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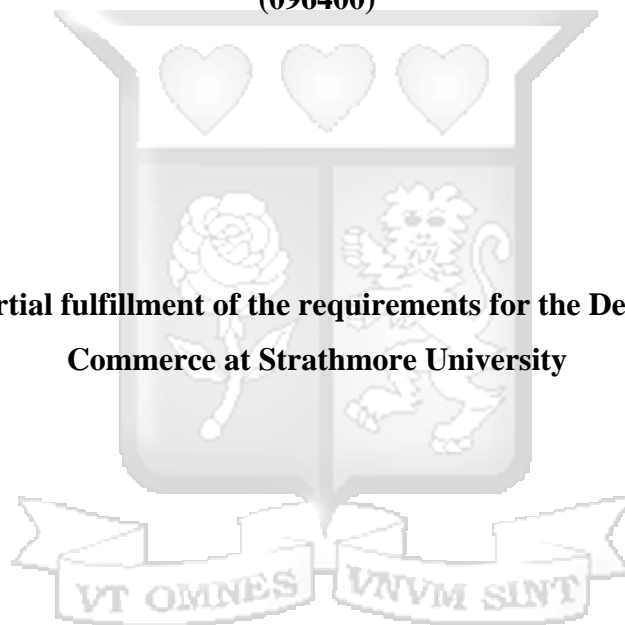
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**FACTORS MOTIVATING THE APPLICATION OF SUSTAINABILITY
MANAGEMENT ACCOUNTING TOOLS AMONG CORPORATIONS IN
EAST AFRICA**

Mucheru Phylis Waitherero

(096400)

**Submitted in Partial fulfillment of the requirements for the Degree of Master of
Commerce at Strathmore University**



Strathmore University Business School

Strathmore University

Nairobi, Kenya.

May, 2019

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.

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.....

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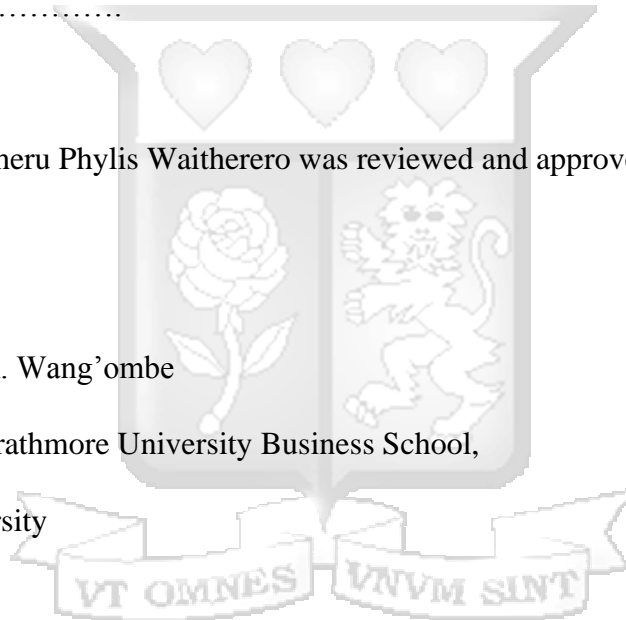
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ABSTRACT

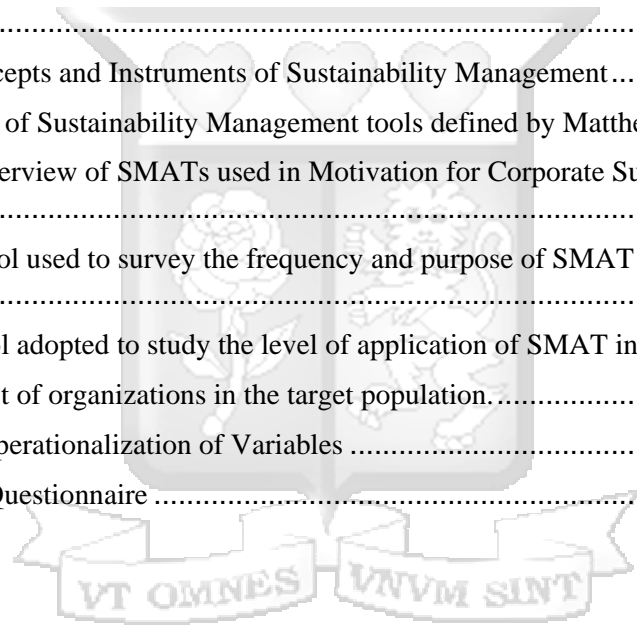
Sustainability Accounting is gradually gaining momentum, since then, awareness on environmental, economic and social issues in the business sector has increased mainly due to the increased pressure from stakeholders to ensure that their companies minimize their negative impact while maximizing on the positive effect of their operations and thus contributing to global sustainable development. The study was guided by the main objective, to establish the factors that influence the adoption of SMAT among companies in East Africa and the following objectives; to identify the level of application of sustainability management accounting tools among companies in East Africa and to identify the motivating factors that influence this level of application of sustainability management accounting tools in East Africa. The study followed a descriptive research design incorporating both qualitative and quantitative data in fulfilling the research objectives. A questionnaire was emailed to 119 respondents out of which 83 were duly submitted. The quantitative data collection tool was a questionnaire and the qualitative data collection tool used was observation methods and data analysis. The target population of the study will focus on forty four (44) companies in East Africa that have submitted their non-financial statements on the GRI website. From the study, application of the tools was found to be moderately low but each organization admitted to using at least one tool. Environmental tools were the most frequently used. Pressure to reduce costs, meet societal and stakeholders needs and develop and promote products that meet customers; demands accounted for the higher percentage of motivating factors. In conclusion, the study found a high correlation between application of Sustainability Management Tools in East Africa and motivating factors with legitimacy being the main factor of influence.

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LIST OF ABBREVIATIONS

CMA	Capital Markets Authority
CSR	Corporate Social Responsibility
EAC	East African Community
EMA	Environmental Management Accounting
EMCA	Environment Management and Coordination Act
GNP	Gross National Product
GRI	Global Reporting Initiative
ICPAK	Institute of Certified Public Accountants of Kenya
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
IPSAS	International Public Sector Accounting Standards
IR	Integrated Reporting
ISEA	Institute of Social and Ethical Accountability
MNCs	Multinational Corporations
NEMA	National Environment Management Authority
NSE	Nairobi Stock Exchange
NYSE	New York Securities Exchange
OECD	Organization for Economic Co-operation Development
PPBS	Planning, Programming, Budgeting Systems
SMA	Sustainability Management Accounting
SMAT	Sustainability Management Accounting Tools
TBL	Triple Bottom Line
UK	United Kingdom
UNEP	United Nations Environmental Programme

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Thank you!



CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 Background to the study

In 1983, the United Nations framed a commission, the Brundtland Commission whose mission was to define 'A Global motivation for change'. The consequence of this taskforce was a report titled 'Our Common Future' that advanced the term 'Practical improvement'. It economic advancement as improvement that tried to address the issues of the present without trading off the capacity of future ages to address their own issues (Brundtland, 1987)

From that point forward, mindfulness on ecological, monetary and social issues in the business division has expanded for the most part because of the expanded weight from partners to guarantee that their organizations limit their negative effect while amplifying on the positive effect of their activities and in this manner adding to worldwide manageable improvement (Carlsson, 2017). To stay important, organizations are today compelled to give data about their environmentally and socially pertinent exercises to and for a wide scope of partners. Since the middle 1990s organizations progressively uncover data about the ecological parts of their business exercises and interrelation of those aspects with their monetary and social execution. Since the production of the main separate environmental reports in 1989, the quantity of organizations that has begun to distribute data on its environmental, social or sustainability arrangements and additionally effects has expanded generously (Kolk, 2004). Sustainability Management Accounting looks for an integrative methodology whereby it not just gives data that would have generally been gotten from conventional bookkeeping devices and frameworks, however it likewise gives all partners exact and solid data on the financial, social and environmental aspects of a company.

At present sustainability management accounting speaks to the summit of broadened bookkeeping and reporting. Accentuation is at present overwhelming on bookkeeping that goes for accomplishing large amounts of viability and effectiveness through representing biological systems just as contemplations for eco-equity (Gray and Milne, 2012). It has been characterized as new information management and bookkeeping strategies that endeavor to make and give high caliber, important data to help companies

in connection to their practical advancement (Polejewski, 2011). It portrays a subject of bookkeeping that manages exercises, strategies and frameworks to record, break down and report activities and social actuated money related effects; environmental and social effects of a characterized financial framework and the connections and linkage between environment, ecological and monetary issues that establish the three elements of maintainability. As indicated by (Jasch and Stasiskiene, 2005), sustainability management accounting is a device that help organizations as they continued looking for sustainability by featuring advantages, expenses and dangers of their capacities. It is an expansion of conventional money related bookkeeping that considers supportability impacts at each dimension of the organization.

Sustainability management accounting apparatus can be utilized as a wellspring of indispensable data for supervisors and partners, valuable in assessing and overseeing social and natural dangers, distinguishing asset effectiveness and as a reason for cost decrease in lifetime of the organizations. It connects the enhancements in social and natural issues of the enterprises to the budgetary chances. The most significant piece of sustainability management accounting is the collaborations and linkages between social, ecological and monetary issues comprising the three parts of sustainability (Schaltegger and Burritt, 2006). It incorporates different types of non-money related capital related with supportability (ecological, human and social) and corporate administration issues, which they depend upon for continued, long haul esteem creation (SASB, 2013).

The principle objectives of SMATs is to assemble data, break down it and use adapted ecological and social information to improve the natural, financial and social execution of the enterprise. These are the fundamental parts of the Triple Bottom Line (TBL) of sustainability. The TBL is developing as a prevalent conceptualization and revealing vehicle for articulating corporate social, environmental and financial execution, and is accepting huge consideration regarding its viability and adequacy as a methods for announcing the degree to which an organization meets its societal obligations (Arrowoshegbe and Uniamikogbo, 2016). It is a bookkeeping system that consolidates three components of execution: social, natural and money related. By consolidating the triple primary concern idea in an organization, the principle motivation is to ensure the partners' advantages. No partner ought to be hurt, abused, or unequally troubled by the organization' business interests. The second plan is to shield the world's normal assets

from any damage that might be brought about by the organization's endeavors and the third is to guarantee that the organization keeps on gathering its monetary and financial objectives (Perrini, 2006).

Sustainability management accounting apparatuses in this manner can be considered as improvements or moves up to conventional monetary bookkeeping instruments making it conceivable to assess budgetary and sustainability data next to each other and hence giving a total perspective on the organization's actual presentation and esteem (SASB, 2013). They are utilized to gather data on environmental and socially related use and connecting them to monetary advantages, just as to demonstrate how environment and social outside expenses can decline after some time with promise to supportability.

All these three ideas are all around firmly related, that is sustainability management also sustainability management accounting and maintainability reporting (Bebbington *et al.*, 2014; Gray *et al.*, 2014). Sustainability management and sustainability accounting are an indivisible piece of a corporate administration. The fundamental thought of sustainability management is to blend a business and its activities with its particular ecological and social perspectives and effects; sustainability bookkeeping then again gives data valuable in basic leadership with sustainability management. In logical writing sustainability reporting is depicted as an indivisible piece of manageability bookkeeping and supportability the board from one viewpoint, as an apparatus for a corporate correspondence with outer partners. Manageability bookkeeping and announcing are helpful apparatuses for guaranteeing that business is directed by the standards of social obligation and for advising significant partners about corporate reasonable execution. Endeavor in consistence with the standards of social obligation may add to continuing of intensity and the increase in aggressiveness. Sustainability management accounting and reporting are an indivisible piece of different hypothetical methodologies like authenticity hypothesis (Deegan, 2002) and partner hypothesis (Perrini, 2006). Sustainability management and sustainability reporting are analyzed and managed additionally at the legislative dimension (of individual states or their associations) and by nongovernmental associations; a state's phase of improvement (created or creating state) is a significant angle here.

At present in East Africa, as in numerous different areas, there are no laws ordering necessary sustainability management and reporting. In that capacity, organizations

don't have a standard method for revealing in their ecological and social procedures. In any case, a few rules and detailing systems have been created for the different areas in both general society and private divisions, For example, The Global Reporting Initiative (GRI) gives a structure every now and again utilized by associations in setting up their supportability reports. At present, GRI is the most often utilized benchmarks and rules system for sustainability reporting. It gives a harmony and standard system for exposures on natural, monetary and social reporting. Sustainability management accounting and reporting is drilled deliberately observing as there is right now no law that commanding this type of announcing. This leaves the elements that report without an institutionalized method for doing it (Willis, 2003).

The Sustainability Accounting Standards Board (SASB) grew one more system as of now being used among freely recorded organizations in the USA (SASB, 2013). As indicated by the structure, sustainability bookkeeping goes for assessing three territories; ecological, social and administration execution of organization`. The business explicit principles of divulgence are intended to profit the association, financial specialists and the general public (Bogoslaw, 2013).

FiRe (Financial Reporting) Award that was propelled by ICPAK, CMA and the NSE in November 2002 is the main Award of its sort in East and Central Africa that advances and organizes straightforwardness, respectability, and responsibility in the money related detailing process by conforming to International Financial Reporting Standards (IFRS), International Public Sector Accounting Standards (IPSAS), the CMA Guidelines on corporate administration, and advancing exposures on social and natural activities by private, open and different substances situated in East Africa. The ongoing affirmation by Kenya's National Treasury through the Public Sector Accounting Standards Board on government's responsibility to partake in the honor may upgrade the utilization of practical bookkeeping the board instruments for revealing in the nation, (Fowler and Hope, 2009). Until organizations are esteemed in an alternate manner that is, based on their social and natural impacts just as their monetary presentation, nothing will change except if ordered by law. Key changes in the idea of business may at last be fundamental if future ages would like to live in a prosperous, evenhanded and supportable society (Dempsey, et al., 2011).

Numerous studies have been recently directed on the utilization of SMAT instruments; a dominant part of them being in Europe. For example, Passetti, Cinquini, Marelli and Tenucci, (2014) found that the utilization of SMAT apparatuses is very low in Italy and presumed that the field was still in all respects generally new in the district. Carlsson, 2017 studied how every now and again SMAT instruments were utilized by Swedish recorded organizations and for what reason and inferred that they were utilized at a low to direct recurrence. As per his discoveries, low reception was chiefly because of low consciousness of the instruments and the way that a portion of the apparatuses were consolidated into traditional devices. An alternate report on mindfulness and use of SMAT apparatus in Small and Medium Enterprises in Germany inferred that regardless of the way that the dimension of utilization and attention to these devices was low, there was a positive connection between the two factors (Johnson, 2012).

