the constitution of Kenya 2010 commissioned by the Ministry of Education in 2010 towards a globally competitive quality education for sustainable development, it was noted that overcrowding in public schools has driven the number of private schools upwards. In 2004, private secondary schools were 11.9% of the schools in Kenya, however, by 2010, private secondary schools comprised 27.5% of the primary schools in Kenya (Ministry of education taskforce, 2012) .The Ministry of education indicate a significant growth in Number of private schools in Kenya spanning from 490 private

secondary schools in 2004 to 2012 in 2010 (Ministry of education taskforce, 2012) . Generally, in any county, growth in private secondary schools is greater than that of public secondary schools (Ministry of education taskforce, 2012). Nairobi County in the period 2003 to 2009 exhibited the highest growth making Nairobi the second largest province in terms of Private secondary schools after the Rift Valley province with 376 Schools. The average Schools per constituency in Nairobi stands at 31 with Embakasi Constituency having 38 Schools thus placing it above the average. This research studied Embakasi Private Secondary schools as a case study. The case study method was aimed at allowing for detailed examination of health and safety management systems and for explanation of relevant processes and outcomes. The Embakasi Case study supported explanation of the forces driving health and safety management systems activity or inactivity, the factors that have assisted or hindered progress, and the dynamic processes underlying health and safety change or lack of change (Safework Australia, 1996). While case study results are not generalisable to populations, they are generalisable to theoretical propositions (Yin, 1989:21) as quoted in Safework Australia (1996).

1.6 Research Justification

This research will be useful for the following stakeholders:

1.6.1 Ministry of Education

The Government of Kenya would find the findings of this research useful in determination of Nairobi Private Secondary Schools level of satisfaction with the health and safety audits as carried out by its officers. This is because the Government through the Occupation and safety Act of 2007 has an objective of empowering each group of working people with basic disaster response skills.

1.6.2 Bench Marking of Schools

Various rewards schemes exist in Kenya for ranking Schools such as infrastructure and academic programs. This research would be useful as emergency preparedness becomes a key factor in rating Schools. Nairobi private schools will have an opportunity to rate satisfaction level with the health and safety audits.

1.6.3 Kenya National Disaster Operation Centre

The Kenya national disaster operation centre was established in 1998 to act as the focal point for coordinating emergencies and disasters in Kenya. It is on constant standby with a 24 hours reporting centre. The NDOC would find this research useful in determination of the client perspective of the health and safety auditors which would then be useful in preparation of response strategy to disasters.

1.6.4 Health and Safety Officers

The health and safety officers have been mandated by the Act to train and ensure that all workplaces are prepared for emergencies. This research would be useful in vetting or counterchecking the effectiveness of the various training programs adopted by the officers. This research would therefore help in managing the expectation gap between the schools and the health and safety auditors.

1.6.5 Academicians

This research would be useful to academicians in reviewing the health and safety syllabus as tackled by the various officers. If for example this research reveals that a significant percentage of schools are not satisfied with the health and safety audit, then a way to improve the satisfaction index would be sort.

1.6.6 Insurance Companies

This research is important to insurance companies since emergency preparedness may to an extent affect their profitability. Lack of client satisfaction could imply a higher risk and subsequently higher premiums (Simpson, 2004).

1.6.7 Embakasi Constituents

The members of the Embakasi constituency will find this research useful in giving an indication on the satisfaction level with the School safety audits.

1.7 Chapter Summary

This chapter has given a brief background into emergency preparedness health and safety audits. It has further reviewed the various components that drive client satisfaction in safety audits as

identified from literature. This research aims at answering the key questions of client satisfaction and the safety audits by focusing on the relationship between Variation of audit reports, Consistency of audit reports and responsiveness of the audit reports to changes by management to its healthcare management systems. The growth in private Schools in Nairobi between 2003 and 2007 as indicated in this chapter serves as an indication of the significance of emergency preparedness audits to investors.



Chapter 2 Literature Review

2.1 Introduction

This chapter presents a review of related literature. It focuses on various previous studies carried out on emergency preparedness safety audits of learning institutions. Specifically, it pays attention to the requirements of the school safety and procedures manual of 2008 and the Occupation and health Act of 2007. Previous studies and theories supporting this study will be documented, followed by a review of the variables used, the conceptual framework and an explanation as to how the variables will operate so as to lead to the ascertainment of Client satisfaction amongst Nairobi private Secondary schools.

2.2 Theoretical Frameworks

2.2.1 Emergency Preparedness

The theory of reasoned action postulates that in healthcare, the intention to undertake a behavior is determined by a person's attitude towards it which is determined by his or her beliefs about the consequences of the behavior and by extension subjective norms (Bowling, 2002). The concept of emergency preparedness encompasses measures aimed at enhancing Life safety when a disaster occurs, such as protective actions during an earthquake, Hazardous materials spill, or terrorist attack. It also includes actions designed to enhance the ability to undertake emergency actions in order to protect property and contain disaster damage and disruption, as well as the ability to engage in post-disaster restoration and early recovery activities (Tierney, 2006). Preparedness therefore is defined as the leadership, training, readiness, exercise support, technical and financial support to strengthen citizens as they prepare for emergencies, mitigate the effect of emergencies and the launching of effectively recovery efforts (Haddow, Bullock, & Coppola, 2008). Simpson, (2004) holds a similar view to that of Covington & Simpson (2006) in that a generally accepted emergency preparedness measure requires significant development from community to community.

Preparedness is commonly viewed as consisting of activities aimed at improving response activities and coping capabilities (Sutton & Tierney, 2006). The capabilities assessment for readiness (CAR) and the National Emergency Management Association (NEMA) both of the

United States of America identify laws and authorities as part of the key components for emergency preparedness. The National Fire Protection Agency (NFPA) defines emergency preparedness as activities, programs, and systems developed and implemented prior to a disaster/emergency that are used to support and enhance mitigation of, response to, and recovery from disaster/emergencies.

Brian (2008), suggest that whereas many institutions have focused on emergency preparedness in terms of equipment preparedness, a significant focus on less tangible factors such as training and leadership may enhance the preparedness of institutions. The Kenya Government through the Occupation and safety Act of 2007 agree with this as such making an attempt to make the softer emergency preparedness skills compulsory. A great emphasis therefore according to (Brian, 2008), must be put in place to ensure the systems in place are reliable. Indeed emergency preparedness as an area of inquiry is very dynamic with each emergency being unique (Sutton & Tierney, 2006) and (David & Sutton, 2004). Schneid & Collins (2001) suggest that an important component to ensure the quality and effectiveness of your emergency preparedness program is periodically assessing and evaluating the same. Schneid & Collins (2001) and Covington & Simpson (2006) both agree that various methods exist for measuring emergency preparedness and that the key thing is to ensure that the assessment instrument properly identifies all elements of the assessment program.

Haddow et al., (2008) measured preparedness in the form of an emergency preparedness cycle. They depict the planning process beginning with a business identifying the threats associated with it be they natural or human made and working in a systematic approach towards a cyclical process to establish preparedness. The process would then involve planning, preparation, evaluation and assessment. The Federal Emergency Management Agency (FEMA) and the National Emergency Management Association (NEMA) have developed a readiness and capability assessment system for State and local emergency managers. The result of this effort is the Capability Assessment for Readiness (CAR).

Lasker (2004) measured how Americans might react to protective instructions in two terrorists' attacks; a small pox outbreak and the explosion of a dirty bomb. The existing plans by then were

simply based on expert assumptions similar to the demands of the Occupational and safety Act of 2007. There study was based on an assumption that the plans in place will not work and many persons will be unnecessarily harmed. Lasker (2004) proceeded to put people in small pox and dirty bomb situations, and then explored how they would react to instructions to go to a public site to be vaccinated and how people would react to being told to stay in safe building other than their homes. Additionally, he explored people's perspectives on emergency preparedness. Lasker (2004) found that only two fifths of the American people would go for vaccination in the event of a small pox outbreak. He also found that three fifths of Americans would shelter in a place as long as they are told it's a dirty bomb.

Emergency preparedness indexing would provide a rating tool for preparedness similar to that of other industries (Simpson, 2004). (Simpson, 2004) carried out a study on establishing key preparedness indicators so as to create community preparedness scores. Perry, Quarantelli, & Rodriguez (2005) described the need to use a set of basic criteria as a basis for assessing disaster preparedness and planning. (Simpson, 2004) and Perry et al., (2005) both agree that measurable outputs such as number of drills held, media coverage and number of participants would give a good guide into the emergency preparedness of corporates and communities. The CAR in the United States measured emergency preparedness by asking states to score themselves on thirteen emergency management functions such as planning, communications, logistics and others specifically to examine operational readiness and capabilities of the states emergency management. Two issues however are at stake with the CAR model (Perry et al., 2005), the first issue is that it is designed to measure state level capability with limited focus at the local level and two it is a self assessment tool. It reports on three broad criteria of needs improvement, meets criteria and Identified strength. Interestingly, when the CAR was first conducted, all states scored average of meeting criteria. FEMA concluded that the results could not be relied on since states did not want to either congratulate themselves too much or to be too critical of themselves.

Olympia, Rivera, Heverly, Anyanwu, & Gregorits (2010) set out to determine the compliance of a select number of families with national recommendations for disaster preparedness. They distributed a questionnaire focusing on knowledge of community evacuation plans and the presence of a family emergency response in Dauphin County, Pennsylvania, and Bronx County,

New York. A total of 1024 questionnaires were analyzed. It was established that for the most part, families were not in compliance with the national recommendations for preparedness.

2.2.3 Client satisfaction

Covington & Simpson (2006) indicates that there are no generally accepted indicators for client satisfaction with safety audits. Safety audits to most people entails the completion of a long list of relatively routine task since someone somewhere thought the tasks were important (Folks & Hirth, 2011). Several studies reveal that there are several issues to consider when devising emergency preparedness metrics, but that there is no general agreement on form format, or what is most important to measure. The key finding is that a successful template will need consensus development and careful application in order to accomplish the objective of improved preparedness in the long run (Covington & Simpson, 2006). (Robson et al., 2012) established validity and reliability of safety audits as key components of client satisfaction.

Health and Safety Executives (2011) contend that organizations can maintain and improve their ability to manage risks by learning from experience through the use of audits and performance reviews. Health and Safety Executives (2011) further indicate that health and safety audits comprise feedback loop which enables an organization to reinforce, maintain and develop its ability to reduce risks to the fullest extent and to ensure continued effectiveness of the health and safety management system. Wegman & Fine (1990) indicate the significant improvement in the control of health risks after the world war II led to gratifying rate of reduction in some work related problems such as asbestos exposure. Maharaj (2007), contend that Occupational health and safety performance offers commercial organizations an opportunity for differentiation and assists in its pursuit to establish competitive advantage through increasing its business value. Carel, Jos, Frank, Venderweide, & Ingram (1999) indicate that many methods exist for evaluating OHS activities depending on the objective and object of evaluation. In Kenya, Emergency preparedness safety audit is conducted by Health and Safety auditors as accredited by the Directorate of Occupational health and safety. The safety auditors assess compliance to the Occupational health and safety Act of 2007. At the schools, the safety officers are guided by the school safety and procedures manual of 2008.

2.2.4 Effectiveness of Safety Audits

An extensive empirical literature search has yielded surprisingly little evidence about the effectiveness of corporate safety programs. A review of 4837 studies (Robson et al., 2012) found very little definitive peer reviewed evidence for the effectiveness of occupational management systems. However, the research concluded that it is likely that safety management characteristics may be able to predict good safety outcomes. Robson et al., (2012) concluded that the characteristics fall within three broad categories, Standard Setting, Feedback and behavior modification. Folks & Hirth (2011) contend that the safety audit tasks are usually considered lengthy and viewed as a chore as opposed to proactivity. The amount of literature on effectiveness of safety audits is therefore scarce (Folks & Hirth, 2011; Safework Australia, (1996). Neil & Teasdale (1994) explain that poor safety performance has been reported to have a significant impact on companies' profits. Fuller, (1999) argue that health and safety is still often perceived as an area of operational management where costs exceed benefits with most organizations carrying out audits to ensure compliance as opposed to enhancing profitability.

2.2.4.1 Standard Setting

Safework Australia (1996) define health and safety systems as a combination of the management organizational arrangement including planning and review, the consultative arrangements, and the specific program elements that combine to improve health and safety performance. Robson et al., (2012) indicate that one approach to implementation of Occupational management system is through regulatory mechanism. The school safety and standards manual of 2008 is aimed at equipping schools with necessary tools to mitigate the effect of emergencies. The Occupational and health Act of 2007 has made it compulsory for companies to engage in trainings of its staff on first aid carry out an annual health audit and also formulate a health and safety policy statement. Bigelow & Robson (2005) argue that legislation on safety must be simple and relevant to all workplaces. Mooren, Searles, Benc, Creef, & Wall (2010) were commissioned by the Australian Government to carry out a study seeking to establish an effective program for ultimately eliminating driving related risks to employees. They examined the safety audit reports and correlated the reports with accident rates reported to the hospital. Mooren et al., (2010) concluded that legislation or standard setting made the difference between United States hospitals with low accident rates compared to those in Australia. Buchbinder & Shanks (2012)

recommends the adoption of a corporate compliance plan as it helps minimize the risk of compliance errors in addition to limiting the liability of directors. Additionally, Buchbinder & Shanks (2012) contends that an effective corporate compliance plan give employees guidelines necessary to follow the set laws and allows management an opportunity to know which laws are not being followed.

2.2.4.2 Feedback

Haddow et al., (2008) indicate that audits can be used periodically to ensure that no major gaps exist in the Occupational and Health management systems. The school safety standards and procedures has focused on the following seven areas as the core components for emergency preparedness; safety on school grounds, safety in physical infrastructure, health and hygiene safety, safety in school environment, food safety, safety against drug and substance abuse, safe teaching and learning environment, socio cultural environment of the school, safety of children with special needs or disabilities, safety against child abuse, transportation safety, disaster risk reduction and school community relations. School Safety and Procedures manual (2008). Haddow et al., (2008) explain that no country, no community and no person is immune to the impact of disasters. Nabutola (2004) states that with each passing day we just have to thank the maker because there is No way, of knowing if we would have survived it or not. This is regardless of where we are, whether it is at work, at home, at school, traveling or even just sleeping. Each activity entails a risk. Disasters however can be and have been prepared for, responded to, recovered from and had their consequences mitigated to a certain degree (Haddow et al., 2008). Emery (2005) states that a fast and effective local response to an incident can be the most important factor in limiting injury to people as well as damage to property and equipment. Jones (2006), in a case study of safety audits carried out in the airline industry records that the reporting process of the audit findings as well as debriefing of the audit process to the flight caterers influenced satisfaction level with the audit. Health and Safety Executives (2011) share the same opinion with Jones (2006) and state that active monitoring in the form of audit needs to give feedback on safety management systems. This serves to guide management on any issues of breach. Covington & Simpson (2006) emphasized the need of the safety audit acting as an early warning signal. Wegman & Fine (1990) emphasize the need for a steady and consistent feedback so as to ensure the changing technology does not supersede the respective health and

safety systems as implemented by various organizations. Jones (2006) further indicates that the monitoring process of action taken by management influences customer satisfaction with most clients preferring to have audit reports released not more than 24 hours after the audit and an action plan on non conformities derived with the auditors. Health and Safety Executives (2011) indicate that involvement of the auditors in monitoring the action taken by management on the basis of audit reports helps in building up client satisfaction. Additionally, Covington & Simpson (2006) claim that client satisfaction is also driven by marked responsiveness of the reports to actual action taken by management.

2.2.4.3 Behaviour Modification

Bigelow & Robson (2005) state that an occupational and safety management system is designed to protect the health of workers by designating roles and responsibilities related to Occupational health and Safety in addition to Planning and establishing the maintenance of Hazard controls. Safework Australia (1996) in agreement with Bigelow & Robson (2005) indicate that specific programs include hazard identification, risk assessment and control, contractor health and safety, information, record keeping and training. Safework Australia (1996) in its study of safety audit effectiveness concluded that renewed focus on innovative management practices influenced the effecting of safety requirements amongst other factors. An analysis of safety officers in Spanish firms found that operational control of safety procedure compliance and equipment maintenance is the most important factor in safety management (Mooren et al., 2010). Silva & Lima (2005) as quoted in Mooren et al., (2010) indicates that learning from risk assessment is beneficial for improving safety performance. In a study of four Portuguese firms, Silva & Lima (2005) as quoted in Mooren et al., (2010) concluded that firms that use information learned from analysis of accident factors had lower accident rates. Jones (2006) indicates that rapidity of the report is significant in modification of customer behavior since this would lead to addressing of safety concerns urgently. Jones (2006) further states that safety audits do not have the luxury of management letters as in the case of financial audits. Health and Safety Executives (2011) argue that rapidity of the report would be useful customer satisfaction index since focus will not be on punishing failures rather, it will be on fixing the weak points and rewarding good performance. Buchbinder & Shanks (2012) argues that timeliness in terms of reducing waits and sometimes harmful delays for those who give and receive care is critical. McEntire & Mathis (1990)

indicate that speed of the audit report is key to the client as it represents area of potential risk hence the immediate need for mitigation action. Buchbinder & Shanks (2012) indicates that response and corrective action are important in determining satisfaction level of corporate with emergency plans.

2.2.5 Research Gap

Focus on adaptation of health and safety practices has been limited to compliance with an objective of improving a company's competitive advantage (Fuller, 1999). Audit emphasis has been on Financial audits with Commercial organizations predominantly focusing on business outputs such as productivity and service as the primary measures of business performance and value (Maharaj, (2007), Sian et al., (2012)).

The indicators of effectiveness of safety audits are Standard setting, Feedback and Behaviour modification ((Safework Australia (1996); Folks & Hirth (2011); Mooren et al., (2010)). No studies have been carried out to determine the relationship between safety audit and client satisfaction. This research seeks to establish the relationship between effectiveness of safety audits and client satisfaction.

2.3 Conceptual framework of Health and Safety audit effectiveness attributes and client satisfaction

Summary of conceptual framework

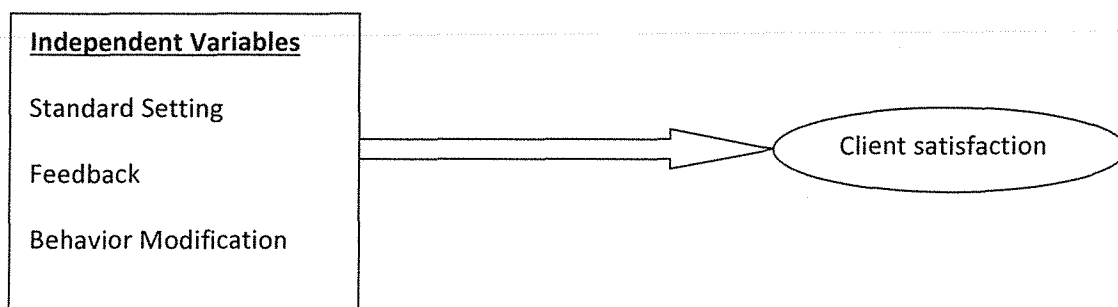


Fig 1: Conceptual framework

The model above represents three generally accepted standards of measuring effectiveness of safety audits. The researcher expected a positive relationship between safety audit effectiveness

and Client satisfaction. Thus, the research hypothesized to the effect that the higher the score on safety audit effectiveness the higher the client satisfaction.

A simple regression based on Linear Equation theorem and correlation coefficient between each of the indicators of safety audit effectiveness was initially carried on the basis of hypothesis below

1. Client Satisfaction = $\alpha + \beta \text{Standard Setting}$
2. Client Satisfaction = $\alpha + \beta \text{Feedback}$
3. Client Satisfaction = $\alpha + \beta \text{Behaviour Modification}$

In the above: α is a constant amount representing level of satisfaction when the effectiveness scores are at zero.

β is the slope of the line between the dependent variable and the independent variable.

A multiple linear regression between safety audit effectiveness and client satisfaction was also carried out. This was on the basis of hypothesis below

$$\text{Client Satisfaction} = \alpha + \beta \text{SS} + \beta \text{FB} + \beta \text{BM} + \epsilon$$

Where: α is a constant amount representing level of satisfaction when safety audit effectiveness is at zero.

βSS - Effect of an additional unit of Safety Standard holding βFB and βBM constant

βFB -Effect of an additional unit of Feedback holding βSS and βBM constant

βBM –Effect of an additional unit of Behaviour Modification holding βSS and βFB constant

ϵ - Noise term representing all other non major determinants of effectiveness of safety audits.

The equation was based on a population of 38 Nairobi private secondary schools in Embakasi as obtained from the Kenya National Examination Council.