In East Africa, constrained examinations have been done with respect to use of SMATs. Be that as it may, explore has been made on natural administration frameworks and practices in Kenya. For example, an investigation was directed to decide the elements impacting selection of Environmental Management Accounting rehearses among assembling firms in Kenya. The investigation looked to set up the dimensions of selection of EMA practices and thusly test their reception against elements recognized (Wachira, 2014). An alternate report was led to set up corporate natural revealing among openly recorded organizations at the Nairobi Securities Exchange and its association with Corporate Financial Performance (Mbuthia, 2016). The study found a positive connection between these two factors regardless of the dimension of corporate ecological announcing being low. In an alternate report on the components affecting use of ecological administration framework ISO 14001, it was presumed that an apparent advantage assumed a noteworthy job in selection of the apparatus (Kairu, 2014).

The degree to which these associations execute sustainable management accounting devices and in this manner contribute towards manageable advancement is anyway controlled by its spurring factors. Bansal and Roth (2000) list aggressiveness and legitimization as spurring factors for manageable business improvement while Darnall (2003) records administrative weights, advertise weights and social weights. Epstein (2008) contends that administration guideline, partner weights and financial benefit are the helpers for feasible improvement. Windolph, (2014) entireties these up and bunches

these propelling components into three classifications; legitimacy, market success and internal improvement.

Legitimization, otherwise called endorsement or adequacy, is an organization's interest to be seen as legitimate or attractive or to be esteemed fitting inside some societal standards, qualities and convictions (Suchman, 1995). It is because of weight structure societal partners and manageability related laws that view supportable advancement as an esteem (Bansal, 2005). Market achievement is an inspiring component since market partners, that is customers and speculators, compensate the organization through buys and venture choices (Dunphy *et al*, 2007). Organization improvement alludes to streamlining of internal procedures within an organization and the related costs investment funds.

When assessing the going-concern of an organization, all assets utilized and influenced by the organization are considered, including social and the human resources. Consequently, if reasonable improvement is to add to the going-concern of the said organization, it is just basic that appropriate sustainability management devices be joined into the majority of the organization's practices to proficiently assess the natural and social effect on the organization (Chris and Burritt, 2013).

Thusly, there are many much established contentions to help a review on the dimension utilization of sustainability management tools in East Africa and the spurring factors that influence this application.

1.2 Statement of the Problem

Money related bookkeeping and reporting instruments have been vigorously condemned for their generation of untruthful and deficient data just as for their utilization by the management to persuade partners regarding the validity of corporate supportability execution when such isn't the situation (Deegan and Unerman, 2011; Gray and Bebbington, 2000; Rayman, 2007; Omran, 2015;).

An overemphasis on fiscal estimation in connection to biological and social effects of an organization can prompt a fragmented picture of chances and dangers (Schaltegger and Burritt, 2000). All things considered, ordinary budgetary bookkeeping is intensely condemned for not encouraging a comprehension of corporate environmental effects. Such analysis has prompted the need for an extra exposure of environmental and social execution and offsetting these exercises with monetary execution (Figue, Hahn,

Schaltegger, and Wagner, 2002; Schaltegger and Dyllick, 2002). McKernan (2007) sees that the prioritization of the shows and guidelines of bookkeeping appears to have endorsed a general disregard of the advancement of genuine shared understandings of business life. Such understandings are a center part of the sustainability management accounting devices and reporting plan to speak to corporate environmental and social effects and impacts so as to energize attention to their pertinence to business life and to all partners.

Subsequently as the present business condition turns out to be progressively focused, business organizations are ending up increasingly forceful and dynamic in recognizing instruments that will guarantee gainful presence. Rivalry ascribed to business advancements, progression in innovation and the changing interest also may urge the business attempt to create apparatuses that will direct an organization towards expansion of benefits and minimization of expenses in light of every one of partners' needs.

Over the most recent two decades, maintainable business, corporate social obligation and feasible administration have encountered expanding consideration both in writing and in experience (Scherer and Palazzo, 2011). Past research has presented the dimension of utilization of various natural devices and the components impacting their usage within the East Africa (Kairu, 2014; Mbuthia, 2016; Wachira, 2014). Different studies have concentrated on the use of the management accounting instruments most particularly in the assembling businesses (Makau, Wawire, and Ofafa, 2013; Mugambi, 2010; Wairegi, 2011; Waweru, 2012). Be that as it may, constrained investigations have investigated spurring elements and dimensions of selection of sustainability management accounting tools in East Africa which structures the premise of this study. This study looks to examine an expansive arrangement of sustainability management devices and recognize propelling variables that impact their application. The research likewise tries to clarify the connection between these spurring factors and the dimension of use of SMATs.

1.3 Research objectives

1.3.1 Main Objective

This study sought to identify the level of application of sustainability management tools and the motivating factors affecting their application among corporations in East Africa.

1.3.2 Specific Objectives

1. To establish the level of application of Sustainability Management Accounting Tools among corporations in East Africa.
2. To establish the effect of motivating factors on the level of application of Sustainability Management Accounting Tools in East Africa.

1.3.3 Research Questions

1. What is the level of application of SMAT among corporations in East Africa?
2. What is the relationship between motivating factors and the application of SMAT among corporations in East Africa?

1.4 Scope of the study

This research was constrained to organizations in East Africa that distribute their reports in the GRI database and in understanding to the GRI models. This rule was chosen as this stages gives the non-money related data distributed by organizations in a freely available stage. The research study concentrated on all organizations in the locale trying to see the variety of the utilization of SMATs and their spurring factors paying little respect to the extent of the organizations or their industry.

The East African Community comprises of 6 partner states: Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda (EAC Partner States). Nonetheless, with the end goal of these investigation, South Sudan and Burundi was excluded in the research study. This is on the grounds that no organization from South Sudan has distributed their report with the GRI revelation database and the report from Burundi is in French. Accordingly, this investigation concentrated on organizations in Kenya, Uganda, Tanzania and Rwanda that have distributed their reports for the year 2017.

1.5 Significance of the study

This research study will be useful to organizations hoping to create and actualize maintainability the executives' methods, key faculty accountable for manageability in

organizations, sustainability administering and regulatory bodies and scholastic researchers as well.

1.5.1 Policy Makers

Despite the fact that sustainability accounting and reporting is certainly not an obligatory work on, overseeing and regulatory bodies will almost certainly distinguish which apparatuses are utilized most or least and why. The study subsequently gives knowledge on the portion of the difficulties organization faces in the usage of SMATs, in this manner recognizing specific areas that should be enhanced.

1.5.2 Practitioners

Organizations will get knowledge on SMATs at present being used in the regions just as their dimension of use. They will most likely position themselves dependent on their mindfulness and dimension of utilization. Organizations will likewise have the option to recognize inspiring variables for use of SMATs.

Key representatives accountable for Organization's supportability adventures will almost certainly recognize which instruments are most ordinarily utilized in the area and why. They will likewise have the option to recognize difficulties looked in use of said instruments. This research study likewise educates them in regard to instruments accessible for the application in the area.

1.5.3 Researchers

This research study will include onto the hypothesis of sustainability management accounting instruments among the developing nations by in this manner concentrating on the act of partnerships in East Africa.

It will expand on the assemblage of information with respect to utilization of SMATs in East Africa and the components influencing it.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

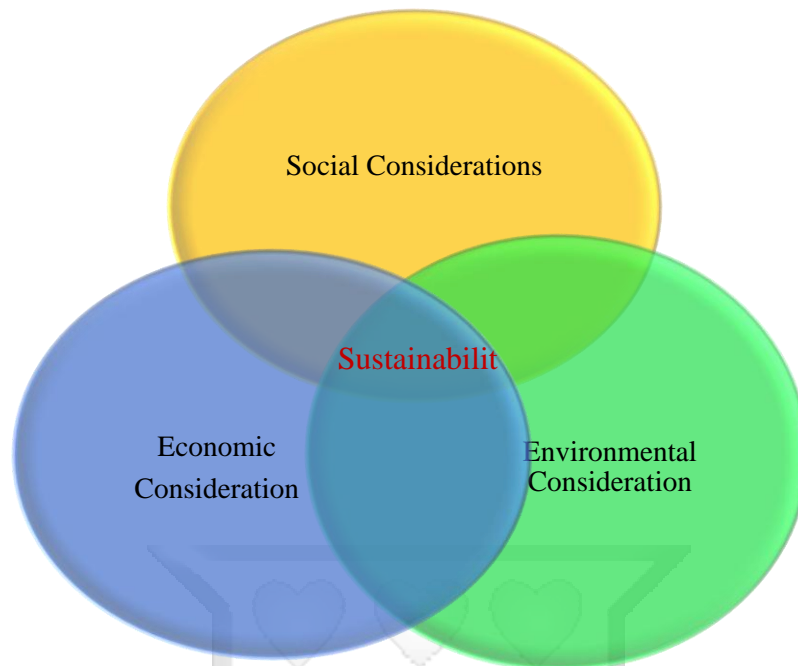
This part introduces literature review on the use of sustainable management accounting instruments among enterprises in East Africa and the diverse propelling variables affecting their application levels. The territories considered significant for the review incorporate the theoretical review, the empirical review, the exploration research gap and the conceptual framework as well.

2.1.1 The Concept of Sustainability Management

"Our Common Future" by the Brundtland Commission in 1987 characterized and promoted the term sustainable advancement. The report characterized it as an 'improvement that addresses the issues of the present without bargaining the capacity of future ages to address their very own issues.' (World Commission on Environment and Development, 1987) Since at that point, the job organizations need to play in this worldwide objective has been broadly discussed thus have the methods for their practical administration (Neubert and Dyck, 2016). Notwithstanding, decision of the management systems is reliant on the meaning of corporate sustainability. In that capacity, corporate sustainability has been characterized as an association's capacity to sustain and bolster its development over some undefined time frame, typically long haul, while successfully addressing the requirements and desires for various partners (Szekely and Knirsch, 2005). The Un Global Compact Guide characterizes it as an organization's conveyance of long haul an incentive in budgetary, ecological, social and moral terms (United Nations Global Compact, 2014).

Despite the definition, a typical view is sustainability's materialness to three components in business, that is, monetary contemplations, natural contemplations and social contemplations: the triple primary concern of maintainability (Arowoshegbe and Uniamikogbo, 2016). With the end goal of this examination, corporate manageability will be characterized as an organizations' capacity to sustain and bolster its long haul objectives while improving financial, natural and social personal satisfaction of every one of its partners.

Figure 2.1: Conceptual Framework



Source: (OECD Guidelines for Multinational Enterprises, 2008)

For corporate sustainability to be accomplished, associations must join its standards into their day by day endeavors. This implies associations must reclassify their frameworks and procedures so as to completely consolidate corporate manageability standards and measures. This implies a report on their administration systems.

Supportability the executives tries to completely address four difficulties: the environmental test, the social test, financial test and the mix challenge (Schaltegger, 2002).

The natural test alludes to the weight an organization's procedures, items, administrations and ventures put on the earth (Schaltegger, 2002). The check used to quantify how adequately a partnership's endeavors address its natural difficulty is known as biological viability (Schaltegger, 2002). Natural adequacy is subsequently how much an organization limits its ecological effects

The social test involves guaranteeing the presence and accomplishment of an organization while guaranteeing that said organization considers the decent variety of social, social and individual social requests. Organizations are a characteristic piece of the general public and all things considered, social adequacy is accomplished when an organization figures out how to decrease its negative social effect and furthermore builds its positive social effect and advantages.

The monetary test looks to advance social and eco-productivity while keeping up esteem creation in business exercises (Carlsson, 2017). Customarily, financial test sort to raise investor esteem while expanding benefit however the monetary maintainability challenge looks to make natural administration and social administration as monetary as could be expected under the circumstances.

The joining challenge is isolated into two sections. The first being the consolidating and palatably meeting the three difficulties and furthermore, the reconciliation of social and monetary strategy into ordinary administration rehearses (Carlsson, 2017)

2.2 Theoretical Review

A large number of the models and theories have been drawn which aim to uncover the factors that will influence implementation of the sustainable development among organizations in the world. In this research two theoretical perspectives that have influenced research on application of SMAT have been reviewed to be able to give a background for interpreting the very large and broad body of the longitudinal data and also to be able to assist in the development of an integrative framework.

2.2.1 Legitimacy Theory

The legitimacy hypothesis, similar to various different speculations, for example, political economy theory and partner theory is viewed as a frameworks situated hypothesis. Within a frameworks oriented point of view, the ethnicity is thought to be impacted by and thusly to have impact upon the general public in which it works (Deephouse and Suchman, 2008). Corporate bookkeeping strategies and apparatuses are considered to speak to one significant methods by which the administration can impact outer observations about their organizations.

The concept of authenticity can be straightforwardly identified with the idea of an implicit understanding, predictable with the view that organizations are a piece of a more extensive social framework, authenticity theory accept that organizations are not considered to have any innate appropriate to assets, or actually, to exist. Organizations exist to the degree that the specific culture thinks about that they are real and if so, the general public gives upon the organizations the condition of authenticity. Implicit agreement exists among enterprises and individuals from the society (Deegan and Unerman, 2011). Authenticity hypothesis straightforwardly depends upon the idea of "implicit agreement". In particular, it is viewed as that an Organization's survival will

be compromised if society sees that the organization has ruptured its implicit agreement. Where society isn't fulfilled that the organization is working in a worthy or real way, the general public will viably repudiate the organization's agreement to proceed with its tasks.

This may be confirmed through shoppers decreasing or taking out interest for the business results of the organization, factor providers take out the supply of work and monetary funding to the organization, or constituents campaigning the legislature for expanded expenses, fines or laws to deny those activities which don't adjust to the desires of the general public. Authenticity hypothesis would propose that at whatever point supervisors think about that the supply of the specific asset is essential to the organization survival, at that point they will seek after techniques to guarantee them to proceed with supply of the asset. Such systems may incorporate focused disclosures, or may be, controlling or working together with different parties who in themselves are viewed as real (Fiedler et al., 2002).