2.4 Operationization of variables

The dependent variable in this study was Client satisfaction whereas the independent variables were the indicators of safety audit effectiveness as identified from various literatures. Bigelow & Robson (2005) carried out a study on the effectiveness of firms Occupational Health Management system by gathering evidence about the management system through interviews, documentation reviews and work site observations guided by a questionnaire. They then evaluated the findings by scores ranging from one (low) to four (high). The audit document studied was based on the Principles from British Standards Institute and the Health and Safety Executives. Robson & Bigelow (2010) also carried out a study on the effectiveness of safety management audit for construction companies in Hong Kong Based on British standards. The response was scored from In Conformance, Minor Non Conformance and Non Conformance.

Fuller (1999) carried out a study in which an audit programme was developed in the UK as a measure of health and safety performance. The audit programme was implemented in a water company over a period of three years. It was used to assess how well health and safety management was understood; how well health and safety procedures were implemented; and accident frequency rates within the company. The elements reviewed agreed with Robson & Bigelow (2010) postulation of Director, detector and effector. (Fuller, 1999) conducted interviews and used observation over the three year period to derive findings. The findings indicated the significance of audit as one of the key elements of effective management of emergency healthcare systems.

Safework Australia (1996) used a case study to determine the effectiveness of safety audits. Yin (1989:17) as stated in Safework Australia (1996) outlines, the 'how', the 'why' and the exploratory kind of 'what' questions are the questions suited to case study research. These questions emphasize explanation, rather than description or prediction. These are the types of questions at the heart of this study in determination of client satisfaction level. Safework Australia (1996) collected its data by focusing on each organization and subjecting respondents to questionnaire. The derived conclusion indicated a growing interest in health safety management system as a prevention strategy. Schneid & Collins (2001) measured effectiveness of audit systems using a simple Yes and No questionnaire with points attached to each answer.

This was then rated in percentage with scores graduated from A, Ready for Emergency B, Averagely Prepared for Emergency and C, Not prepared for emergency. Lasker (2004) carried out the small pox and dirty explosion study by in depth conversation with the Government and private sectors planners. Lasker (2004) further engaged the public on a telephone interview so as to establish how the public would react. The American CAR uses a self assessment tool touching on 13 aspects of emergency preparedness with scores ranked as A. needs improvement. B. meets criteria and C. Identified strength.

St Johns (2005) measured Client satisfaction aspects of how satisfied one is with the quality of safety audits in the form of a likert scale spanning from very satisfied to very dissatisfied. Lasker (2004) measured client satisfaction by directly engaging the public by use of Yes or No questionnaires as determinants of how one is satisfied with the quality of the safety audit. Schneid & Collins (2001) focused on client satisfaction with safety requirements by use of a likert scale. Schneid & Collins (2001) used a questionnaire comprising of the various safety requirements as prescribed the British Red Cross. The likert scale required respondents to indicate whether they agreed, disagreed or strongly disagreed. Lasker (2004) also engaged respondents on satisfaction with safety requirements by use of a Yes or No question. Lasker (2004) listed safety requirements and required respondents to indicate whether or not they were satisfied with particular safety requirements. Safework Australia (1996) focused on client satisfaction with the level of cooperation between the safety auditors and the institutions being audited. Safework Australia (1996) used a likert scale from very poor to excellent to measure the level of cooperation between the safety auditors and the institutions being audited. St Johns (2005) states that cooperation between the auditors and the institutions may lead to savings to institutions. St Johns (2005) measured the level of cooperation in the form of a likert scale moving from very satisfied to very dissatisfied. St Johns (2005) also focused on to what extent clients are satisfied that indeed the safety audits were preparing institutions for emergencies. This was done in the form of a likert scale similar to that of Safework Australia (1996). The researcher measured, a) how satisfied one is with the quality of audit as conducted by safety auditors; b) safety requirements as prescribed by the school safety procedures manual, c) how satisfied one is with the level of cooperation between the safety auditors and the school and d)

how satisfied one is that safety audits are preparing schools for emergencies using a five point likert scale. Statistical means were used to rate the respondents.

The independent variable of Setting Standards assessed to what extent the respondents agreed with the assertion that the school safety manual specifies simple management systems applicable to the institution, the audit team was conversant with the requirements of the school safety and procedures manual of 2008. Response to changes by management was scored from strongly agree to strongly disagree. The respondents indicated to what extent they agreed that reports captures changes by management, that cooperation between the auditors and the school exists and that the safety audits discuss non compliance issues with the school..

The independent variable of feedback in safety audits will asses to what extent the respondents agree with the assertion that the audit reports are received within 24h ours from the completion date of the audit, non conformance issues are captured, the error level in the reports are low and the audits are comprehensive covering all the major aspects.

The independent variable of behavior modification assessed to what extent the respondents agreed that the roles and responsibilities in relation to safety are clearly laid out and understood. It also confirmed the extent of agreement on proper planning and establishing of hazard spots within the institution with a final focus on constant review of the implementation of the school safety standards. The relationship between the independent variables and the dependent variables was then ascertained by analyzing data obtained from the respondents. Additionally, the researcher ascertained if the independent variables also had a relationship amongst themselves by carrying out a partial correlation.

2.5 Chapter summary

This chapter focused on various sources of literature on effectiveness of safety audits. It looked into safety audit effectiveness by focusing on standard setting, feedback and behavior modification. A review of the school safety standards and procedures and the occupational and health act of 2007 was also carried as the basis of this research. An insight on the conceptual framework of the variables was also covered with an additional focus on how the variables influence the rating of the schools in terms of emergency preparedness.

Chapter 3 Research Methodology

3.1 Introduction

This section covered research design, population and sampling procedure, data collection procedure, data analysis and presentation.

3.2 Research design

The study research design adopted was on the basis of a cross section of the school population seeking to establish the relationship between client satisfaction and safety audits. Kumar, (2008) advised that cross sectional study design was appropriate since the study was cross sectional with regard to both the study population and the time of investigation. The cross sectional design focused on the 38 schools in Embakasi with direct contact with the respondents being established. The cross sectional designs through the use of an introduction letter and questionnaire sort the consent of the respondents. Ethical issues in relation to the audit were handled by making the respondent aware of the objectives of the research. The cross section study design enabled the researcher answer its objectives on Rapidity, Feedback and Responsiveness. Since this research involved a single or one off contact with the population, the cross section design was adopted.

3.3 Study Population

The population of study was the 38 private secondary schools based in Embakasi Nairobi as obtained from the Kenya National Examination council (Appendix 3). The schools health and safety departmental heads were the most appropriate to fill in the questionnaire since they are charged by the school administration on behalf of the MOE with the responsibility of ensuring learners, staff, parents and visitors are safe within school premises.

3.4 Data collection procedure

3.4.1 Type of Data

The data obtained was quantitative. This was derived from the respondents' indication on the dependent and independent variables. The data was considered primary data since it was derived directly from the respondents.

3.4.2 Data Collection Instrument

The data collection instrument used was a questionnaire as indicated on appendix 2 focusing on deriving data for the independent and dependent variables. Kumar (2008) advised that given the scattered nature of the respondents a questionnaire was more appropriate. The respondents gave an indication of client satisfaction and also an opinion on the three independent variables. This was in the form of a likert scale from either very satisfied to very dissatisfied for the client satisfaction, and Strongly agree to Strongly disagree for the safety audit.

3.4.3 Data collection Procedure overview

The research used primary source of data derived from the questionnaire. Once the sample was selected, questionnaires were availed to the respondents so as to obtain feedback from them. The questionnaires were hand delivered. Ethical considerations to ensure respondent privacy was factored in by informing the respondents what the research is for and allowing them to have an option of indicating whether or not they want feedback from the research.

3.5 Data Analysis

Data was analyzed using the Statistical Program for social sciences (SPSS). The data obtained from the questionnaire was used to derive means, median, standard deviations and regression analysis so as to indicate the level of client satisfaction and the determinants of effectiveness of safety audit attributes. The questionnaire used was in three sections, the first section enabled the researcher establish the respondents understanding and appreciation of the school safety and procedures manual, the second section enabled the researcher assess the respondents understanding and perception of the research objective. The third and final section sort a general opinion on the respondent's interest in enhancing emergency preparedness safety audits. The mean indicated the level of client satisfaction which was compared with the means derived from the various attributes that influence client satisfaction. This then enabled a study of the relation between the various attributes of client satisfaction with emergency preparedness audit and client satisfaction. Additionally, Regression analysis was deployed to study the significance of the independent variables on client satisfaction. This helped indicate the relative strength of the independent variables on client satisfaction.

Chapter Four

PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents the findings and discussion of the data on the relationship between determinants of effectiveness of safety audits and client satisfaction with reference to private secondary schools in Embakasi.

The Chapter first addresses the preliminary analyses which include the response rate from the questionnaires and the general information on the respondents on the Schools Age or Life and the respondents' knowledge of the School Safety and Procedures manual of 2008. The first objective of the relationship between standard setting in safety audits and Client satisfaction will be answered by sections 4.3.1 and discussed by figure 4.3 and table 1. The second objective of relationship between feedback mechanisms in safety audits and client satisfaction will be answered by sections 4.3.2 and discussed by figure 4.4 and table 2. The third objective of relationship between responsiveness of safety audits in modifying client behavior and client satisfaction will be answered by sections 4.3.3 and discussed by figure 4.5 and table 3. The relationship amongst the independent variables will be discussed by table 4. Table 5 and section 4.4 will show regression between the various independent variables with table 6 indicating the overall impact of the independent variables on client satisfaction. Section 4.5 and figure 4.6 illustrates the school satisfaction level with the safety audits. Section 4.6 and table 7 give an overall model on the relationship between the dependent and independent variables.

4.2 General respondents information

38 Questionnaires were issued to respondents but only 25 questionnaires were received fully completed leading to a response rate of 65.7%. This is regarded adequate in line with Mugenda & Mugenda (2003) which states that for generalization, a response rate of 50% is adequate for analysis and reporting, 60% is good and 70% is excellent. The data collection procedure contributed to the response rate since the researcher administered the questionnaires and made direct and indirect frequent follow ups with the respondents to ensure feedback is got. The 34.3% questionnaires not responded represented scenarios where despite efforts by the researcher, the respondents were not willing to give feedback.

The study established the age of the school so as to assess the duration of time the school has had to comply with the safety manual and to get a view of the possible number of times a school has been audited. The study further established the schools knowledge of the safety manual so as to have a basis upon which the researcher could see if the respondent understood the findings or recommendations of audit report. There was no notable deference in response amongst the various categories.