Legitimacy hypothesis is in this way connected to the present study since it will comprehend the business' conduct in actualizing, creating and conveying sustainable management accounting apparatuses. The authenticity hypothesis will help in establishing a framework for satisfying the Organization's implicit agreement, which will empower the acknowledgment of its principle targets. This along these lines thus will require the selection of SMAT that will influence the different territories of the business usefulness which incorporates into specific the administration bookkeeping instruments. In this manner the theory endeavors to lay accentuation on the maintainable administration bookkeeping and that it is a significant instrument of authenticity for a socially mindful organization.

Legitimacy theory is further important to this research since the primary suspicion of authenticity hypothesis is satisfying the organization's implicit agreement, which empowers the acknowledgment of its center business destinations. This in this manner requires the selection of a system that will influence the different territories of action, incorporating into specific reasonable administration bookkeeping devices. The current research paper draws a contention from writing to recognize the job of the authenticity theory in the management accounting apparatuses. This theory is connected to the

investigation since sustainable management accounting is a profitable instrument of authenticity for a socially mindful organization or a business adventure.

2.2.2 Institutional Theory

Institutional theory depends on the presumption that the outer and inward universe of an organization is what is abstractly comprehended or seen by individuals in those associations. That is, the administration's point of view is affected by societal standards and desires, which leads them to see the world with a certain goal in mind and thus act in the like manner (Raynard *et al.*, 2015).

DiMaggio *et al.* (1983) first connected institutional hypothesis in clarifying selection of environmental administration practices where they contended that coercive powers, explicitly guidelines and administrative implementations have been the principle drivers of environmental management practices. They contend that organizations that offer the equivalent a similar organization field are influenced in comparable ways by institutional powers originating from them.

Windolph (2013) proposes that institutional theories may have a higher informative power as to reception of corporate supportability measures. He contends that a ton of issues in regards to corporate maintainability produce a higher open concern prompting higher institutional weights (Bansal, 2005, Windolph, 2013).

Institutional theory may give a more profound clarification of the components that influence execution of SMATs. The Institutional theory is in this manner important to this examination since the theory takes care of the more profound and stronger parts of social organization structures. This theory is suitable for this study since it considers the procedures by which the structures, including plans, standards and the schedules become built up as legitimate rules for social conduct which will influence the general achievement and advancement of the organization.

Further this theory brings to the fore, the way that the business world is a universe of the directors both the outer and inner condition of organization. The theory additionally endeavors to clarify the practices of the Managers which is basically a discerning expository approach to comprehend the accounting scene. In end the Institutional Theory is additionally founded on an elective arrangement of suspicions that middle on the idea of environmental development that is the outside and inward universe of organization which is what is emotionally comprehended or rather being seen by

individuals in those organizations. This theory therefore is at the center of the effective execution of the feasible administration accounting instruments for the money related manageability of the business enterprises.

2.3 Empirical Review

This segment talks about existing studies as far as sustainability management accounting devices and a portion of the motivating elements behind their application. The main segment talks about sustainability management, its beginning and its motivation in the present economy. The other segment gives a rundown of apparatuses at present being used while the following outlines finding in research concerning utilization of SMAT. Persuading variables are then talked about prompting improvement of the exploration speculation. By and large, this segment has been composed dependent on the goals of the investigation which are to recognize the dimension of use of SMATs among organizations in East Africa and furthermore to distinguish the motivating components that influences the dimension of use of SMAT in East Africa.

2.3.1 Application of the Sustainable Management Accounting Tools

The management instruments have been characterized as frameworks, techniques, controls and applications utilized by an organization to empower them to deal with changing markets and conditions while keeping up an upper hand and improving organization execution. Along these lines, manageability the management tools are frameworks, techniques, controls and applications which are used to deal with maintainability related issues by organizing, sorting out and estimating data, conveying this data, creating and characterizing better procedures and structures that improve the Organization's presentation (Windolph, Schaltegger, and Herzig, 2014).

It involves compelling control of environmental and social parts of a business while all the while coordinating social and environmental administration into traditional administration Practices (Johnson, 2012). A wide cluster of sustainability management devices has been proposed in writing to support directors and workers measure, oversee and convey supportability issues (Biebeler, Mahammadzadeh, and Selke, 2005; Epstein, 2008; European Commission, 2004; Hahn and Scheermesser, 2006; Leiber, and Muller, 2002; Schaltegger, Herzig,; Tencati, Perrini, and Pogutz, 2004; Waddock

Et al., 2002.). These apparatuses help them to coordinate environment and social viewpoints into ordinary administration practices.

SMATs as a rule addresses the different parts of environment and socially stable organizations. For example, ecological administration frameworks and devices enable organizations to methodically deal with environmental issues and furnish the organization with clear rules on the moves to be made to improve environmental execution. Environmental management frameworks like SA 8000 anyway help said organizations in light of social administration issues and give rules on the most proficient method to enhance social execution (Scherer and Palazzo, 2011). Probably the most usually utilized instruments include: Bluesign, Eco-the executives and review plot, ISO 14001:2015, ISO 50001, OECD Guidelilines for Multinational Enterprises, UN Global Impact, UN Sustainable Goals and ISO 26000:2010.

Bluesign is a framework that goes for limiting environmental effects in the whole material store network (Bluesign, u.d.). It utilizes a beginning stage point of view and tracks production through five center standards, that is, asset efficiency, shopper security, water emanations, air outflows and occupational health and safety ("Vision," n.d.). It is generally utilized in Asia, Australia, Europe and North America.

Eco-Management and Audit Scheme is an intentional environmental administration instrument dependent on ISO 14001. It was created by the European Commission and applies to each of the 27 EU part states. ISO 14001:2015 plots out a structure that can be utilized by an organization in building up an ecological management framework. It is being used in 171 nations worldwide and has issued more than 300,000 accreditations (ISO site) incorporating to organizations in Kenya, Uganda and Tanzania.

ISO 50001 – Energy Management empowers organization in all the divisions to be more energy productive by building up an energy management framework. It is an adaptable device that can be connected by all organizations paying little heed to measure, culture, geographic and social conditions. OECD Guidelines for Multinational Enterprises are rules by a group of 30 governments that give willful standards and principles to responsible organizations. They expect to guarantee that tasks of these organizations are in accordance with government approaches.

The UN Global Compact is a set of 10 standards set out by the UN under their four topics: human rights, work, environment and anti-graft practices (UN Global Impact,

2014). It supports organizations to work together dependably by adjusting their procedures and activities to its standards and to make key move to progress more extensive societal objectives, for instance, the UN Sustainable Development Goals. UN Sustainable Development Goals are a set of 17 objectives created by the UN to advance maintainable improvement (UN, 2019). ISO 26000:2010 – Social Responsibility explains what social obligation is in this way giving direction to organizations and institutions on how they can make an interpretation of their standards into viable activities. It has seven center subjects: human rights, work practices, organizational administration, consumer issues, environment, community and advancement and reasonable working practices.

While environmental and social tools have for some time been being used, they just contribute halfway to all components of sustainability accounting. Effective sustainability management must join all components of supportable improvement, that is, ecological, social and financial viewpoints. In that capacity, effective sustainability management instruments should likewise incorporate every one of these perspectives. They ought to be instruments with an integrative spotlight on connecting and adjusting ecological, social and environmental parts of the management (Schaltegger et al., 2007).

A portion of the apparatuses utilized in literature that join all element of sustainability management are GRI Standards/GRI 4. GRI is by a wide margin the most normally utilized and believed standard for sustainability reporting. The gauges help associations and governments to impart and comprehend the effect of their exercises and procedures on sustainability issues. A portion of its particular qualities incorporate multi-partner input, the guidelines look to completely consolidate the requirements everything being equal. The guidelines make it conceivable to make reports pertinent all around over all partner interests. A record of utilization and support, 92% of the world's biggest organizations report on their sustainability performance and 74% of these utilization the GRI guidelines to do as such as per the GRI site. The GRI database has more than 23000 reports utilizing the GRI measures and this is constantly developing. As the numbers increase, the fundamental focal point of the GRI is in improving the nature of the reports. Government reference and exercises, nations use GRI in their approaches and some admire GRI in formulating their arrangements and policies. GRI additionally has a long-standing joint effort with a few worldwide organizations, for example, the

UN, OECD, UNGC and the UN Working Group on Business and Human Rights. GRI is a non-benefit organization that goes for keeping up its independence. Shared advancement costs, the expenses and costs of creating GRI revealing direction is shared among numerous clients and supporters.

The Global Reporting Initiative distributed the GRI measures on October nineteenth, 2016 and associations were encouraged to apply these principles. Be that as it may, as from July 2018, it is required to the GRI benchmarks so as to be viewed as 'in agreement'. The GRI norms swap the G4 Guidelines for maintainability announcing. Nonetheless, the primary ideas, substance and necessities continue as before in the new measures. The main distinction important is the adjustment in structure and arrangement. While the GRI 4 rule was joined by a manual, the GRI Standards have the manual fused into the principles. This implies the GRI standard is one report instead of three in the GRI 4 rules. This should make it simpler for GRI to refresh singular principles all the time. The new measures additionally enable an organization to distribute reports in reference to relevant GRI gauges without fundamentally providing details regarding all parts of the norms.

Various studies have throughout the years created instruments to fulfill the goals of their exploration. For example, the Schaltegger apparatus utilized on an investigation on sustainability management in business ventures by the Federal Ministry of Environment, Nature Conservation and Nuclear Safety in Germany thought of a complete rundown of 46 devices (Schaltegger, 2002). The investigation gives a review of the apparatuses and instruments accessible in overseeing maintainable advancement and allocates them to their essential clients and to the difficulties they try to stand up to. It likewise gives a manual for how they ought to be connected (Schaltegger, 2002). Reference section 1 gives a rundown of these apparatus.

In another examination intended to research the mindfulness and utilization of sustainability management devices in SMEs in Germany, a rundown of 36 instruments was utilized. The devices concentrated on each of the four difficulties of economic advancement. This examination reasoned that regardless of the dimension of attention to most apparatus being low, there was a positive relationship among mindfulness and application. Apparently, increment in mindfulness would improve overall execution of the apparatuses (Johnson, 2012). Addendum 2 gives a rundown of these apparatuses.

In an alternate report by Windolph (2014), she built up a complete device containing 79 components. In her legitimization on the utilization of the instrument, she consolidated devices by various creators (Schaltegger et al. 2002: European Commission, 2004) and recently created integrative administration devices (Windolph, Harms, and Schaltegger, 2013). Index 3 gives a rundown of these instruments. Despite the fact that this writing demonstrates various devices that can be utilized and are utilized, look into on the utilization of these devices in East Africa is restricted.

2.2.1.1: Development of the study tool

SMAT have been embraced to different extents around the globe. For example, Carlsson, J. (2017) led an investigation on the recurrence of utilization of SMAT among Swedish recorded organizations. His examination depended on three possibility factors that is, size, industry and methodology and tried to research how these elements influenced the recurrence of utilization of SMAT devices inside three measurements: natural, social and integrative (See Appendix 4). From the investigation, it was presumed that formal utilization of SMA devices was low implying that maintainability issues were not all around incorporated into the bookkeeping frameworks of Swedish recorded organizations. Nonetheless, most organizations utilized at any rate on instrument in every one of the classifications. Organization size was found to essentially identify with recurrence of utilization while industry influenced utilization of natural devices however not social and integrative apparatuses. Extremely frail connection was found between organization technique and the utilization of SMATs. An alternate report on the mindfulness and use of manageability the executives devices in little and medium-sized endeavors in Germany distinguished 36 instruments that with potential application (Appendix 2). The investigation reasoned that the dimension of mindfulness was underneath 40% and 20% application level however a positive relationship existed among mindfulness and utilization of manageability the board devices (Johnson, 2012).

In an alternate report, 3 exact overviews were completed on enormous German organizations in 2002, 2006 and 2010 trying to dissect the learning and utilization of manageability the board instruments in Large German organizations. The investigation consolidated an aggregate of 76 Sustainability administration instruments as recorded in Appendix 3. This investigation additionally found a positive relationship among learning and use of SMA instruments. Use of said apparatuses was noted to have

expanded too in the time of the review (Schaltegger, Windolph, and Herzig, 2012). With the end goal of this examination, that is to discover the dimension of use of SMA instruments in East Africa, this investigation received 18 apparatuses from the different devices recorded in the writing. These arrangement of apparatuses tried to address each of the four difficulties of manageable improvement. They were likewise improved for areas that are not as versed in maintainability the executives bookkeeping as European locales seem to be.

Table 2.1: Summary of tools used in this study

Tool	Definition & Source
Environmental Budget	It determines funds allocated to cater to environmental issues in the next period. It also helps sets out environmental targets (Gray and Bebbington, 2001)
Environmental Cost Accounting	It accounts for direct and indirect environmental expenses to determine production costs for different products/services (Sanford & Vijge, 2008)
Environmental Life Cycle Assessment	It speaks to the environmental concerns of a product and their impact on the environment throughout its life-cycle (Schaltegger et al. 2002)
Environmental Performance Indicators	EPIs measure environmental issues and the linkages between the organization and the environment. They are represented by financial and non-financial data numerical data which provides key information about the organization's environmental concerns such as the environmental impact of its operational activities (Schaltegger et al. 2002)
Environmental Report	It is a corporate publication used to inform interested groups on issues of ecological relevance (Schaltegger et al. 2002)
Social Budget	This tool helps to determine the funds allocated to cater to social issues in the next period. It helps sets out the social goals (Schaltegger et al. 2002).
Social Performance Indicators	SPIs provide information in activities that can be regarded as socially effective and efficient. They are represented by numerical measures and provide key information on employee health and safety, equal opportunities, diversity management and social assessment of the products (Schaltegger et al. 2002).
Social Accounting	Describes accounting systems that provide information on the social benefits and social costs of business activities (Schaltegger et al. 2002).
Social Benchmarking	Continuous comparison of social performance with other organizations or sectors making it possible to assess the organizations own performance and implement a continuous improvement process (Schaltegger et al. 2002).
Social Report	It describes objectives, measures and achievements and resulting impacts of employees related and socially relevant activities of the company that wouldn't be covered by conventional accounting (Schaltegger et al. 2002)

Eco-efficiency Analysis		It develops and optimizes product characteristics and operational activities concerning the relationship between their economic value added, the use of natural resources and the firms objectives (Schaltegger et al. 2002)
Risk Analysis		Systematic method for forward-looking risk identification and assessment of potential future dangers and risks (Schaltegger et al. 2002)
Life-Cycle Assessment		It registers, evaluates and represents all impacts resulting from product, processes or the entire company (Schaltegger et al. 2002)
Quality Management System		A collection of business processes aiming at consistently meeting stakeholders' needs.
Sustainability Scorecard	Balanced	It integrates environmental and social aspects to the conventional Balanced Scorecard (BSC). It aims to identify, systematize and measure the strategic central economic, ecological and social objectives (Horisch & Schaltegger, 2015)
Sustainability Audit		It investigates interdependencies between environmental aspects, profitability and social aspects with the aim of revealing common and conflicting objectives (Schaltegger et al. 2002).
Sustainability benchmarking		Continuous comparison of sustainability performance with other organizations or sectors making it possible to assess the organizations own performance and implement a continuous improvement process (Schaltegger et al. 2002).
Sustainability Reports		It communicates a firm's environmental social and economic results to stakeholders in order to demonstrate the firm's commitment to sustainability issues and to increase its level of transparency (Johnson, 2012).

2.3.2 Effect of Motivating Factors on Application of SMAT

Supportability issues in regular bookkeeping practices have turned out to be significant since power relations between partners are continually evolving. With society changes, far reaching bookkeeping data ended up significant just as new gatherings of partners. Other than essential partners, as those that are legitimately influencing and influenced by the choices made by the organization (e.g. providers, clients, representatives and financial specialists), there are presently auxiliary partners, as those that are in the public arena influenced straightforwardly and by implication by the organization's choice (e.g. nearby networks, general society, business gatherings, media, social lobbyist gatherings, outside government and focal and neighborhood governments) (Goivannoni and Fabietti, 2014).

Subsequently, weight develops for financial exercises to be reflected through social and natural measurements. Social measurement mirrors an investigation of the impacts of an organization on its partners, and natural measurement is related with organization's effect, which is frequently estimated in physical (non-money related) units, and

introduced in maintainability reports, as a social and ecological execution pointers. Estimated and unveiled social and natural data turned into the premise great practice in SMA. Social component of contemporary manageability bookkeeping started creating in the United Kingdom in the mid-1970s (Schaltegger, 2002). This has prompted an expanding attention to SMA instruments, and the TBL of business achievement, estimating the business in its monetary presentation, however by its social and ecological effect also.

As an outcome, a few scientists contend that the SMA approach in bookkeeping essentially comprises of two perspectives, to be specific budgetary (or financial) and social exhibitions in which the ecological one is a piece of the social one (Falle et.al, 2016). Others contend that estimating and independently exhibiting organization's pledge to social duty will help improve its budgetary presentation by accomplishing benefits that include: long haul money related advantages from word related wellbeing and security activities (that is, investment funds on down time/spread, diminished protection premiums); improved staff maintenance from activities including staff, staying away from enrollment and preparing costs; assembling a notoriety that expands business and enables select to staff by working with your locale; an improved notoriety and client devotion when you demonstrate your clients trustworthiness and uprightness (Sustainable Business Network SBN, 2003).

Natural element of maintainability the executives bookkeeping is substantially more created in business practice than the social one. Numerous organizations, particularly in created nations, and particularly the huge ones, gather and utilize ecological information in basic leadership forms and reveal data identified with the indigenous habitat (for example natural records). After the WCED (1992) the accentuation is put on the job of ecological administration in accomplishing the destinations of the Agenda 21, and on the significance of natural data that organizations need to guarantee to the administration.

Agency (2011), expounds natural bookkeeping wording, clarifies the model of ecological expenses and proposes an idea for its application. Some natural expenses might be covered up in overhead records inside the bookkeeping condition should put extraordinary accentuation on catching of those costs that are a piece of things to come business choices. As indicated by the EPA's feeling, better administration of ecological

expenses can result in improved natural execution and noteworthy advantages to human wellbeing just as business achievement. Understanding the ecological expenses and execution of procedures and items can advance increasingly precise costing and evaluating of items and can help organizations in the plan of all the more naturally ideal procedures, items, and administrations for what's to come. Numerous organizations have found that ecological expenses can be counterbalanced by creating incomes through clearance of waste results or transferable contamination recompenses, or permitting of clean innovations (Sharma and Ruud, 2003).

Organizations that offer earth best items and administrations can increase upper hand, while representing natural expenses and execution can bolster an organization's advancement and activity of a by and large ecological administration framework. The fundamental advantages of ecological bookkeeping is the arrangement of base data for considering the genuine and potential financial results of natural issues and data that can encourage adjustment by business despite burden of new natural guidelines. It ought to be added new monetary instruments intended to impact natural results, help of an administration reasoning intended to make straightforward and energize monetarily invaluable proportions of ecological assurance and improved responsiveness to ecological issues raised by partners (Schaltegger and Buritt, 2000).

Since the obligation of supervisors is to advance the monetary exhibition of an organization in short and long haul, since social and natural issues must be consolidated in corporate arrangement and system, just as budgetary arranging (Cadbury, 2002). Partners, for example, speculators and lenders are worried about the corporate budgetary presentation on the grounds that higher monetary exhibition is expanding their riches. Along these lines, money related element of manageability the board bookkeeping is arranged towards investors as essential partners of an organization. As needs be, essential objective of an organization is to boost the investor's esteem. In this manner, the effective supervisors' center is to guarantee constant development of organization's benefit (Adler et al., 2000).

Windolph, (2012) classifies persuading factors for use of SMAT into three: looking for authenticity mostly because of partner weights, needing to make market progress through ecological administration and advancing procedures and diminishing expenses through inner improvement.

An organization is viewed as real if its activities are seen as attractive and suitable against societal standards and qualities (Deegan, 2002). An organization accomplishes authenticity in the event that it can agree to ecological and social guidelines and law (Epstein, 2008). Societal partners impact an organization by giving secure access to assets, for example, work, capital or the readiness to purchase merchandise and enterprises, to organizations that consider partner interests (Windolph, 2013). Infringement of partners' interests may prompt awful press from the media and in this manner an awful picture for the organization.

Since the idea of the TBL was authored by John Elkington in 1995, the patterns of organizations considering the enthusiasm of various partner gatherings have been expanding. Organizations began to utilize SMA instruments for estimating and detailing money related, just as social and ecological execution. Shockingly, in spite of the developing notoriety of SMATs and TBL in the business network, there is right now an absence of clearness and agreement with respect to what comprises the partner measurement of TBL (Arowoshegbe and Uniaikogbo, 2016).

At a worldwide dimension, there are a few norms and rules intended to gauge the partner measurement of TBL (for example GRI Guidelines and UN Commission on Sustainable Development Framework). While these rules give expansive heading in the kinds of issues significant for the social measurement, they give minimal commonsense direction about how associations ought to characterize or quantify social issues (Arowoshegbe and Uniaikogbo, 2016). The absence of a basic and doable apparatus with which to gauge partner sway, and without a concurred set of quantifiable principles and focuses on, actually the partner segment of SMA devices may demonstrate to establish minimal more than great antiquated single primary concern in addition to dubious duties to social and ecological concerns (Neubert and Dyck, 2016).

Market success can be depicted as an expansion in turnover, intensity, brand value and advancement (Bansal, 2005). Current market patterns have a noteworthy impact in spurring use of SMATs in light of the fact that clients and customers contemplate the natural and social parts of an association making them an aggressive factor (Windolph, 2013). Work and capital markets are additionally progressively considering ecological and social perspectives particularly while settling on speculation choices.

Sustainability accounting ought to give data to vital administration, along these lines it must utilize the instruments of key bookkeeping (Raynard et al., 2015), and to escape thin structure that offers money related bookkeeping (benefit and misfortune account). Monetary bookkeeping data must be exhausted and improved by supportability the executives bookkeeping devices. Sustainability accounting and revelation is expected as a supplement to money related bookkeeping, with the end goal that monetary data and manageability data can be assessed one next to the other and give a total perspective on an enterprise's exhibition and esteem creation, both budgetary and non-budgetary, and over all types of capital (SASB, 2013). These days, they speak to a standout amongst the most significant administration instruments for each organization.

2.4 Empirical Studies/Research Gap

This area surveys different investigations which have been done as such far, both locally and internationally and hence will exhibit briefly the current Knowledge gaps for the present research.

Adler, Everett, and Waldron (2000) did a survey that asked management accountants, in New Zealand manufacturing organizations, to demonstrate the systems received in their business. While numerous examinations have concentrated on specific methods, for example, ABC or target costing, Adler et al. given a poll that incorporated an immense range of the management accounting methods to give a fuller arrangement of reaction choices. Respondents were approached to rank management systems on a five-point scale "from most used to least utilized". A judgment inspecting technique was picked to accomplish a reaction rate of 19% that gave 165 finished surveys. Customary management accounting strategies, for example, full costing, direct costing and standard costing were observed to be utilized more regularly than the advanced management accounting procedures, for example, vital management accounting. The research conducted by Adler et al. (2000) is commonly predictable with the absence of reception of advanced management accounting methods as expressed by Hawkes et al. (2003) contemplates, yet conflicting as for individual strategies. It was discovered that organizations in Australia received ABC, and cost of value methods and furthermore that enormous firm were bound to utilize present day accounting procedures.

In Africa, Salawu et al., (2012) completed a study of Activity Based Costing Adoption Among Manufacturing Companies in Nigeria. The examination uncovers that

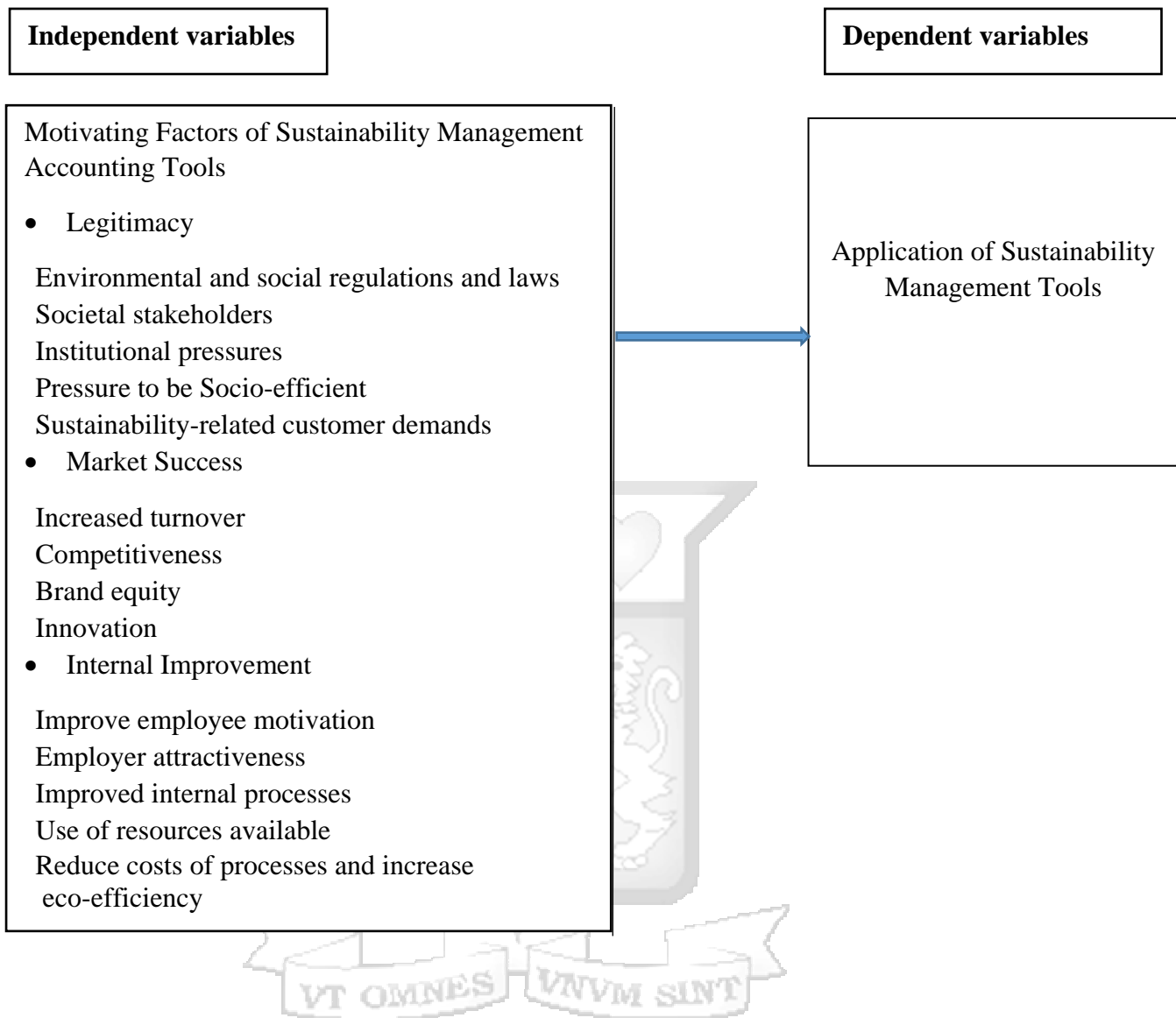
powerlessness of the customary cost frameworks to give significant expense was the most exceedingly positioned reason in their choice to embrace ABC. Customary strategies for assigning overhead were along these lines accepted to be inadequate as far as improving worldwide aggressiveness. Additionally, 60% of the respondents have embraced ABC because of expanded scopes of items, rivalry and expanded overhead. Nature with and selection of ABC was observed to be over the assembling, the greater part of the sample knows about it. The 40% of respondents who have not embraced ABC referred to the expense and unpredictability required with usage as the fundamental reason in non-adoption. Nonetheless, cost of actualizing ABC was huge which ruin the little scale produced from receiving it. This outcome may mirror the way that bigger firms are bound to have the assorted blend of items or administrations that utilizes ABC preferences. Thusly, the examination prescribes that the organizations who have not embraced ABC in light of its surprising expense of execution should attempt to consider its selection on the grounds that over the long haul the advantages get from it will exceed its expense. It distinguishes wasteful items, divisions and exercises and dispenses more assets on beneficial items. Taking everything into account, the senior management ought to likewise be give their most extreme help to the execution and accomplishment of ABC.