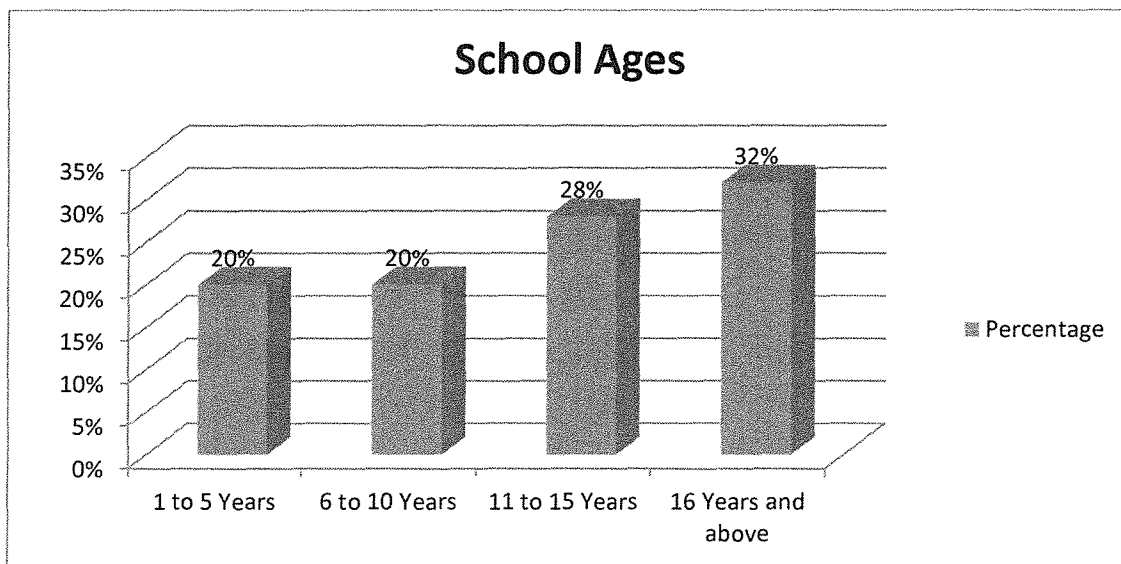


Fig 4.1: Age of school

32% of the Schools had been in existence for 16 years and above, 20% had been in existence between 1 to 5 years and 6 to 10 years. 28% of the schools had been in existence between 11 to 15 years. This means that at least 80% of the schools have been in existence since the enactment of the Occupation and health Act in 2007 in addition to being in existence during the onset of the school safety and standards manual in 2008. 68% of the respondents did not think the levels of emergency preparedness in private schools are enhanced by the audits as conducted by the health and safety auditors.

Chart showing the knowledge of the school safety and procedures manual

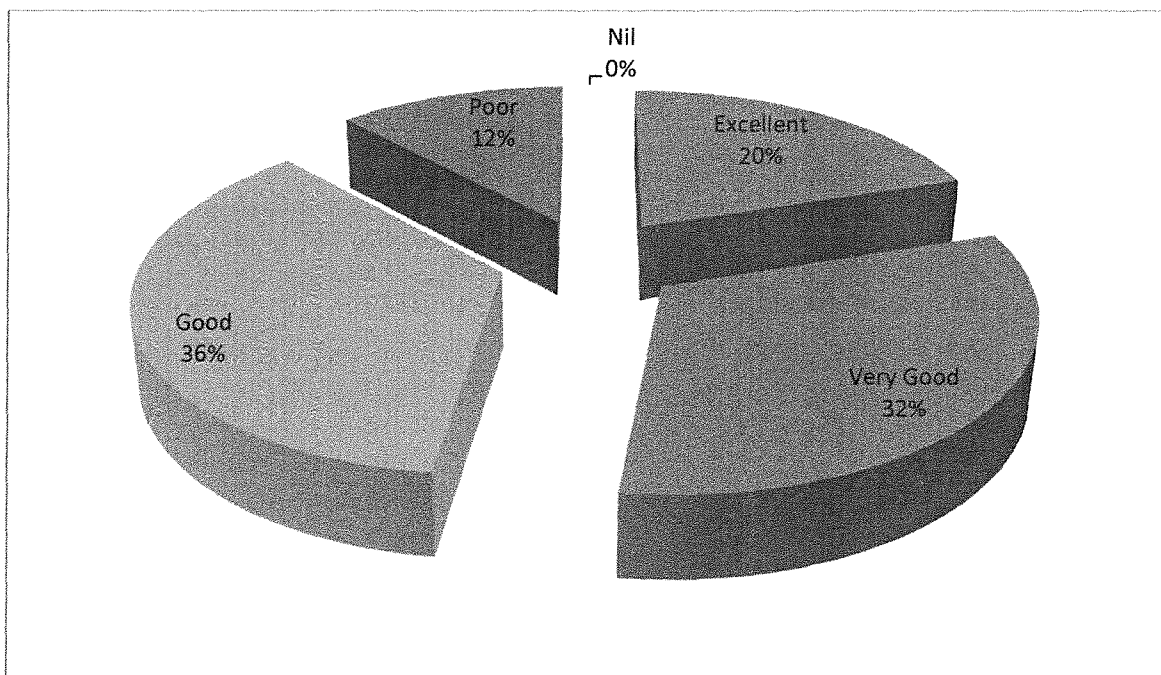


Fig 4.2: Knowledge of safety manual

20% of the respondents indicated that they had an excellent understanding of the School safety and procedures manual. 32% indicated they had very good and good understanding of the manual with only 12% indicating they had poor knowledge of the Safety Manual. No respondent indicated that they had nil knowledge of the manual. This was considered important by the researcher since 88% of the respondents at least had good understanding of the school safety and procedures manual.

4.3 Safety audit effectiveness and client satisfaction

4.3.1 The Relationship between Standard Setting and Client Satisfaction

The study sort to establish the level of agreement or disagreement schools in Embakasi have with standard setting as a measure of safety audit effectiveness. This was done in the form of likert scale moving from strongly agree to strongly disagree. The findings are as illustrated on table 1 and Fig 4.3.

Table 1: Standard setting as a measure of safety audit effectiveness

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean (m)	Variance (v)	Standard Deviation (Sd)
Director-standard setting								
The school safety manual specifies simple management systems applicable to the institution	4	8	10	3		2.48	0.8433	0.92
The school receives advisory services from the safety auditors	4	5	13	3		2.60	0.8333	0.91
The audit team is conversant with the requirements of the school safety and procedures manual	5	8	11	1		2.32	0.7267	0.85
The feedback received is useful in assessing the emergency preparedness of the institution	3	9	11	2		2.48	0.6767	0.82
Overall						2.47	0.7700	0.88

Standard Setting for Safety

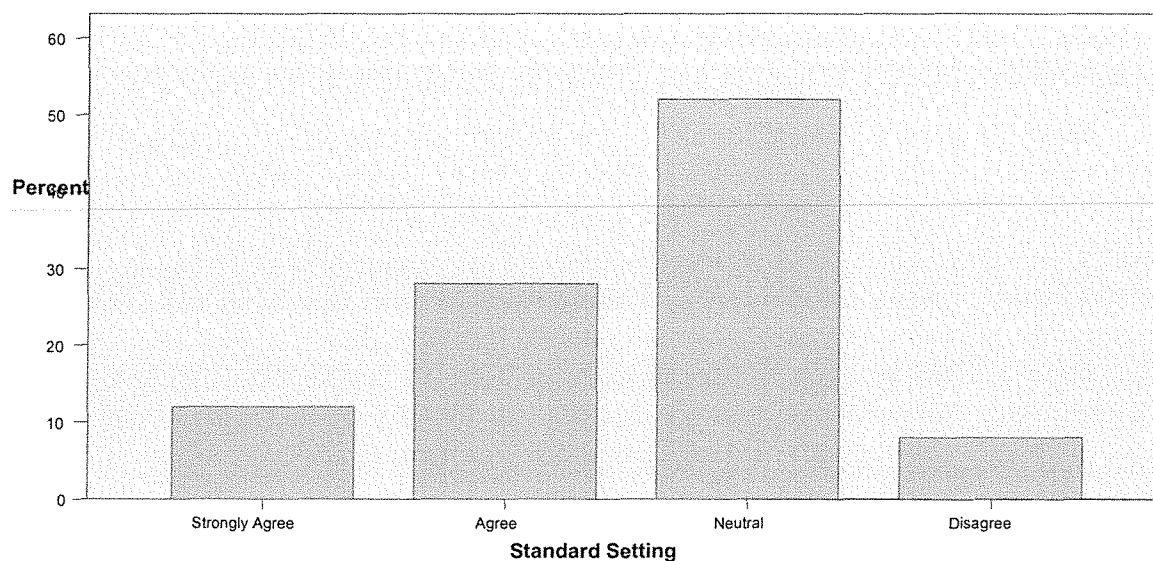


Fig 4.3 Setting standards for safety audits

The findings indicate that Setting Standards in safety audit reports had an overall mean of 2.47 averaging 52% with 40% agreeing or strongly agreeing and standard deviation of 0.88 implying the respondents find standard setting an important determinant of the effectiveness of safety audits. This is in agreement with the findings of Boyne, Day & Walker (2002) who argue to the effect that standard setting is a key determinant of effectiveness of safety audits. The respondents did agree that the Schools receive the safety reports, advisory services from the auditors and the audit team being conversant with the safety manual. The usefulness of the reports in assessing emergency preparedness of the institution had a mean of 2.48 implying the respondents agreed with the reports being useful even though the standard deviation was 0.82 implying a possibility of respondents being undecided on the usefulness of the report. 8% however did not agree that standard setting is an important determinant of effectiveness of safety audits.

Table 2: Spearman's Rank correlation between Client satisfaction and Standard Setting

Correlations			Client Satisfaction	Standard Setting
Spearman's rho	Client Satisfaction	Correlation Coefficient	1.000	.493(*)
		Sig. (2-tailed)	.	.012
		N	25	25
	Standard Setting	Correlation Coefficient	.493(*)	1.000
		Sig. (2-tailed)	.012	.
		N	25	25

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

A scatter plot between client satisfaction and standard setting indicates a linear relationship. The data set is ordinal in nature to the extent that the numbers are categorical. Private schools have been considered as a category and ordinal data set assigned in likert scale from 1 to 5. This research deemed it fit to use Spearmans rank correlation coefficient to establish the level of relationship between the variables. Spearmans rank correlation indicates a medium positive correlation coefficient of 0.493 implying a positive relationship between standard setting and client satisfaction. Thus, the more schools agree with the elements of standard setting the more satisfied they are with safety audits. This is in agreement with the findings of Folks & Hirth

(2011) to the effect that standard setting is a key determinant of the effectiveness of safety audits. Generally, this finding is consistent with that of Boyne, Day & Walker (2002) who found that standard setting in safety audits was a key determinant of effectiveness of safety audits hence a major influence on client satisfaction. The findings of Folks & Hirth (2011) on their study on determinants of effectiveness of safety correspond to the findings of this research. The findings also correspond to that of Lasker (2004) on the small pox and dirty explosion study by in depth conversation with the Government and private sectors planners who are set safety standards. Notably however is the inconsistency with the above findings by Kadaruddin et al., (2010) carried at Ungku Omar College, University Kebangsaan Malaysia who found out that a negative relationship existed between safety standards and client satisfaction. Cohen, (1988) states that a correlation coefficient between 0.30 to 0.49 denotes a medium relationship between the variables. The research therefore concludes no significant correlation exists between standard setting and client satisfaction.

This study therefore concludes with 95% confidence that no significant correlation exists between standard setting and client satisfaction. Additionally, the coefficient of determination (0.493 squared) stands at 24% implying standard setting explains nearly 24% of schools satisfaction with the audits. Pallant (2007) states that a coefficient of determination of this percentage is significant.

4.3.2 The Relationship between Feedback Mechanism and Client Satisfaction

The study sort to establish the level of agreement or disagreement schools in Embakasi have with Feedback mechanisms in safety audits as a measure of safety audit effectiveness. The findings are as illustrated on table 3 and Fig 4.4

Table 3: Feedback Mechanism as a measure of safety audit effectiveness

Detector-Feedback Mechanism	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean (m)	Variance (v)	Standard Deviation (Sd)
The audit reports are received within 24hrs from completion of the safety audit	2	6	10	5	2	2.96	1.12	1.06
Non conformance issues to the standards having been actioned on are captured by the audit reports immediately	2	7	14	2		2.64	0.57	0.76
The safety auditors are involved in discussing non compliance issues with the staff.	3	10	8	4		2.52	0.84	0.92
The audit reports are comprehensive and cover major aspects of emergency preparedness	4	10	8	3		2.40	0.83	0.91
Overall						2.63	0.84	0.91

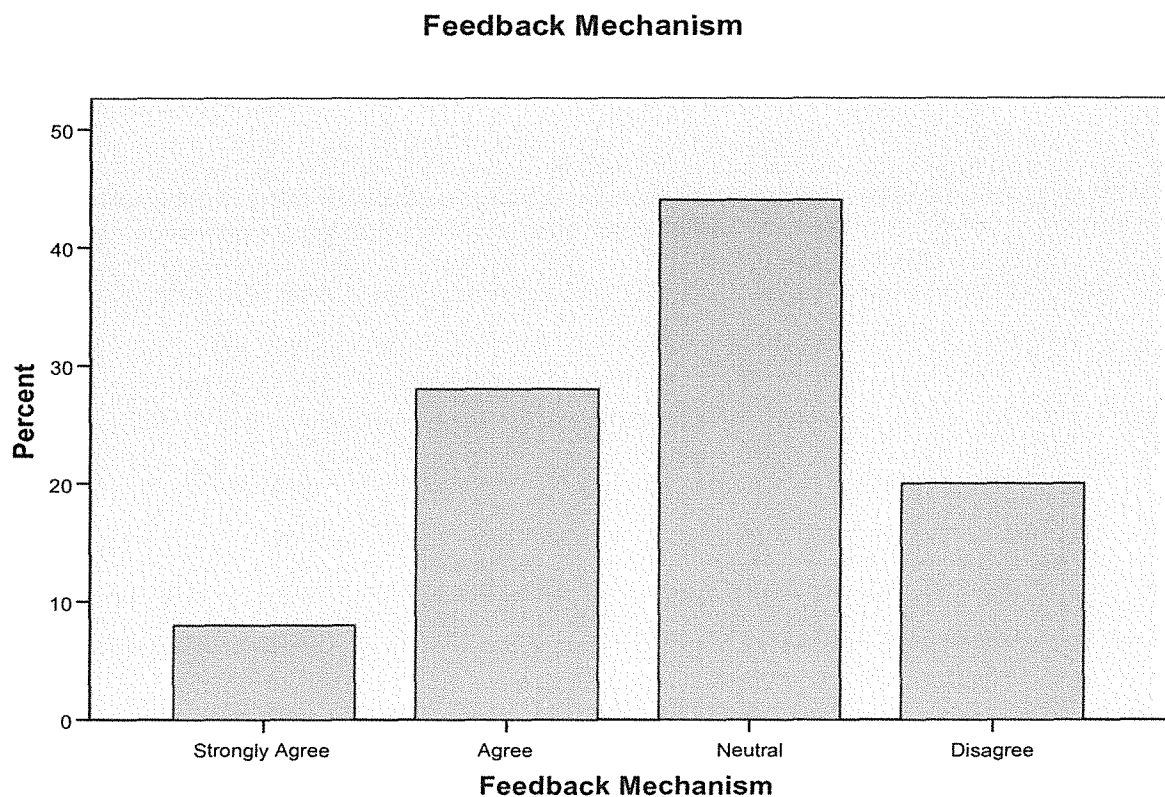


Fig 4.4 Feedback Mechanisms in safety audits

Feedback mechanism as a measure of safety audit effectiveness received a mean of 2.63 and standard deviation of 0.91 implying respondents were neutral whether or not feedback is important. The standard deviation of 0.91 however is indicative of a possibility of respondents not agreeing with feedback being instrumental. Cumulatively, 44% are neutral, 36% agree whereas 20% do not agree. Boyne, Day & Walker (2002) contend that feedback is instrumental. Folks & Hirth (2011) in their study on determinants of effectiveness of safety audits established feedback to be a major determinant. The question of the audit reports being availed within 24hours from completion of the audit had respondents agreeing with a mean of 2.96. The distribution however indicates a skewness towards disagreeing and strongly disagreeing with a standard deviation of 1.06. Once non conformance issues have been acted upon, respondents agreed that the corrections were immediately captured by the audit report. This had a mean of

2.64. The element of audit reports being comprehensive had respondents agreeing with a mean of 2.40.

Table 4: Spearman's correlation between Client satisfaction and Feedback Mechanism

Correlations			Feedback is useful in assessment	Client Satisfaction
Spearman's rho	Feedback is useful in assessment	Correlation Coefficient	1.000	.531(**)
		Sig. (2-tailed)	.	.006
		N	25	25
	Client Satisfaction	Correlation Coefficient	.531(**)	1.000
		Sig. (2-tailed)	.006	.
		N	25	25

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

A scatter plot between client satisfaction and feedback mechanism indicates a linear relationship. The data set is ordinal in nature to the extent that the numbers are categorical. Private schools have been considered as a category and ordinal data set assigned in likert scale from 1 to 5. This research deemed it fit to use Spearmans rank correlation to establish the level of relationship between the variables. Spearmans correlation indicates a positive correlation coefficient of 0.531 implying a positive relationship between feedback mechanism and client satisfaction. Thus, the more schools agree with the elements of feedback mechanism as a determinant of safety audit effectiveness the more satisfied they are with safety audits. This finding is consistent with that of Boyne, Day & Walker (2002) who found that feedback mechanism in safety audits was a key determinant of effectiveness of safety audits hence a major influence on client satisfaction. The findings of Folks & Hirth (2011) on their study on determinants of effectiveness of safety also corresponds to the findings of this research. The findings of Lasker (2004) on the small pox and dirty explosion study by in depth conversation with the Government and private sectors planners agree with the findings of this research and indicate that feedback has a relationship with client satisfaction. The findings correspond to that of Kadaruddin et al., (2010) carried at Ungku Omar College, University Kebangsaan Malaysia who found out that a positive relationship existed between feedback mechanism and client satisfaction.

This study therefore concludes with 95% confidence that no significant correlation exists between feedback mechanism and client satisfaction. Cohen, (1988) states that a correlation coefficient between 0.50 to 1.00 denotes a large relationship between the variables. Additionally, the coefficient of determination (0.531 squared) stands at 28% implying feedback mechanism explains nearly 28% of schools satisfaction with the audits. Pallant (2007) states that a coefficient of determination of this percentage is significant.

4.3.3 The Relationship between Behavior Modification and Client Satisfaction

The study sort to establish the level of agreement or disagreement schools in Embakasi have with Behavior Modification in safety audits as a measure of safety audit effectiveness. The findings are as illustrated on table 5 and Fig 4.5.

Table 5: Behavior modification as a measure of safety audit effectiveness

Effector-Behaviour Modification	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean (m)	Variance (v)	Standard Deviation (Sd)
The roles and responsibilities in relation to safety are clearly laid out and understood.	2	1 5	6	2		2.32	0.56	0.75
There is proper planning and establish of hazard control spots within the institution.	1	1 0	12	2		2.60	0.50	0.71
There is constant review of the implementation of the School Safety Standard.	3	7	11	2	2	2.72	1.13	1.06
Overall						2.55	0.73	0.84

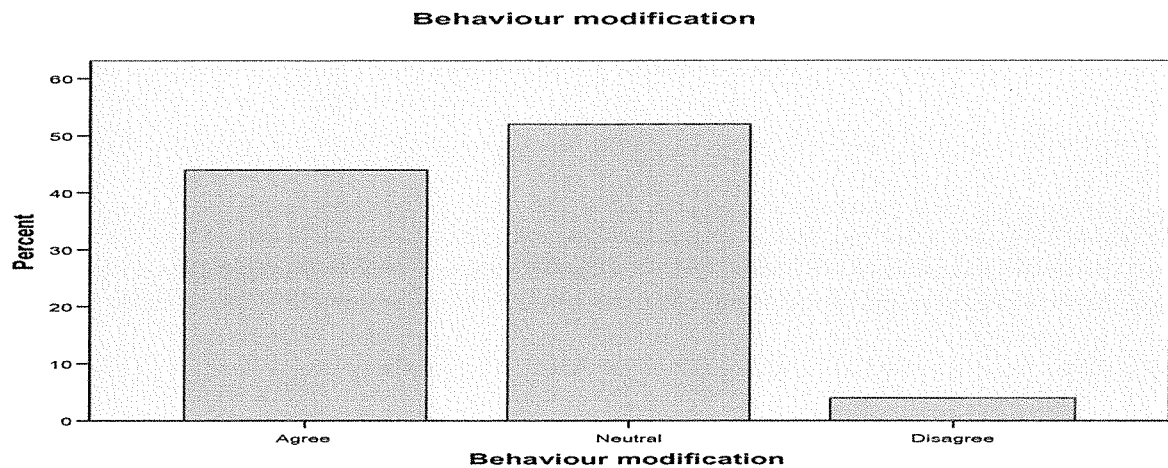


Fig 4.5 Behavior Modification

Behavior modification as a measure of safety audit effectiveness received a mean of 2.55 and standard deviation of 0.73 implying respondents were neutral whether or not behavior modification is important. Cumulatively, 52% were neutral, 44% agreed whereas 4% did not agree. The question of roles and responsibilities in relation to safety audits had a mean of 2.60 implying respondents agreeing that each person's tasks were well defined. Proper planning and constant review also had respondents agreeing even though a high standard deviation implying a possibility of not agreeing. Mooren et al., (2010) and Safework Australia (1996) in their study on determinants of effectiveness of safety audits indicate that behavior modification is a major determinant of audit effectiveness.