2.5 Conceptual Framework

A conceptual framework categorizes and describes concepts relevant to the study and maps the relationship among them (Rocco & Plakhotnik, 2009). This research will begin by finding out the level of application of SMATs in East Africa. This will help to group companies into 3 groups: low application, moderate application and high application

Then we will investigate what factors affect the application of SMATs in organizations. Lastly, the study will seek to find out if there is a relationship these motivating factors and the level of adoption.

Figure 2.2: Conceptual Framework



2.5.1 Operationalization of Variables

The Operationalization framework consisted of a systematic elaboration of how the dependent and independent variables were measured (Appendix 7).

Table 2.2: Operationalization of Variables

Variable	Variably Type	Measurement	Type of Analysis
Application of SMAT	Dependent	<p>List of all tools as in Table 2.1</p> <p>Environmental Tools: Environmental Budget, Environmental Cost Accounting, Environmental Life Cycle Assessment, Environmental Performance Indicators, Environmental Report</p> <p>Social Tools: Social Budget, Social Performance Indicators, Social Accounting, Social Benchmarking, Social Report</p> <p>Economic Tools: Eco-efficiency analysis, Risk analysis, Life-cycle Assessment, Quality Management System</p> <p>Integrative tools: Sustainability Balance Scorecard, Sustainability Audit, Sustainability Benchmarking, Sustainability Reports.</p>	<p>Descriptive s</p> <p>Frequency</p> <p>Percentage</p>
Legitimacy	Independent	<p>Environmental and social regulations and laws</p> <p>Societal stakeholders</p> <p>Institutional pressures</p> <p>Pressure to be Socio-efficient</p> <p>Sustainability-related customer demands</p>	<p>Descriptive</p> <p>Frequency</p> <p>Percentage</p> <p>Means</p> <p>Inferential Statistics</p> <p>Regression</p>
Market Success	Independent	<p>Increased turnover</p> <p>Competitiveness</p> <p>Brand equity</p> <p>Innovation</p>	<p>Descriptive</p> <p>Frequency</p> <p>Percentage</p> <p>Means</p> <p>Inferential Statistics</p> <p>Regression</p>
Internal Improvement	Independent	<p>Improve employee motivation</p> <p>Employer attractiveness</p> <p>Improved internal processes</p> <p>Use of resources available</p> <p>Reduce costs of processes and increase eco-efficiency</p>	<p>Descriptive</p> <p>Frequency</p> <p>Percentage</p> <p>Means</p> <p>Inferential Statistics</p> <p>Regression</p>

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This Chapter talks about the methodology embraced by the analyst in getting and breaking down information. The investigation pursued a graphic research configuration fusing both subjective and quantitative information in satisfying the exploration destinations. The part is sorted out to pursue: research philosophy, research design, target population, sampling procedures, data collection methods, data analysis, research quality and ethical considerations.

3.2 The Research Philosophy

This examination embraced the Pragmatism reasoning. This theory was utilized to ask into the encounters of the use of the reasonableness the executives bookkeeping instruments in this investigation. Sober mindedness gave the fundamental philosophical system to blended strategy approach which was utilized in this investigation. As indicated by Sharma and Ruud, (2003) sober mindedness is the rationality of sound judgment. It utilizes deliberate human request as a point of convergence where request is seen as a proceeding with procedure which recognizes the subjective idea of human encounters as dangerous circumstances develop and are perceived. Acknowledgment includes the uncertainty related with addressing existing conviction frameworks. Uncertainty is settled through basic thinking and at last tried in real life. It is the theory of sound judgment, since activities are evaluated in light of commonsense outcomes. It is a logic of science with rationale of request at its inside. It is a sensible and legitimate method for getting things done or considering issues and managing explicit circumstances rather than thoughts and speculations (Crowther and Lancaster, 2008). Realists trust that the manner in which an individual sees wonders decides the manner in which the individual in question responds to it. In this investigation the manner in which the individual respondents saw the utilization of the SMAT impacted the manner in which their particular business adventures performed

3.3 The Research Design

A research methodology procedure is the manner by which research is done logically, accentuating the means that are considered in the exploration procedure to get understanding or distinguish an answer for an issue, alongside the rationale behind

those means (Trochim, 2006). This investigation concentrated on setting up the components that influence the use of SMATs among organizations in the East African locale. The investigation likewise utilized a blended techniques inquire about approach as it takes into consideration the gathering of both subjective and quantitative information which was utilized to improve the discoveries for this examination (Trochim, 2006).

An exploration configuration is an itemized framework of how an examination occurred. It regularly incorporates how information was gathered, what instruments were utilized, how they were utilized and the proposed methods for examining gathered information (Trochim, 2006). A graphic report is one that is directed in a network to find the degree of a scope of issues, for example, wellbeing, nourishment, training, and wrongdoing, among others (Mugenda and Mugenda 2013) As such the exploration structure for this examination was unmistakable with a philosophical investigation of the discoveries. In view of this plan the examination study took a gander at a certifiable philosophical issue, the elements influencing the use of SMATs among organizations in East Africa, by get-together data from organizations working in various social conditions over the area. The discoveries are illustrative of a specific wonder that of appreciating the effect of propelling variables on the dimension of use of SMAT.

3.4 Target Population and Sampling

This study concentrated on organizations in East Africa that have presented their non-fiscal summaries on the GRI site. This is essentially on the grounds that these organizations have made their money related and non-monetary reports open and all things considered, such data can be utilized for the apparent research study. The reports likewise give a contact individual to whom the questionnaires were routed to. Additionally, the GRI encourages organizations to arrange the standard of the report contingent upon the rules utilized in producing the report. As at January, 2019, a straightforward pursuit on the GRI site on the four nations created 44 organizations and 116 reports.

Testing means choosing a gathering that speaks to the whole populace. Inspecting was considered on the grounds that it lessens cost and assets that would have been utilized in examining the whole populace. It makes an examination progressively sensible regarding assets and guarantees that the goal of the investigation is secured also.

Because of the way that objective populace is little the investigation attempted an enumeration of the absolute target populace of forty-four (44) organizations. Statistics is the absolute count of the considerable number of subjects in the populace (Mugenda and Mugenda 2013).

The surveys were sent to the mid-level administrators since the mid-level chiefs were viewed as possessing the basic data required as to the components influencing the utilization of the SMAT. A straightforward pursuit on the GRI site on the four nations created 44 associations and further examination gave a disclosure of 119 mid-level chiefs, along these lines the surveys were conveyed to each organization giving an aggregate of 119 respondents who rounded out the poll. The surveys were conveyed by means of Google structures to mid-level directors in these organizations as they have better information of the executives' apparatuses fused by their associations and are more averse to be one-sided in contrast with upper management.

3.5 Data Collection Methods

The principle research instrument utilized in this investigation was a questionnaire. The information was acquired through the administration of the survey. Contact email and telephone number of the analyst was given in the presentation of the survey for enquiries and remarks. This was expected to build the reaction rate and get explanation from respondents who may not comprehend the survey completely. In building up the survey questions, the closed and open-ended inquiries were utilized. This arrangement is utilized in all classifications of the surveys. Be that as it may, in the fixed decision items, it includes "placing words" in the respondents' mouth, particularly when giving satisfactory answers, there is compulsion to stay away from genuine reasoning with respect to the respondent (Crowther and Lancaster, 2008). The respondent end up picking the least demanding option and gave less chances to self-articulation. It is a direct result of these reasons that it was important to adopt this arrangement of items with a couple of open ended reaction items.

3.6 Data Analysis

Reactions to question 1 on section B of the survey was utilized to satisfy the principal objective. To satisfy the main objective, examination of consequences of questions 1 and 2 in segment B of the questionnaire was directed. The outcomes demonstrate the dimension of use of the devices in Appendix 5 as expressed by the respondents.

To quantify the second objective, respondents were mentioned to fill in questions 3 and 4 in Section B of the survey. The area expected respondents to rank on a scale of 1 to 5, one being exceptionally low and 5 being extremely high, which motivating factors they feel have the most elevated effect on application of SMATs.

An average of score in factors i, ii, and iii would equate to score for legitimacy. An average of score in factors iv, v and vi would equate to score for market success while the average of scores vii, viii, ix and x would equate to score for internal improvement.

A regression model was then used to explain the relationship.

The regression model will be as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Y (SMAT Application) was the mean level of the application of Sustainability Management Accounting Tools

β_0 is the coefficient of regression. It predicts the relationship between SMAT Application and the respective variable.

X1 – Legitimacy

X2 – Market Success

X3 – Internal Improvement

$\beta_1, \beta_2, \beta_3$, – Each represented the change in marginal effect that follows change in unit change in the respective corresponding variable (X1, X2, X3,) holding other variables constant.

e = Error term

Co-efficient of Correlation. Correlation was utilized to see whether there is any relationship or co-change between the factors under the examination. The impact of the motivating elements was grouped into explicit focuses with roughly equivalent mentality esteem. The respondents to questions demonstrated the level of understanding or contradiction through their reaction. In view of the reaction of the considerable number of inquiries, the variables impacting use of SMA devices were resolved.

Chi Square Test. Chi-square test was conducted by the specialist as a goodness of fit, so as to know the relationship between the propelling variables and the use of SMATs among organizations in East Africa.

3.6.1 Diagnostic Tests

The study adopted the following diagnostic tests; the Multi-Collinearity Test which measured how much variables are related to other variables and how this affects the stability and variance of the regression estimates. The existence of multi-collinearity is a crucial problem in applying multiple time series regression model (Gujarat & Porter, 2009); testing for heteroscedasticity which was conducted using the Breusch pagan test; Normality test which was done using the Shapiro-Wilk test which has power to detect departure from normality due to either skewness or kurtosis or both; the test of independence which was also assessed through the Durbin-Watson test; test of significance which was done using the Pearson's correlation coefficients and finally the Analysis of Variance(ANOVA) which was done to test the significance of the regression model.

Further the study applied the one-sample Chi-square test on the Null hypotheses which were;

The study applied the one-sample Chi-square test on the Null hypotheses which were;

H₀₁: There is no positive relationship between legitimacy as a motivating factor and the level of application of sustainability management tools

H₀₂: There is no positive relationship between market success as a motivating factor and the level of application of sustainability management tools

H₀₃: There is no positive relationship between internal improvement as a motivating factor and the level of application of sustainability management tools.

The one-sample Chi-square test on the null hypotheses were rejected since the variables positively and significantly influence the Application of SMAT.

3.7 Research Quality

3.7.1 Reliability

In quantitative research, an examination is solid if the results of the study would be the same if they were repeated utilizing similar information and a similar technique. Reliability of the subjective information alludes to replicability of the procedures and results. In subjective research in any case, dependability alludes to the consistency of

the outcomes had the investigation been repeated in a similar research condition. A little inconstancy is permitted in subjective research yet not very wide to change the consequences of the examination.

As indicated by Payne and Payne (2004) the outer or inner dependability relies upon consistency. Dependability is basically an equivalent word for consistency and replicability after some time, over instruments and over gatherings of respondents while legitimacy is the thing that it indicates to quantify (Payne and Payne, 2004). There are four techniques, which can be utilized for surveying dependability: the test retest strategy, the other structure strategy, the split-half strategy, and the interior consistency technique (Crowther and Lancaster, 2008). Of these four strategies, inside consistency dependability is the most normally utilized in evaluating review instruments and scales and thus utilized for this investigation. Internal consistency is a marker of how well the various things measure a similar idea. This is significant since a gathering of things implying to quantify one variable ought to surely be plainly centered on that variable (Crowther and Lancaster, 2008). The Cronbach's alpha (α) is a dependability coefficient that demonstrates how well the things in a set are emphatically connected to each other. Generally, reliability coefficients of 0.70 or more ($\alpha \geq 0.70$) are viewed as great (Crowther and Lancaster, 2008) and will be the benchmark utilized for this examination.

Reliability analysis was in this way done utilizing Cronbach's Alpha which estimated the internal consistency by setting up if certain items inside a scale estimated a similar construct.

Table 4. 1 Reliability Analysis

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
Legitimacy	.772	.721	6
Market Success	.758	.732	5
Internal Improvement	.793	.775	5

Cronbach Alpha was established for every variable which formed a scale basically the objectives of the study. The table above shows that internal improvement factors on the

level of application of the SMAT had the highest reliability ($\alpha=0.793$), followed by Application of Legitimacy on the level of application of SMAT ($\alpha=0.772$) and the Market success factors on the level of application of SMAT ($\alpha=0.758$) This therefore illustrates that all the three scales were reliable as their reliability values exceeded 0.7 values.

3.7.2 Validity

Validity of research alludes to the propriety of the apparatuses, procedures and information of the examination. Research is said to be substantial or valid if it meets the ideal result, the strategy utilized answers the exploration questions, the structure compares to the system utilized, inspecting and information investigation is fitting and the discoveries of the examination suit the research setting.

3.7.3 Objectivity

A research is said to be objective if its findings are independent of the researcher's biases. The findings of the research should not be based on who did the research but rather on who did it.

3.8 Ethical Considerations

Ethics are the standards and principles that help recognize good and bad. Moral norms that were considered in directing this examination are: obscurity of respondents, privacy of data given, and the informed assent for data given. In the collection of the essential information, the analyst tries to guarantee that the character of the respondents is secured and no mischief is exposed to them. This examination additionally secures the secrecy of data given and guarantees that informed assent is given in advance. Auxiliary information was gathered from the public domain that is data that is accessible by general society. In that capacity, moral issues with respect to auxiliary information are negligible.