Table 6: Spearman's rank correlation between Client satisfaction and Behavior Modification

Correlations			Client Satisfaction	Behaviour modification
Spearman's rho	Client Satisfaction	Correlation Coefficient	1.000	.123
		Sig. (2-tailed)	.	.558
		N	25	25
	Behaviour modification	Correlation Coefficient	.123	1.000
		Sig. (2-tailed)	.558	.
		N	25	25

A scatter plot between client satisfaction and behavior mechanism indicates a linear relationship. The data set is ordinal in nature to the extent that the numbers are categorical. Private schools have been considered as a category and ordinal data set assigned in likert scale from 1 to 5. This research deemed it fit to use Spearmans rank correlation to establish the level of relationship between the variables. Spearmans correlation indicates a positive correlation coefficient of 0.123 implying a positive relationship between behavior modification and client satisfaction. Thus, the more schools agree with the elements of behavior modification as a determinant of safety audit effectiveness the more satisfied they are with safety audits. However, these findings indicate a small or weak relationship between behavior modification and safety audits. This is in agreement with the findings of Folks & Hirth (2011) who argue that persons consider safety audits to entail the completion of a long list of relatively routine task since someone somewhere thought the tasks were important. This finding is inconsistent with that of Boyne, Day & Walker (2002) who found that Behaviour modification in safety audits was a measure of safety audit effectiveness hence a major influence on client satisfaction. The findings of Lasker (2004) on the small pox and dirty explosion study by in depth conversation with the Government and private sectors planners agree with the findings of this research and indicate that behavior modification has a relationship with client satisfaction. The findings correspond to that of Ariffin, et al., (2010) carried at Ungku Omar College, University Kebangsaan Malaysia who found out that a positive relationship existed between behavior modification and client satisfaction.

This study therefore concludes with 95% confidence that a weak positive relationship exists between standard setting and client satisfaction. Cohen (1988) states that a correlation coefficient between 0.10 to 0.29 denotes a small or weak relationship between the variables. Additionally, the coefficient of determination (0.123 squared) stands at 1.5% implying behavior modification explains only 1.5% of schools satisfaction with the audits. Pallant (2007) states that a coefficient of determination of this percentage is not significant.

4.3.4 Relationship amongst the safety audit effectiveness indicators

The study sort to establish if a relationship exists between the independent variables of standard setting, feedback mechanism and behavior modification. The following are the findings.

Table 7: Spearman's correlation between independent variables

Correlations			Client Satisfaction	Behaviour modification	Standard Setting	Feedback Mechanism
Spearman's rho	Client Satisfaction	Correlation Coefficient	1.000	.123	.493(*)	.422(*)
		Sig. (2-tailed)	.	.558	.012	.036
		N	25	25	25	25
	Behaviour modification	Correlation Coefficient	.123	1.000	.382	.444(*)
		Sig. (2-tailed)	.558	.	.059	.026
		N	25	25	25	25
	Standard Setting	Correlation Coefficient	.493(*)	.382	1.000	.527(**)
		Sig. (2-tailed)	.012	.059	.	.007
		N	25	25	25	25
	Feedback Mechanism	Correlation Coefficient	.422(*)	.444(*)	.527(**)	1.000
		Sig. (2-tailed)	.036	.026	.007	.
		N	25	25	25	25

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

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

The relationship between standard setting and behavior modification was investigated using Spearman's rank correlation. There was a medium correlation between the two variables, $r=0.382$, $n=25$ with standard setting associated with medium changes in behavior modification. The findings indicate a medium positive relationship between standard setting and behavior modification with a coefficient of 0.382. determination of 15% implying only 15% of standard setting is influenced by behavior modification. The relationship between standard setting and feedback mechanism indicates a large positive relationship with the spearman's correlation of 0.527. Thus, high levels of standard setting has an influence on feedback. The coefficient of determination stands at 28% implying 28% of standard setting is influenced by feedback. It further indicates a medium positive relationship between behavior modification and feedback mechanism with the spearman's correlation coefficient at 0.444 and the coefficient of determination of 20% implying 20% of behavior modification is influenced by feedback.

Partial correlation was carried out to establish the strength of the relationship between variables. The relationship between standard setting and behavior modification while controlling for the feedback scores indicates a weak positive relationship at $r=0.182$. This was a big decrease in the strength of the correlation from 0.405 to 0.182 indicating therefore that feedback plays a major role in the relationship between standard setting and behavior modification. The relationship between standard setting and feedback mechanism while controlling for behavior modification scores indicated a medium positive relationship of 0.508. This was an insignificant difference in the strength of the relationship from 0.598 to 0.508 implying behavior modification had little influence on standard setting and feedback mechanism. The relationship between behavior modification and feedback mechanism while controlling for standard setting scores indicated a correlation of 0.297. This was a significant difference on the strength of the relationship moving from 0.460 to 0.297 implying standard setting influenced the scores behavior modification and feedback mechanism.

The study therefore concludes that standard setting and Feedback mechanism indicate a large correlation of 0.527 implying the existence of large association between the two variables. On the other hand, standard setting and behavior modification have a correlation of 0.382 depicting low association. Feedback and behavior modification have a correlation of 0.444 also implying low association.

Table 8: Spearman's correlation between independent variables combined

Correlations			Client Satisfaction	AVERAGE
Spearman's rho	Client Satisfaction	Correlation Coefficient	1.000	.471(*)
		Sig. (2-tailed)	.	.018
		N	25	25
	AVERAGE	Correlation Coefficient	.471(*)	1.000
		Sig. (2-tailed)	.018	.
		N	25	25

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

The relationship between Client satisfaction and all the three independent variables combined (Standard setting, Feedback and Behaviour Modification) was investigated using spearman's rank correlation. There was a medium positive relationship between the independent variables and client satisfaction at $r = 0.471$, $n=25$ with medium levels of client satisfaction associated with standard setting, feedback mechanism and behavior modification. The coefficient of determination was at 22% implying 22% of client satisfaction was influenced by the independent variables.

4.4. Client Satisfaction

The study sort to establish the level of client satisfaction with the Health and safety audits amongst the Private Secondary Schools in Nairobi. The findings are as illustrated on Fig 4.6.



Fig 4.6 Level of client satisfaction with safety audits

The findings indicate 48% of the schools were generally satisfied with the health and safety audits with an overall mean of 2.41 and standard deviation of 0.94. The general question of satisfaction with the quality of audit had a mean of 2.40 and standard deviation 1.0 implying the respondents were satisfied with the audit quality with a possibility of dissatisfaction. The safety requirements had a mean of 2.40 and standard deviations of 0.82 implying residents were

satisfied. Cooperation between the health auditors and the Schools had a mean of 2.40 with a standard deviation of 1.00. Whereas the mean indicates satisfaction, the standard deviation of 1.00 depicts a possibility of dissatisfaction too. The respondents were generally convinced that indeed the safety audits prepared there institutions for emergencies with a mean of 2.44 and standard deviation of 0.96

4.5 Regression Analysis

Regression was carried out to determine the predictive power of each of the independent variables (Standard setting, Feedback and Behavior modification) and client satisfaction. This was aimed at enabling the researcher explains how much variance in a dependent variable is explained by each independent variable. Various means of the safety audit effectiveness parameters were regressed against the client satisfaction means. Below is a summary of the data used for regression.

Table 9: Regression table showing dependent and independent variables

	Dependent Variable means	Independent Variable means			
Respondents	Client satisfaction	Standard setting	Feedback	Behaviour Modification	Average for independent variables
1	3	3	4	2	3
2	4	4	3	3	3
3	1	3	2	2	2
4	1	1	1	2	1
5	2	2	3	3	2
6	2	3	4	4	4
7	3	3	4	2	3
8	3	3	3	3	3
9	4	3	2	3	3
10	3	3	2	2	2
11	3	3	3	2	3
12	3	4	4	3	4
13	5	3	3	3	3
14	2	1	2	2	2

15	2	2	2	3	3
16	2	2	2	2	2
17	2	3	3	3	3
18	2	3	3	3	3
19	2	3	3	3	3
20	2	1	1	2	2
21	3	2	4	3	3
22	2	2	3	3	3
23	2	3	3	3	3
24	3	2	3	2	3
25	2	2	2	2	2

The data used for regression was derived from mean scores from likert scale as shown above:

Dependent variable Client satisfaction moving from very satisfied at 1 to very dissatisfied at 5 and the independent variables moving from strongly agree at 1 to strongly disagree at 5.

Table 6 gives the findings.

Table 10: Table showing relationship between Client Satisfaction and the Independent Variables combined

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	T Statistics	P Value
		B	Std. Error	Beta		
1	(Constant)	1.161	.845		1.373	.184
	Standard Setting	.472	.269	.422	1.752	.094
	Feedback Mechanism	.151	.259	.145	.584	.566
	Behaviour modification	-.102	.345	-.064	-.295	.771
a Dependent Variable: Client Satisfaction						

The coefficient for standard setting is 0.472 with a standard error of 0.269 implying for every unit increase in Standard setting, a 0.472 increase in client satisfaction is expected. Notably between standard setting and client satisfaction is the Beta coefficient of 0.422 implying a significant relationship derived by having all the variables on the same scale. This implies that

standard setting makes the strongest unique contribution to client satisfaction when the variance explained by feedback mechanism and behavior modification is controlled for. This is in agreement with the findings of Folks & Hirth (2011) to the effect that standard setting is a key determinant of the effectiveness of safety audits. The P value on the other hand stands at 0.094 which is above 0.05 implying standard setting does not make a significant contribution to client satisfaction. Pallant (2007) indicates that if the T Statistic is above 0.05 then the contribution is not significant. This means that an increase in responsiveness to clients needs by one unit leads to a corresponding increase in client satisfaction by an amount not necessarily equal to the coefficient of 0.472 holding all the other factors constant.

The coefficient for Feedback is 0.151 with a standard error of 0.259 implying for every unit increase in Feedback, a 0.472 increase in client satisfaction is expected. The beta coefficient stands at 0.145 denoting a limited relationship between feedback mechanism and client satisfaction. The P value on the other hand stands at 0.566 which is significantly above 0.05 implying the coefficient for feedback mechanism 0.151 is does not make a significant contribution to client satisfaction. This means that an increase in feedback mechanism by one unit leads to a corresponding increase or decrease in client satisfaction by an amount not necessarily equal to the coefficient of 0.151 holding all the other factors constant.

The coefficient for Behavior modification is negative 0.102 with a standard error of 0.345 implying for every unit increase in Behavior Modification decrease in client satisfaction of 0.102 is expected. This is in agreement with the findings of Folks & Hirth (2011) who argue that persons consider safety audits to entail the completion of a long list of relatively routine task since someone somewhere thought the tasks were important. The beta coefficient was negative 0.64 implying behavior modification made less contribution to client satisfaction. The P value on the other hand stands at 0.771 which is significantly above 0.05 implying the coefficient for Behavior modification 0.102 does not significantly influence client satisfacton. This means that an increase in Behavior Mechanism by one unit leads to a corresponding increase or decrease in

client satisfaction by an amount not necessarily equal to the coefficient of 0.102 holding all the other factors constant.

Multicollinearity was tested for and respective tolerance limits derived as follows:

Table 11: Table showing multicollinearity test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Standard Setting	.621	1.611
	Feedback Mechanism	.586	1.708
	Behaviour modification	.763	1.311

Pallant (2007) indicates that value less than 0.10 indicates that multicollinearity with other variables is high. The tolerance values in this research are significantly above 0.10 hence elimination of the possibility of multicollinearity. Additionally, none of the Variance Inflation factor (VIF) is above 10 hence no concern for multicollinearity as indicated by Pallant (2007).

4.6 The relationship between safety audit effectiveness and Client Satisfaction

The overall relationship between the determinants of effectiveness of safety audits and client satisfaction was assessed. Table 7 below indicates an overall model fit.

Table 12: Table showing overall model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495(a)	.245	.138	.85286

a Predictors: (Constant), Behavior modification, Standard Setting, Feedback Mechanism

The R Square of 0.245 represents the proportion of variance in the dependent variable (Client Satisfaction) which can be explained by the independent variables (Standard Setting, Feedback and Behavior Modification). This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable. This means that 24.5% of the change in client satisfaction is influenced by

the determinants of effectiveness of safety audits implying a limited correlation from an overall point of view. Additionally, when extraneous predictors to the model are adjusted and the adjusted R Square used, the research establishes that only 13.8% of client satisfaction in safety audits is explained by the determinants of effectiveness of safety audits.

Sotiros (2005) contend that a study is deemed to have cumulative validity if its findings are supported by other studies. The research findings agrees with the findings of Covington & Simpson (2006) and that of Simpson, (2004) who indicate that there are no generally accepted indicators for client satisfaction with safety audits. Additionally, the content of the questionnaire focused on the three key drivers of client satisfaction in safety audits. Sotiros (2005) indicate that a measure can claim construct validity if it measures the constructs its supposed to measure based on a valid theoretical construct. Cybernetic theory proponents classified the safety audit effectiveness measurement into the same categories used in this research. This included standard setting, feedback mechanism and behavior modification. These three are deemed to be the three drivers of client satisfaction in safety audits by Boyne, Day & Walker (2002) who used the elements of Director, Detector and Effector to measure the effectiveness of an inspection system. The Cybernetic theory proponents agree and state that regulation has three sides, a) some method of standard setting (Director), b) Some way of gathering information about whatever is being controlled (Detector) and c) some way of modifying behavior (effector). Robson, Macdonald, Gray, Van Eerd, & Bigelow (2012) in agreement with the Cybernetic theory proponents classified the safety audit effectiveness measurement into the same categories.

This is contrary to the researchers' expectation where it was hoped that a strong relationship would exist between the determinants of effectiveness of safety audits and client satisfaction. The possible explanation for the difference in the expected R-sq (adjusted) and the R-sq (adjusted) found out in the study could be attributed to the knowledge of the school safety manual where 36% had a good understanding of the manual whereas 12% indicated that they had a poor understanding of the manual respectively. Additionally, many respondents were neutral or did not agree on aspects of feedback mechanism and behavior modification as attributes of effectiveness of safety audits.

Chapter Five

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter highlights the conclusions and implications based on the findings of the study. Additionally, recommendations for further research are presented. The challenges encountered during the study are highlighted and how they were overcome.

5.2 Discussion and Implications

5.2.1 Relationship between safety audit effectiveness and client satisfaction

The study sort to establish the relationship between safety audit effectiveness and client satisfaction. From the various sources of literature it was established that the indicators of how effective safety audits are included; standard setting, feedback mechanism and behavior modification.

The study established that there is a positive relationship between standard setting as an indicator of safety audit effectiveness and client satisfaction. This means that the Safety Act of 2007 and the school safety manual of 2008 add to the satisfaction of Embakasi Secondary schools with safety audits. This is in agreement with the findings of Boyne, Day & Walker (2002) who argue to the effect that standard setting is a key indicator of effectiveness of safety audits. The study therefore concludes that setting standards by governing institutions play a key role in schools satisfaction with safety audits. Standard setting therefore calls for the Governing institutions to ensure the standards are comprehensive and indeed cover aspects of emergency preparedness so as to mitigate emergencies. The Ministry of Education was indicated as a beneficiary to this research, this finding would therefore aid in encouraging the policy makers to focus on setting of acceptable but effective standards. Standard setting is useful in management of operational risks of institutions (Herbert, 2008), it would therefore be in the interest of insurance companies as mentioned in chapter 1, that proper standards are set to cover the operational risk hence minimize loses in case the risk matures.

The study established that there is a limited positive relationship between feedback mechanism as an indicator of effectiveness of safety audits and client satisfaction. This means that when the safety auditors give feedback to the clients, this does contribute to the level of satisfaction even though at a lower scale. The study therefore concludes that whereas feedback on safety audits to Embakasi institutions is good, it does not lead to client satisfaction with the audits. This brings into focus Folks & Hirth (2011) theory to the effect that persons view audits as routine compulsory exercise. The objective therefore for the clients is to accomplish the task and little interest on feedback. Safety officers are expected to be part of the consumers of this finding, it is expected that from this finding safety auditors would seek to further establish why respondents do not pay much attention to feedback given by them. St Johns (2005) indicates that feedback not adhered to increases the business risk of institutions. The National Disaster centre as a beneficiary to this finding would use this finding to prevail upon safety officers to ensure that feedback given by them are taken into consideration with an objective of minimizing any disasters.

The study established that there is a negative relationship between behavior modification and client satisfaction. This means that the more safety audits modify client behavior the more dissatisfied clients are. This further agrees with Folks & Hirth (2011) to the effect that clients simply want to comply with the safety standards with no joy in behavior change. Covington & Simpson (2006) indicate that clients prefer to maintain status quo as long as no emergencies arise hence limited interest in behavior change. It was indicated in chapter one that bench marking of institutions on the basis of safety preparedness would be useful in enhancing compliance with the school safety and procedures manual. This finding would provide a useful parameter of extent of behavior change in bench marking of institutions.

5.2.2 Level of client satisfaction with safety audits in Embakasi constituency

In its second objective, this study sort to establish the level of client satisfaction with safety audits in Embakasi Constituency, Nairobi. This was measured in the form of a likert scale moving from very satisfied to very dissatisfied. The findings indicate that 56% of schools were generally satisfied with the health and safety audits implying 44% are not satisfied with the

safety audits. As indicated in chapter 1, the ministry of education being one of the beneficiaries of these findings would find this useful particularly the 44% in ascertaining the causes of dissatisfaction amongst schools. Health and safety auditors were also indicated as beneficiaries to these findings would use these findings to investigate what aspects of the safety audits contribute to dissatisfaction or confirm Folks & Hirth (2011) assertion to the effect that persons do not just want to comply to safety standards.

5.2.3 Safety audit effectiveness amongst private secondary schools in Embakasi constituency

The study sort to establish how effective the safety audits were amongst the schools in Embakasi. The study focused on the indicators of safety audit effectiveness of standard setting, feedback mechanism and behavior modification. The study measured effectiveness in the form of a likert scale from strongly agree to strongly disagree. The study established that standards set by the school safety manual were indeed effective and 52% of the respondents conquered that standard setting would mitigate the effect of emergencies. The study also established that the feedback received from the safety auditors enabled the schools to minimize the operational risk associated with emergencies to a minimal extent with most respondents being neutral on feedback effectiveness. The study further confirmed that the safety audits are not effective in modification of behavior. Folks & Hirth (2011) study agreed with this finding to the effect that persons are reluctant to comply. The significance of behavior modification to Insurance companies as mentioned in chapter 1 as a beneficiary to this finding is important in computation of the risk to Insure.

5.3 Recommendations

The study recommends that Governing institutions focus on making institutions appreciate the role of safety audits. The current focus is on implementation of safety standards with little regard to client satisfaction. Additionally, included in the Kenyan syllabus should be emergency preparedness lessons so as to build up an appreciation of safety audits. This if implemented may have an impact on behavior modification hence enable institutions to reduce operational risks associated safety issues.

Safety standards from the findings of this research have a positive relationship with client satisfaction with only 12% having poor knowledge of the safety manual. Further education amongst learning institutions should be carried out with regard to the safety manual so as to ensure sustenance of the appreciation of the safety manual.

Feedback mechanism has a limited positive relationship with client satisfaction. The study recommends that core components of feedback such as timeliness be adhered to by safety officers. This may lead to appreciation of the role of safety standards in enhancing emergency preparedness amongst learning institutions.

Bahaviour change has a negative relation with client satisfaction implying many persons are unwilling to change behavior so as to agree with the safety manual. This research recommends further involvement of the institutions in coming up with the safety standards so as to enhance more acceptability. Additionally, safety auditors may focus on ensuring the schools see the value of recommendations made by them.