CHAPTER 4

DATA COLLECTION AND ANALYSIS

4.1 Introduction

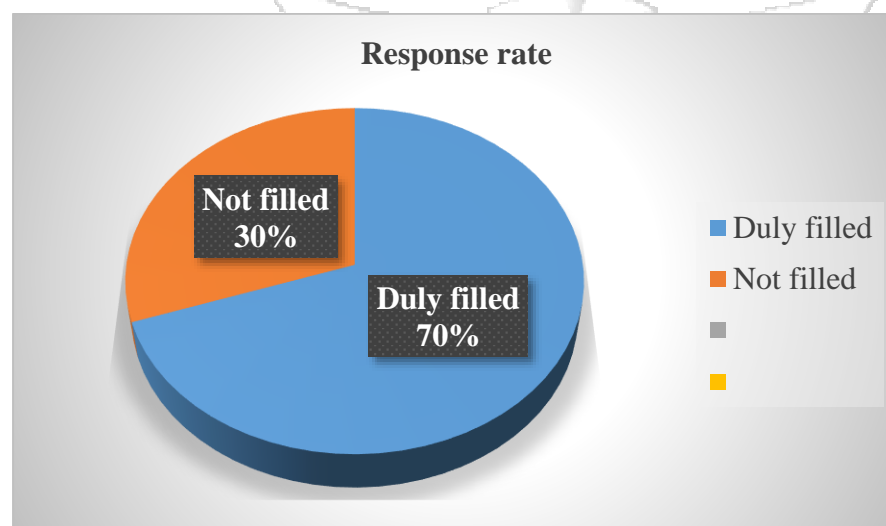
This chapter presents the analysis of study findings on the factors that influence application of SMAT in companies across East Africa, with focus on specific objectives which include: level of application of SMAT, motivating factors and level of effect of motivating factors. It analyses the variables involved in the study and estimates of the model presented in the previous chapter. The analysis is also organised based on the objectives of the study.

4.2 Presentation of the Findings

4.2.1 Response Rate

119 questionnaires were distributed to employees in mid-management levels in all the 44 companies out of which 83 were duly filled. This represents a 69.7% response rate. 36 questionnaires representing 30.3% of the total population were not filled. Saunders & Lewis, (2009) posits that an average response of 55.6% is adequate for an academic paper targeting organizational representatives.

Figure 4.1: Response Rate



4.2.2 Reliability of Data Collection Instruments

The investigation directed a reliability test to decide the internal consistency of the information acquired. Internal consistency strategy was favored as it gauges whether a

few items that propose to quantify a similar generally developed produce comparative scores along these lines a favored procedure of estimating reliability (Saunders, Lewis and Thornhill, 2009). Table 4.1 demonstrates that the scales were dependable as they outperformed a Cronbach Alpha limit of 0.7. The constructs of legitimacy' had an Alpha estimation of 0.772; market success' had an Alpha estimation of 0.758; and 'inward improvement' had an Alpha estimation of 0.775. Saunders, Lewis and Thornhill, (2009) express that Cronbach Alpha esteem Of 0.7 is the threshold for deciding reliability. Saunders and Lewis (2009) has demonstrated 0.7 to be an adequate reliability coefficient. They express a scale of $0.7 \leq \alpha < 0.9$ is good and a scale of $0.6 \leq \alpha < 0.7$ is acceptable.

Table 4.1 Reliability Test

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
Legitimacy	.772	.721	6
Market Success	.758	.732	5
Internal Improvement	.793	.775	5

4.2.3 Industry Characteristics

Table 4.2 shows the industry where the respondents worked. Most of the respondents worked in financial services industry (59.04%) followed by organizations in energy utilities section at 14.46%. This could be explained from the fact that organizations in the financial services and energy utilities sectors accounted for 70.45% of the total target population. Tourism industry accounted for 3.61% of the total population, Tobacco at 2.41%, Telecommunications at 3.61%, media at 6.02%, Household and Personal products at 2.41%, Food and beverages at 4.82% and Construction at 2.41%. Aviation came in last at 1.20% as shown in Table 4.2.

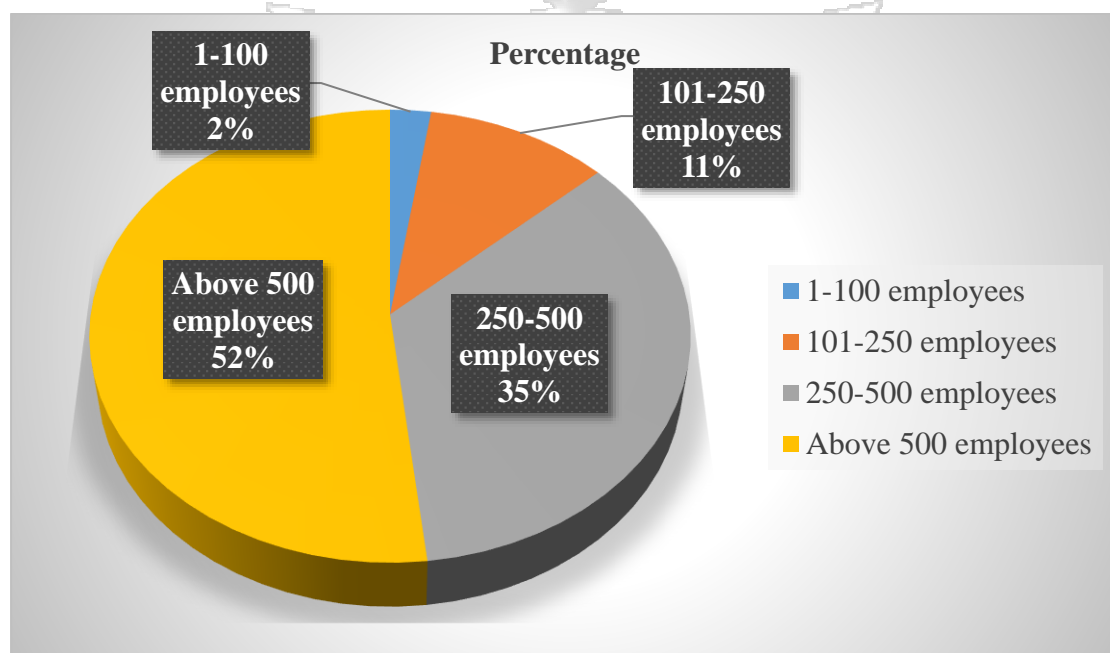
Table 4.2 Industry Characteristics

Industry Characteristics	Frequency	Percentages
Tourism	3	3.61
Tobacco	2	2.41
Telecommunication	3	3.61
Media	5	6.02
Household & Personal	2	2.41
Food and beverages	4	4.82
Financial Services	49	59.04
Energy Utilities	12	14.46
Construction	2	2.41
Aviation	1	1.2
TOTAL	83	100%

4.2.4 Size of the Organization

Figure 4.2 shows an analysis of the characteristics of the respondents based on the number of employees.

Figure 4.2 Organization Size



According to the respondents 52% of the organizations had more than 500 employees, 35% of the organizations had 250-500 employees, and 11% of the respondents company's employed 101-250 employees while only 2% of the organization's had between 1-100 employees.

4.3 Application of the sustainability management accounting tools

Objective one of the study sought to look into the levels of the application of sustainability management tools among the large farms in Kenya Companies in East Africa, the findings under this Objectives are presented in the following sections;

4.3.1 Sustainability management accounting tools used by the organizations

The first objective of this study was to establish the level of application of SMATs in East Africa. Guided by the scale of on a scale of 0 to 5, 0 being not in use and 5 being highly used, respondents were asked to rank use of the 18 tools identified in literature. Table 4.2 summarizes the findings showing both the frequency and the percentage of level of use of each of the tools.

Table 4.3 Application of SMAT among corporations in East Africa

SMAT		N.I.U	M.U	U	A.U	F.U	H.U.
Environmental Budget	%	2.4	34.9	41	16	4.8	1.2
Environmental Cost Accounting	%	2.4	20.5	39	22	13	3.6
Environmental Life Cycle Assessment	%	2.4	14.5	36	31	12	3.6
Environmental Performance Indicators	%	13.3	32.5	28	12	8.5	6
Environmental Report	%		13.3	30	28	23	6
Social Budget	%	12	30.1	12	15	23	4.8
Social Performance Indicators	%	10.8	33.7	28	21	7.2	
Social Accounting	%	2.6	10.8	28	31	20	8.4
Social Benchmarking	%		4.8	37	29	23	6
Social Report	%		3.6	21	34	24	18.1
Eco-efficiency Analysis	%	1.2	16.9	30	21	22	9.6
Risk Analysis	%		3.6	29	25	33	9.6
Life-Cycle Assessment	%		10.8	33	21	29	7.2
Quality Management System	%		15.7	25	33	21	6
Sustainability Scorecard	Balanced %	1.2	7.2	28	24	30	9.6
Sustainability Audit	%		15.7	34	21	22	8.8
Sustainability benchmarking	%	7.1	9.6	42	23	19	3.6
Sustainability Reports	%		16.9	22	22	25	14.5

Where,

N.I.U = Not in use, M.U = Moderately Used, U =Used, A.U = Averagely Used, F.U = Frequently Used, H.U = Highly Used. N.I.U represents a score of 0, M.U represents a score of 1, U represents a score of 2, A.U represents a score of 3, F.U represents a score of 4, and H.U represents a 5 score.

Based on the study analysis on Table 4.3 above it is evident that these companies moderately use, use and frequently use SMAT. The highlighted sections represent the highest rate of use for each of the variables. Sustainability reporting, Sustainability balanced Scorecard had the highest responses in frequently used. This could be explained by the use of GRI among respondents' organizations. However, Sustainability Audit and Sustainability benchmarking were simply used.

Environmental tools dominated the used criteria with the exception of Environmental Performance Indicators which were mainly moderately used. Social budgeting and Social Performance indicators were also moderately used but Social Accounting and Social reports were highly used. Integrative tools were average used with Risk analysis being highly used, Life-cycle assessment being moderately used and Quality Management Systems being used.

From this assessment, the most commonly used tools were Sustainability Reports, Sustainability Balance Scorecard, Risk Analysis, and Environmental Life-Cycle Assessment, Environmental Cost Analysis and Sustainability Benchmarking. This can be attributed to the push towards achieving holistic sustainability. It can also be seen that majority of the organizations, (41.0%) and (38.6%) use environment budgeting and environment cost accounting as a key SMAT. Other SMAT used by the companies are Environmental Performance Indicators (32.5% moderately Used), Social Budget (22.9.9% frequently used), Social Performance Indicators (33.7%, moderately used), Eco-efficiency analysis (30.1% use) Quality Management System (32.5% used) and Social Bench marking (37.3% moderate use).

4.4 Motivating factors on the Application of the SMAT

The second objective of the study was to find out the level of influence of motivating factors on application of SMATs from the respondents. Table 4.4 provides a summary of these findings.

4.4.1 Level of influence of the Motivating factors

Results of the study on Table 4.4 below shows that majority of the respondents stated the level of influence of the following motivating factors to be between low and high. Influence from environmental and social regulations and laws was at 33.7% high; Influence from societal stakeholders e.g. NGOs at 37.3% high; Institutional pressures e.g. pressure from trade unions and associations at 38.6% high; Pressure to increase ‘market success’ that is, increase turnover, competitiveness, brand equity and innovation at 38.6% low; Pressure to improve employee motivation and employer attractiveness at 39.8% moderate; Pressure to develop and promote products and services that meet sustainability-related customer demands at 48.2% moderate; Pressure to improve internal processes of the organization at 33.7% moderate; Pressure to better use resources available at 36.1% high; Pressure to reduce costs of processes and increase at 39.8% moderate and Pressure to be socio-efficient at 43.4% moderate.

Table 4.4 Level of Influence of Motivating Factors

Statement		V.L	L	M	H	V.H.
Influence from environmental and social regulations and laws	%	1.2	12.1	30.1	33.7	22.9
Influence from societal stakeholders e.g. NGOs	%	2.4	15.7	33.7	37.3	22.9
Institutional pressures e.g. pressure from trade unions and associations	%	4.8	7.2	30.1	38.6	19.3
Pressure to increase ‘market success’ that is, increase turnover, competitiveness, brand equity and innovation	%	10.8	38.6	31.3	16.9	2.4
Pressure to improve employee motivation and employer attractiveness	%	20.5	28.9	39.8	8.4	2.4
Pressure to develop and promote products and services that meet sustainability-related customer demands	%	2.4	3.6	48.2	25.3	20.5
Pressure to improve internal processes of the organization	%	8.4	25.3	33.7	18.1	14.5
Pressure to better use resources available	%	3.6	4.8	31.3	36.1	24.1
Pressure to reduce costs of processes and increase	%	4.8	7.2	39.8	30.1	18.1
Pressure to be socio-efficient (to reduce the organizations social impact)	%	6	18.1	43.4	18.1	14.5

Where,

V.L = very low, that is a score of 1

L = Low, that is a score of 2

M = Moderate, that is a score of 3

H = High, that is a score of 4

V.H = Very high, that is a score of 5

4.4.2 Factor Analysis

Further the researcher carried out factor analysis on the motivating factors affecting the application of the sustainability management tools

Table 4.5 Communalities

	Initial	Extraction
Influence from environmental and social regulations and laws	1.000	.977
Influence from societal stakeholders e.g. NGOs	1.000	.809
Institutional pressures e.g. pressure from trade unions and associations	1.000	.863
Pressure to increase 'market success' (increase turnover, competitiveness, brand equity and innovation)	1.000	.813
Pressure to improve employee motivation and employer attractiveness	1.000	.913
Pressure to develop and promote products and services that meet sustainability-related customer demands	1.000	.991
Pressure to improve internal processes of the organization	1.000	.990
Pressure to better use resources available	1.000	.945
Pressure to reduce costs of processes and increase eco-efficiency	1.000	.873
Pressure to be socio-efficient, that is, to reduce the organizations social impact	1.000	.990

Extraction Method: Principal Component Analysis.

The table above shows the Communalities before and after the extraction, where the principal component analysis works on the assumption that all variables are common before extraction at a value of 1.00. After the extraction some of the factors are

extracted and some of the information is lost what is left are the retained values as depicted above.