5.4 Recommendations for further research

Emergency preparedness involves operational risk, further study can be carried out on the impact of emergency preparedness on the operational risks of firms. Additionally, more study can be carried out on the public schools on safety audit effectiveness and client satisfaction. Further study on this area can be carried out on behavior modification in line with safety audits. Models that may explain what factors influence client satisfaction can be studied to enable a satisfactory explanation on what leads to satisfaction with safety audits. Government institutions too are governed by the Occupational and health Act of 2007, a study can be carried out on the institutions so as to establish how satisfied they are with safety audits.

Further study can be carried out on other Nairobi zones. This is because a possibility exists of obtaining different reports if other zones are considered. However, Safework Australia (1996) carried out its study on effectiveness of safety audits by focusing on specific organizations by indicating that internal controls on implementation of safety standards vary hence the need of focus per organization or institutions. The findings of this study are therefore not generalisable to

populations, rather, they are generalisable to theoretical propositions (Yin, 1989:21) as quoted in Safework Australia (1996).

5.5 Limitations of the study

The key problem with the study was the fact that many respondents thought this was a secret Government safety audit being carried out on their institutions. This contributed to the low response rate with some respondents abstaining from filling the questionnaire. The researcher adopted various techniques to ensure sufficient data was collected. This involved making personal services and engaging an assistant to camp at the institutions until feedback is got. Ethical issues considered by the researcher included making the respondents aware of the objective of the research. Additionally an introductory letter making them aware of the aims of the research was issued. The researcher analysed the findings objectively and eliminating any personal biases that would skew the findings of the research. The respondents were also made aware that the findings of the researcher will be anonymous and not specific to them.

There was a problem in data collection period. The researcher had anticipated collecting data within a period of one month, however, the actual data collection period was three months due to closure of schools in December and the teachers strike in November 2012 that made data collection a difficult process.

5.6 Conclusion

From the study, we conclude that no significant relationship exists between safety audit effectiveness and client satisfaction. This is particularly so for the attributes of feedback mechanism and behavior modification. However, standard setting influences client satisfaction which means that Governing institutions need to focus on deriving standards that will ensure safety of students so as to facilitate learning. Safety auditors may therefore focus on client satisfaction to enable the feedback received from them be used by the schools positively and also cultivate behavior change amongst institutions to enhance learner safety.

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Appendices

Appendix 1: Letter of Introduction

Dear Respondent

**RE: REQUEST TO SEEK RESPONSE ON CLIENT SATISFACTION WITH
EMERGENCY PREPAREDNESS SAFETY AUDITS OF NAIROBI SECONDARY
SCHOOLS**

I am a student at Strathmore University pursuing a Masters of Commerce Degree.

I am carrying out a research on client satisfaction with emergency preparedness safety audits of Nairobi private secondary schools in line with the requirements of the school safety standards and procedures manual of 2008. Strathmore University requires graduates to carry out a research thesis in partial fulfillment of the master of commerce degree program. This study aims at indicating whether Nairobi secondary schools have complied with the school safety and procedures manual of 2008 as published by the Ministry of education.

Kindly read through the questions carefully and answer them. Additionally, feel free to comment where you deem it fit to do so. It will be much appreciated if you would complete the questionnaire and respond within the shortest time.

The study will be conducted solely for academic research purposes and the information you give will be treated with strict confidence. The results of the research will not include reference to any individual or organization. You can obtain the findings of this research on request. For further information, please contact the researcher on willisoyoo@gmail.com or on +254 722 927 399.

Kind regards

Oyoo Willis

Appendix 2: Research questionnaire

Emergency preparedness safety audit and client satisfaction of Nairobi Private Secondary schools in Kenya.

This questionnaire consists of three sections A, B and C. Section A is on personal information of the respondents, section B consists of items pertaining to the health and safety audits as conducted by the Health and safety officers, Section C seeks your general opinion on the health and safety audits.

SECTION A: Personal Information

Kindly read through the items below comprehensively. Some items may require you to tick (✓) the checkbox alongside as appropriate

1. How old is your school?

1 to 5 years ☐

6 to 10 years ☐

11 to 15 years ☐

16 years and above ☐

2. In a scale of 1 to 5, where would you rate your knowledge and understanding of the School safety and procedures manual of 2008

i. Excellen☐ ii Very gd☐ iii Go☐ iv P☐ N☐

SECTION B: Items pertaining to the health and safety audits as conducted by the Health and safety officers

Please indicate the extent to which you are satisfied or dissatisfied and agree or disagree by placing a check mark (x) or (✓) on the scale provided. The scale is a range from very satisfied to very dissatisfied and strongly agree to strongly disagree.

Statement on emergency preparedness	Very satisfied	Satisfied	Neither satisfied	Dissatisfied	Very dissatisfied
Client satisfaction					
<i>How satisfied are you with the quality of audit as conducted by the health and safety auditors?</i>					
<i>How satisfied are you with the safety requirements as prescribed by the School safety and procedures manual of 2008?</i>					
<i>How satisfied are you with the level of cooperation between the health and safety auditors and the school?</i>					
<i>How satisfied are you that indeed the health and safety audits are preparing your institutions for any emergencies?</i>					
Attributes of emergency preparedness safety audits	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Director-Setting Standards for Safety					
The School safety Manual specifies simple management systems applicable to the institution.					
The client receives advisory services from the safety auditors					
The audit team is conversant with the requirements of the school safety and procedures manual of 2008					
The feedback received is useful in assessing the emergency preparedness of the institution					
Detector-Feedback Mechanism					
The audit reports are received within 24hours from completion of the safety audit.					

Non conformance issues to the safety standards having been auctioned on are captured by the audit reports immediately.					
The safety auditors are involved in discussing non compliance areas with the client.					
The audit reports are comprehensive and cover major aspects of emergency preparedness					
Effector-Modification of behavior					
The roles and responsibilities in relation to safety are clearly laid out and understood.					
There is proper planning and establish of hazard control spots within the institution.					
There is constant review of the implementation of the School Safety Standard.					

Section C: General opinion

Do you think the levels of emergency preparedness in private schools are enhanced by the Audits as conducted by the Health and Safety Officers?

Appendix 3: List of Embakasi Nairobi Private secondary schools

S/No.	MOE Code	Name	KNEC Code	Province	District
582	3006007	ST JUSTINO SEC SCH		Nairobi	EMBAKASI
583	3006008	LORNA WADINGTON HIGH SCH	-	Nairobi	EMBAKASI
584	3006013	BRUCEWOOD SCH		Nairobi	EMBAKASI
585	3006014	PRINCE SENIOR SCHOOL		Nairobi	EMBAKASI
586	3006018	GRATIA DEI EDUCATION CENTRE		Nairobi	EMBAKASI
587	3006021	THE HIGHLINK SCHLS		Nairobi	EMBAKASI
588	3006029	RIARA SPRINGS GIRLS HIGH SCHOOL		Nairobi	EMBAKASI
589	3006268	SILVER BRIDGE SCHOOL SEC		Nairobi	EMBAKASI
590	3006269	EMBAKASI HIGH SCHOOL		Nairobi	EMBAKASI
591	3006271	ST TRIZA MIXED HIGH SCHOOL		Nairobi	EMBAKASI
592	3006272	DANONS HIGH SCHOOL		Nairobi	EMBAKASI
593	3006346	SILVERBRIDGE SEC SCH		Nairobi	EMBAKASI
594	3006352	EASTLANDS ED CENTER		Nairobi	EMBAKASI
595	3006356	PRAGMATIC MOMENTUS SEC SCH		Nairobi	EMBAKASI
596	3006360	RACECOURSE ED COMPLEX SEC	401153	Nairobi	EMBAKASI
597	3006020	SCHOLAR SEC SCH	401177	Nairobi	EMBAKASI
598	3006025	GIBS GIRLS HIGH SCH		Nairobi	EMBAKASI
599	3006031	HON DR MWENJE HIGH SCHOOL		Nairobi	EMBAKASI
600	3006033	KARIOBANGI SOUTH SEC SCH	940118	Nairobi	EMBAKASI
601	3006035	FRIENDS SEC SCH DANDORA	401121	Nairobi	EMBAKASI
602	3006038	GOOD SHEPHERD HIGH SCH	401165	Nairobi	EMBAKASI
603	3006039	STARLIGHT SENIOR ACADEMY		Nairobi	EMBAKASI
604	3006040	KOMAROCK ROAD SEC SCH		Nairobi	EMBAKASI
605	3006267	EMMAUS SECONDARY		Nairobi	EMBAKASI
606	3006005	PEARLS OF WISDOMGIRLS SEC SCH		Nairobi	EMBAKASI
607	3006026	VINESPRING GIRLS HIGH SCHOOL	401167	Nairobi	EMBAKASI
608	3006270	PENUCCI EDC CENTER SEC	940124	Nairobi	EMBAKASI

609	3006274	SPARKLE HIGH SCHOOL		Nairobi	EMBAKASI
610	3006273	GALAXY GROUP OF SECONDARY SCHOOLS		Nairobi	EMBAKASI
611	3006010	PRESTIGE EDUCATION CENTRE	940125	Nairobi	EMBAKASI
612	3016804	ST MATHEW HIGH SCHOOL	-	Nairobi	EMBAKASI
613	3016801	OUTERING EDUCATION CENTRE	-	Nairobi	EMBAKASI
614	3016803	ST MATHEW HIGH SCHOOL	-	Nairobi	EMBAKASI
615	3006034	OUTERING HIGH SCH	940119	Nairobi	EMBAKASI
616	3006024	WELKIM ACADEMY	401118	Nairobi	EMBAKASI
617	3006012	REDEEMED EDUCATIONAL CENTRE		Nairobi	EMBAKASI
618	3006016	ST MARY ACADEMY SEC SCH		Nairobi	EMBAKASI
619	3006009	SHEEP CARE COMMUNITY CENTRE SEC		Nairobi	EMBAKASI

Total Count=38 schools



Appendix 4

Satisfaction level with emergency preparedness

Client Satisfaction	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very Dissatisfied	Mean (m)	Variance (v)	Standard Deviation (Sd)
How satisfied are you with the quality of audit as conducted by the Health and safety officers	3	14	4	3	1	2.40	1.00	1.00
How satisfied are you with the safety requirements as prescribed by the school safety and procedures manual of 2008	2	14	6	3		2.40	0.67	0.82
How satisfied are you with the level of cooperation between the health and safety auditors and the school	4	11	7	2	1	2.40	1.00	1.00
How satisfied are you that indeed the health and safety audits are preparing your institutions for any emergencies	4	9	10	1	1	2.44	0.92	0.96
Overall						2.41	0.90	0.94