Table 4.6 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.823	48.234	48.234	4.823	48.234	48.234	4.260	42.597	42.597
2	2.995	29.952	78.187	2.995	29.952	78.187	2.935	29.347	71.944
3	1.347	13.473	91.659	1.347	13.473	91.659	1.972	19.715	91.659
4	.533	5.330	96.989						
5	.251	2.508	99.498						
6	.040	.398	99.896						
7	.010	.104	100.000						
8	1.343E-14	1.343E-14	100.000						
9	6.645E-15	6.645E-15	100.000						
10	2.459E-15	2.459E-15	100.000						

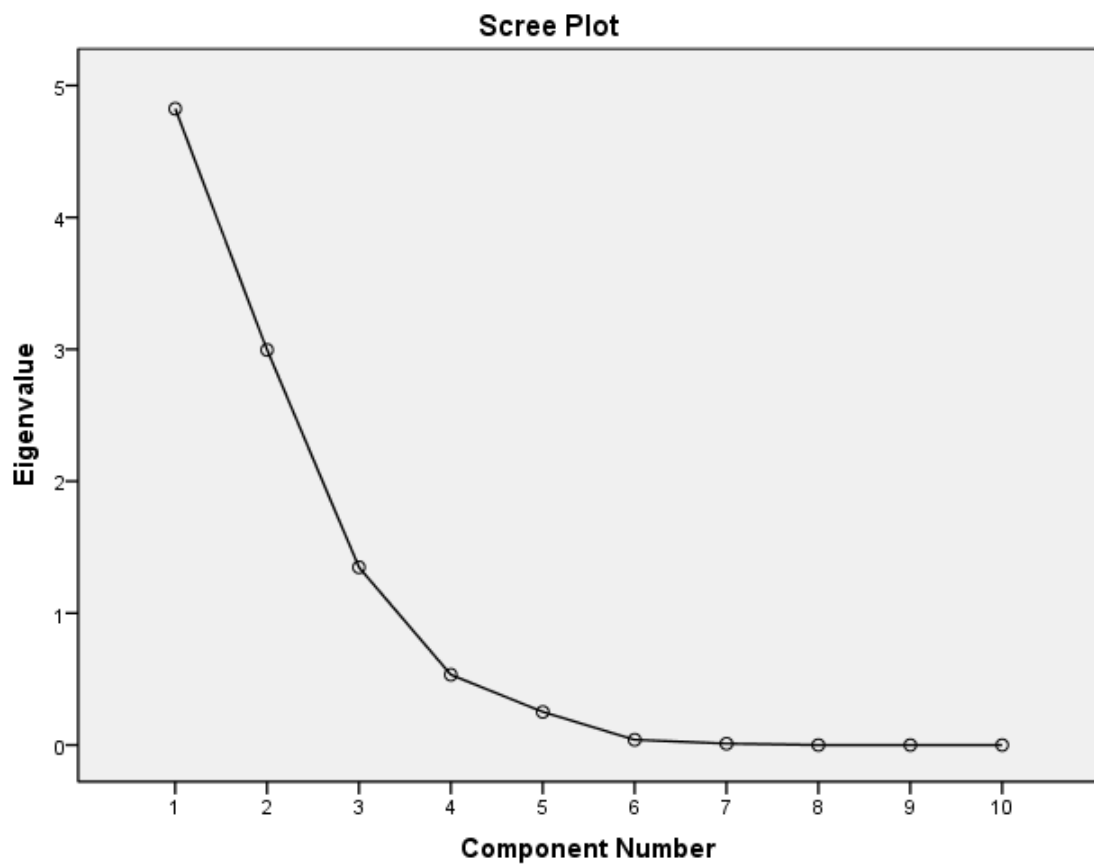
Extraction Method: Principal Component Analysis.

The total Variance table above explains the eigenvalues associated with each linear component factor, before extraction, after extraction and the value after rotation.

The percentage of variance before extraction are 48.234, 29.952 and 13.473 for the three factors respectively while the percentage values after the rotation are 42.597, 29.347 and 19.715 respectively.

Rotation has the absolute effects of optimizing factors structure and one consequence for these data is that the relative importance of the three factors is equalized.

Figure 4.4 Scree Plot



Scree plot above shows the plotting of the three factors that were extracted.

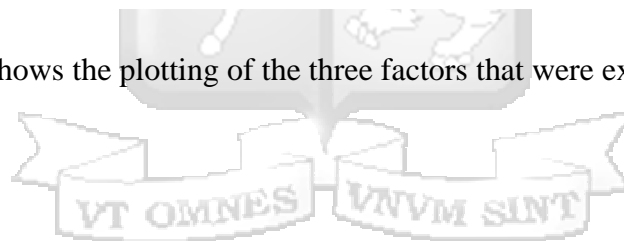


Table 4.7 Rotated Component Matrix^a

	Component		
	1	2	3
Pressure to improve internal processes of the organization	.940		
Pressure to be socio-efficient, that is, to reduce the organizations social impact	.940		
Institutional pressures e.g. pressure from trade unions and associations	-.906		
Influence from environmental and social regulations and laws	.864		
Pressure to increase ‘market success’ (increase turnover, competitiveness, brand equity and innovation)	.753		
Pressure to reduce costs of processes and increase eco-efficiency		-.932	
Influence from societal stakeholders e.g. NGOs		.885	
Pressure to develop and promote products and services that meet sustainability-related customer demands			.862
Pressure to improve employee motivation and employer attractiveness			-.769
Pressure to better use resources available		.597	.701

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The rotated matrix table represents the absolute values of loading, where the higher the absolute value of the loading, the more the factors contributes to the variables, under the extraction method of principle component analysis, through the rotation method of Varimax with Kaiser Normalization and rotation converged in 6 iterations. The gaps represent the loading values that are <0.5, thus all the loading values of <0.5 are suppressed.

Therefore, Pressure to improve internal processes of the organization=0.940, Pressure to be socio-efficient, that is, to reduce the organizations social impact=0.940, Institutional pressures e.g. pressure from trade unions and associations=-0.906, Influence from environmental and social regulations and laws= 0.864 and Pressure to

increase 'market success' (increase turnover, competitiveness, brand= 0.885 are substantially loaded on Factor One.

Subsequently, Pressure to reduce costs of processes and increase eco-efficiency=-0.932, Influence from societal stakeholders e.g. NGOs=0.885 and pressure to better use the resources available=0.597 are substantially loaded on factor two.

Finally, the Pressure to develop and promote products and services that meet sustainability=0.862, Pressure to improve employee motivation and employer attractiveness=-0.769 and pressure to better use the resources available=0.701 are substantially loaded on Factor three.

Its therefore clear that factors related to the pressure to improve internal processes of the organization, pressure to be socio-efficient, that is, to reduce the organizations social impact, institutional pressures e.g. pressure from trade unions and associations, Influence from environmental, social regulations and laws, pressure to increase 'market success' (increase turnover, competitiveness, brand, Pressure to reduce costs of processes and increase eco-efficiency, influence from societal stakeholders e.g. NGOs, pressure to better use the resources available, Pressure to develop and promote products and services that meet sustainability, Pressure to improve employee motivation and employer attractiveness and pressure to better use the resources available are the substantial motivating factors that affecting the application of the sustainability management tools.

Therefore factors have been reduced to the following 3 variables; legitimacy, market success and internal improvement. These three variables were used for the regression analysis.

4.4.3: Regression Analysis

The study then sought to establish the extent to which Legitimacy (LE), Market Success (M.S), and Internal Improvement (II) predict Application of SMAT (ASMAT) based on the following equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon_{it}$$

Where,

Y= Application of SMAT (ASMAT)

X₁= Legitimacy (LE)

X₂= Market Success (M.S.)

X₃= Internal Environment (I.E.)

α = Constant

Hence the regression model became:

$$ICDF = \beta_0 + \beta_1 LE + \beta_2 MS + \beta_3 IE + \varepsilon$$

Table 4.8 Coefficients

	B	Std. Error	Beta	t	Sig.
(Constant)	1.419	0.230		6.169	0.000
Legitimacy	1.215	0.599	0.189	2.028	0.037
Market Success	1.019	0.507	0.159	2.009	0.012
Internal Environment	1.038	0.439	0.121	2.068	0.010

Dependent Variable: Application of SMAT

The results on table 4.8 show that:

$$\text{Application of SMAT} = 1.419 + 1.215 LE + 1.019 M.S + 1.038 IE + \varepsilon$$

The findings also shows that the motivating factors have positive coefficients, implying that these independent variables predict application of SMAT in companies across East Africa. Therefore taking all independent variables (Legitimacy, Market Success and Internal Environment) constant at zero (0); Application of SMAT in companies across East Africa will be at 2.419. Therefore a unit increase in motivating factors will lead to 1.215, 1.019 and 1.038 unit increases in Application of SMAT in companies across East Africa.

The results of the study further indicates that p-value of = (0.037) for legitimacy, (0.012) for market success; and (.010) for internal environment are smaller than the significance level of 0.05. The implications of these results is that there is a significant positive relationship between these motivating factors and Application of SMAT in companies across East Africa.

Analysis of variance was used to test the significance of the regression model as shown on Table 4.9 below.

Table 4.9 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.085	5	0.017	3.46	.004 ^a
	Residual	4.568	66	0.069		
	Total	7.653	71			

4.4.4 Barriers to Application of Sustainability Management Tools

The data analysis shown on Table 4.4 below sought to ascertain the barriers to application of sustainability management tools

Table 4.10 Barriers to Application of SMAT

Statement		V.L	L	M.L	H	V.H.
Lack of Awareness of available tools	%	2.4	6	26.5	43	21.7
Cost implications of SMAT tools	%	4.8	6	30.1	36	22.9
Company culture limiting adoption of new tools	%	6	12	28.9	28	25.3
Unwillingness by top management to drive towards sustainability management accounting	%	3.6	7.2	37.3	39	13.3
Insufficient financial resources for sustainability development	%	2.4	15	36.1	31	15.7
Lack of expertise in Sustainability management accounting	%	4.8	15	37.3	30	13.3

Where,

V.L = very low, that is a score of 1

L = Low, that is a score of 2

M = Moderate, that is a score of 3

H = High, that is a score of 4

V.H = Very high, that is a score of 5

The study findings on Table 4.10 above show that majority (43.4%), (36.1%), (28.9%), (38.6%), (26.1%) and (37.3%) of the respondents stated that the following barriers are moderately low and high respectively: Lack of Awareness of available tools, Cost implications of SMAT tools, Company culture limiting adoption of new tools, Unwillingness by top management to drive towards sustainability management accounting, Insufficient financial resources for sustainability development and Lack of expertise in sustainability management accounting.

4.4.5 Adoption of Sustainability Management Accounting tools

Data analysis shown on Table 4.11 below sought to determine the perception of the respondents on the Adoption of Sustainability Management Accounting tools

Table 4.11 Adoption of SMAT among Corporations in East Africa

Statement	Frequency	Percentage
Not important to the success of an organization	1	1.2
Marginally important to the success of an organization	10	12.0
More important to the success of an organization	33	39.8
Much more important to the success of an organization	35	42.2
Unable to determine	4	4.8
Total	83	100.0

The results on Table 4.11 highlight the perception of the respondents on the Adoption of Sustainability Management Accounting tools in East Africa in the next five years. Majority of the respondents, 42.2% stated that the adoption of SMAT is much more important to the success of an organization, 39.8% said it was more important to organization success, 12% of the respondents opined that SMAT adoption was only marginally important to success while 1.2% thought it was not important. 4.8% of respondents were unable to determine whether adoption of SMAT was important to the success of their organization.

4.5 Inferential statistics

To test the connection between the wards and the free factors this examination received a numerous relapse investigation which was completed to test the connection between the autonomous factors and the needy variable, utilization of the SMAT. The scientist utilized factual bundle for sociologies (SPSS V 20.0) to code, enter and process the estimations of the different relapses. Where Multi-collinearity test, test for Heteroscedasticity, normality test, test for independence, Durbin Watson Test, Test for significance, coefficient of determination, analysis of variance (ANOVA) and One-sample Chi-square on the hypothesis were conducted.

4.5.1 Multi-collinearity Test

Multi-collinearity was tried by registering the Variance Inflation Factor (VIF) and its proportional, the resistance. It is a circumstance where the indicator factors in a various relapse examination are themselves exceedingly related making it hard to decide the real commitment of individual indicators to the difference in the needy variable.

(Gujarat and Porter, 2009). In this way, collinearity diagnostics measure how much factors are identified with different factors and how this influences the soundness and fluctuation of the relapse gauges. The presence of multi-collinearity is a crucial issue in applying various time arrangement relapse model (Gujarat and Porter, 2009).

To recognize for multi-collinearity, the examination analyzed the connection framework or by utilizing Variance Inflation Factor (VIF) as appeared Table 4.6. The Variance Inflation Factor (VIF) measures the seriousness of multi-collinearity in a common least-squares relapse examination. O'Brien (2007) proposed that a Variance Inflation Factor (VIF) more noteworthy than 10 are an indication of multi-collinearity; the higher the estimation of VIF's, the more extreme the issue. Results in Table 4.12 demonstrate that every one of the factors had a fluctuation expansion factors (VIF) of under 10 that is, Legitimacy (2.967), Market Success (4.23), and Internal Improvement. This suggests there was no collinearity with the factors subsequently every one of the factors were kept up in the relapse model.

Table 4.12: Collinearity Statistics

Variables	Tolerance	VIF
Legitimacy	0.425	2.967
Market Success	0.196	4.235
Internal Improvement	0.173	5.281

4.5.2 Testing for Heteroscedasticity

The specialist tried the information for heteroscedasticity utilizing the Breusch Pagan test. Heteroscedasticity is available when the change of the mistake terms isn't consistent, and it a noteworthy issue since it will in general blow up the standard blunders. This builds the likelihood of submitting a sort two blunder in theory testing that is, neglecting to dismiss a bogus speculation. On the off chance that the p estimation of the Breusch Pagan test is under 5%, this is a pointer of the nearness of heteroscedasticity

Table 4.13 Testing for Heteroscedasticity

Breusch- Pagan /Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variables: fitted values of C_ Satisfaction
Chi2 (1) = 2.00
Prob > chi2 = 0.1582

As evident in table 4.13, the null hypothesis of constant variance should not be rejected since the p value was greater than 5%. As such, the conclusion was that there was no heteroscedasticity in the dataset.

4.5.3 Normality Test

Normality was tried utilizing the Shapiro-Wilk test which has capacity to recognize takeoff from ordinariness due to either skewness or kurtosis or both. Its measurement ranges from zero to one and figures higher than 0.05 show the information is typical (Razali and Wah, 2011). Shapiro-Wilk test evaluates whether information is ordinarily dispersed against theory that:

H0: Sample pursues a Normal dissemination.

Ha: Sample does not pursue a Normal dissemination.

The tests dismiss the speculation of Normality when the p-value is more noteworthy than or equivalent to 0.05 (Sekaran and Bougie, 2010). Table 4.8 demonstrates that the Shapiro-Wilk insights were Legitimacy $p = .048$, Market Success $p = .016$, and Internal Environment $p = .026$ separately. Since the p-values were not exactly the importance level (0.05) (huge if $p < .05$), this infers the factors were normally distributed.

Table 4.14: Normality test

	Statistic	Degrees of Freedom	p-value
Legitimacy	.916	82	.048
Market Success	.872	82	.016
Internal Environment	.894	82	.026

4.5.4 Tests of Independence

The independence of error terms, which infers that perceptions are free, was surveyed through the Durbin-Watson test. Durbin Watson (DW) test watch that the residuals of the models were not auto related since independence of the residuals is one of the fundamental theories of rationale relapse examination. Its measurement ranges from zero to four. Scores somewhere in the range of 1.5 and 2.5 demonstrate independence perceptions (Garson, 2012). Table 4.10 demonstrates that the DW insights were near the endorsed estimation of 2.0 that is, Legitimacy (1.972), Market Success (2.127), and Internal Environment (2.091). This infers there was no autocorrelation and the residuals were free henceforth the investigation factors were autonomous.

Table 4.15: Durbin Watson Test

Variables	Durbin Watson
Legitimacy	1.972
Market Success	2.127
Internal Environment	2.091

4.5.5 Test of Significance

The study sought to find out whether motivating factors influence the application of SMAT in companies across East Africa.

Results of Pearson's coefficient of correlation (r) on table 4.10 below shows a significant positive relationship between application of SMAT in companies ($r = .699$, $p < .005$). This was reflected in the relationships between the aspects of motivation factors such legitimacy ($r = .619$, $p < .005$), market success ($r = .481$, $p < .005$), and Internal Improvement ($r = .463$, $p < .005$). Therefore, a positive change in motivating factors would enhance adoption of application of SMAT by 69.9%.

Table 4.16: Pearson's Correlation Coefficients

	M.F	LE	M.S	IP	ASMAT
Motivating Factors	1				
Legitimacy	0.619 0.003	1			
Market Success	0.481 0.001	0.533 0.002	1		
Internal Improvement	0.463 0.004	0.452 0.003	0.413 0.015	1	
Application of SMAT	0.699 0.001	0.459 0.005	0.417 0.003	0.468 0.001	1

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

Results above shows the significance value was 0.004 which is less than 0.05 thus the model is statistically significant in predicting relationship between the motivating factors and the application of SMAT in companies across East Africa. Using an alpha of 0.05, the results of the analysis show the calculated F-value of 3.46 while critical F-value = 2.39. Since the calculated F Value is larger than the critical F value it indicates that there is a (statistically) significant relationship between the motivating factors and the application of SMAT in companies across East Africa.

4.5.6 Test of the Hypothesis

The study tested the following hypothesis

H₀₁: There is no positive relationship between legitimacy as a motivating factor and the level of application of sustainability management tools

H₀₂: There is no positive relationship between market success as a motivating factor and the level of application of sustainability management tools

H₀₃: There is no positive relationship between internal improvement as a motivating factor and the level of application of sustainability management tools.

The results of the test indicated that all the null hypothesis were rejected since the variables positively and significantly influenced the application of sustainability management accounting tools. These results show that all the variables yielded a level of significance of >0.05. This shows that all the independent variables tested have a

significant impact on the dependent variable, application of the management accounting tools.

Table 4.17 Test of the Hypotheses

	Variable	Test	Sig.	Decision
H₀₁	There is no positive relationship between legitimacy as a motivating factor and the level of application of sustainability management tools.	One- Sample Chi-Square Test	0.981	Reject the hypothesis
H₀₂	There is no positive relationship between internal improvement as a motivating factor and the level of application of sustainability management tools	One- Sample Chi-Square Test	0.801	Reject the hypothesis
H₀₃	There is no positive relationship between market success as a motivating factor and the level of application of sustainability management tools.	One- Sample Chi-Square Test	0.963	Reject the hypothesis

4.6 Summary of the Chapter

Data analysis was finished by altering and coding with the objective of featuring helpful data, proposing conclusions and supporting interpretations. It included separating elements distinguished through the information gathered into more straightforward intelligible parts in accordance with the targets of the examination so as to infer implications. The classified information was dissected quantitatively by figuring different rates, while clear information was examined subjectively by sorting out gathered information into significant notes. The introduction of the aftereffects of quantitative investigation was in type of recurrence tables, in order to feature the outcomes and to make it progressively illustrative and more obvious and decipher, while the consequences of subjectively examination was given in type of logical notes.

The information examination built up presence of a connection between motivating factors and the appropriation of SMAT instruments in organizations crosswise over East Africa.



CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The need for this section is to summarize the findings and be able to draw conclusions and recommendations and also make inferences on the findings in relation to the objectives of the study. It incorporates a discussion of the findings, a summary of the results and conclusions drawn. It also highlights the limitations of the study and give final recommendations for further study.

5.2 Summary of Findings

This study aimed at determining the motivating affecting application of Sustainability Management Accounting Tools in East Africa. The specific objectives therefore were to establish the factors influencing the application of SMAT in companies across East Africa, and the specific objectives which pertains to the level of application of SMAT in companies across East Africa, the motivating factors that influence the adoption of SMAT and the relationship between these motivating factors and the application of SMAT in companies across East Africa. The findings are discussed according to the objectives of the study.

5.2.1 Level of Application of SMAT among Companies in East Africa

The findings from the results of the filled in questionnaires reveal that the SMAT have different levels of application among the companies that use these tools in East Africa. The most commonly used tool among the companies in regard to curbing ecological challenges was the Environment Budgeting.

In regard to curbing the economic challenge, the most commonly used tool was a tie between the Risk Analysis tool, Life-cycle assessment and Quality Management System. The tool that is most highly used in regard to the Social Challenge was the Social Benchmarking where a majority of the respondents stating that this tool is used in their organization. Consequently, the most commonly used too in regard to the integration challenge was the Sustainability Benchmarking tool. SMAT that are commonly used across the sampled companies in East Africa are sustainability reports, risk analysis, life cycle assessment, quality management systems, sustainability audit, social bench marking and reports, eco-efficiency analysis and environmental reports with none of the companies reporting nonuse of these tools. The other SMAT used by

these companies and their level of use are Environmental Life Cycle Assessment, Environmental Performance Indicators, Social Budget, Social Performance Indicators, Eco-efficiency analysis, Sustainability Balanced scored card and Sustainability Benchmarking.

In overall, the study concluded that SMATs are moderately to averagely used among organizations in East Africa. This result is in line with previously done studies that have found the rates of adoption to be low (Carlsson, 2012; Chris &Burrit, 2013; Ferreira et al. 2010; Mokhtar et al. 2016; Pasetti et al. 2014).

However, despite the low rates, most organization confirmed to using at least one tool. This could be interpreted to mean that the knowledge of these tools and their necessity in today's business is gradually becoming a norm in the East African setting.

5.2.2 Motivating Factors that Influence Application of SMAT

The second objective of the research was to find out the motivating factors and the extent of influence of these factors on application of SMAT among these companies in East Africa. Based on the results the most influential motivating factors among the companies were pressure from trade unions and associations, pressure from societal stakeholders and pressure from societal stakeholders. These three factors illuminate to the need to seek legitimacy. Market success was seen to moderately motivate application while need to improve internal processes had the least influence among the three factors.

These results are in agreement with Windolph (2012) who discussed legitimacy as an important motivating factor, market success as moderately important and internal improvement as less important. However, it disagrees with Banerjee (2001) who finds legitimacy to be of little relevance. He argues that companies seek our social desirability but may fail to disclose such information in fear that stakeholders will view them negatively hence provoking the discussion on green washing (Ramus & Montiel, 2005). Another reason could be companies fail to disclose their sustainability management motivations at all for fear that their consumers will assume their products will attract price premiums (Delmas & Grant, 2010). Ramus & Montiel, (2005) however dispute this and encourage companies to disclose their motivating factors as it may change their stakeholders' perspective on their intention on adoption of sustainability.

5.2.3 The Effect of Motivating Factors on Application of SMAT

According to the Pearson's correlation analysis done on the results there was a significant positive relationship between application of SMAT in companies ($r = .699$, $p < .005$). This would mean that a positive change in motivating factors would enhance application of SMAT among companies in East Africa by 69.9%. The regression model also conducted on the results show an F-value of 3.46 while critical F-value = 2.39. Since the calculated F Value is larger than the critical F value it indicates that there is a (statistically) significant relationship between the motivating factors and the application of SMAT in companies across East Africa. The regression model results demonstrated that a unit increase in motivating factors will lead to 1.215, 1.019 and 1.038 unit increases in Application of SMAT in companies across East Africa. In summary, there exists positive relationship between the motivating factors and the level of application of SMATs.

In regard to the barriers affecting level of application of SMATs, most respondents stated that a lack of awareness of the tools and cost implications of application of said tools as the main barriers. This agrees with Johnson, (2012) who found a positive correlation between awareness and application of SMATs among SMEs in Germany.

Other barriers indicated by the respondents were 'rigid organizational structure'. Burrit, (2000) in his study also found that some organizations were hesitant in changing their ways arguing that what they currently have works and therefore did not see the need to change it.

Another respondent stated 'our activities do not pose high risks to the environment'. This is an indication that there is still a lot to be done in regard to sensitization on what sustainability management and sustainability accounting is and what value it could add to organizations

5.3 Conclusions

This study aimed at identifying the level of application of sustainability management tools among firms in East Africa. It was observed that the SMAT are applied at different levels in the companies. From the results the most applied tool was environment budgeting and the least applied tool is environment performance indicators. There was generally a moderate to average use of SMAT in the sampled companies.

The study also sought to identify the motivating factors that influence the application of SMAT among companies in East Africa. The highest level motivating factor for the companies is the pressure from trade unions and associations as well as societal stakeholders. This indicates a stakeholder centric approach in the companies that apply SMAT. The pressure to improve internal processes of the company was the least indicating that companies may be venturing into sustainability management matters primarily for the purpose to seem legitimate. It is important to note that in some organizations, the need to improve internal processes was high. This highlights legitimacy as a major motivating factor in application of SMAT. Other motivating factors such as the pressure to be socio-efficient, Pressure to reduce costs of processes and increase and Pressure to improve employee motivation and employer attractiveness have a major influence on the application of SMAT.

The pressure to be aligned with trade unions and associations could also be explained by the legitimacy theory. Organizations accept that they are part of a broader society and to survive in it, they must conform to the norms and regulations of said society or be deemed to conform.

The study finally aimed at identifying the effect of these motivating factors in the application of SMAT. There is a significant positive relationship between the motivating factors and the application of the tools in these companies. A unit increase in the motivating factors causes an increase in the application of these tools.

5. 4 Recommendations

It is fundamental for organizations to embrace the utilization of SMAT since manageability bookkeeping coordinates and connections social, natural and financial issues establishing the three elements of supportability. These devices will enable administration to accumulate, investigation and use adapted natural and socially related data to request to improve corporate ecological, social and monetary execution which is the primary objectives of maintainability the executives bookkeeping devices. Organizations ought to likewise be esteemed based on their social and ecological impacts just as their money related execution or it moves toward becoming ordered by law. Basic changes in the idea of business are important for future ages plan to live in a prosperous, fair and manageable society. The scientist likewise prescribes partners in

organizations that don't make a difference or completely apply these SMAT to keep weight on the organizations with the end goal for them to apply these devices for a superior method for working together.

5.4.1 Recommendations for Policy and Practice

This study examined the motivating factors affecting the application of the sustainability management accounting tools among corporations in East Africa. From the practice perspective, this study recommends the creation and enhancement of awareness among firms of the importance of information for decision making practices as this is the most highly used sustainability management accounting practice amongst the manufacturing companies in East Africa.

The findings suggest that there is need to gain a proper measure of financial performance, firms require not only to integrate multiple tools on the sustainability management accounting, as the measures for accounting but also the other value based measures which have gained popularity in academic literature in last decades.

As an efficient sustainability accounting ethical practice, it is the responsibility of the sustainability management accounting professionals to remain relevant in adding value to the organizations for which they work and to their profession by keeping abreast of research findings in their area of jurisdiction and responsibility.

Subsequently in connection to policies, accounting curriculum should be developed consistently to the changing role of the accountants in the current markets. Accounting education must therefore equip their student with the required capabilities in coping with the rapid changing of the business environment so that they can always achieve the relevant management accounting information to the managers.

Finally, the Academics and the practitioners will be the position to use the findings of this research to fully understand how sustainability management accounting practices can help to accelerate the business performance in organizations.

5.5 Limitation of the Study

The research only concentrated on the sustainability management accounting practices corporation companies in East Africa and not all the companies in the economy. These results are therefore only limited to the sampled companies and may be of little or no use to the companies in other sectors.

Subsequently because of the self-report nature of the data which involved the use of questionnaires, responses on the survey may therefore not be accurately conveyed their real involvement in the sustainability management accounting tools. Some of the respondent did not fill the questionnaires and thus, resulting to lesser the targeted sample thus, affecting the nature of statistical reporting.

Further, some firms did not accurately disclose their true status on the utilization of the sustainability management accounting tools due to the nature of the sensitivity of financial information disclosure. Therefore, this affected proper statistical analysis of the data that was obtained.

Finally, due to limited time available to carry out the research, the above areas were not comprehensively studied to provide a national wide view. This would be an important arena since the policy makers and implementers alludes that the effects of sustainability management accounting tools on financial performance of the east African corporations can only be resolved by providing them with research action points which is therefore based on empirical findings.

5.6 Suggestions for Further Research

This research analyzed the motivating factors that affect the application of SMAT among companies in East Africa. However, with the current surge in number of startup companies, further research on tools applicable to them could be carried out. It would also be interesting to learn what tools, if any, are used currently by these startups.

In regard to large public companies, further study should also be conducted on the barriers affecting the application and adoption of SMAT among companies in East Africa.

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APPENDICES

APPENDIX I: Concepts and Instruments of Sustainability Management

(Schaltegger, Herzig, Kleiber, & Muller, 2002)

1. Accounting	2. Control
3. Environmental Management Information System	4. Environmental Management System
5. Marketing	6. Social Management System
7. Supply Chain Management	8. Sustainability Balanced Scorecard
9. Total Quality Environmental Management	10. ABC Analysis
11. Audit	12. Benchmarking
13. Benefit/Risk Dialogue 1	14. Budgeting
15. Checklist	16. Community Advisory Panel 1
17. Cost Accounting	18. Cross-Impact Analysis
19. Dialogue Instruments	20. Early Identification
21. Eco Compass	22. Eco Design/Design for Environment
23. Eco Efficiency Analysis	24. Eco Rating
25. Emission Trading	26. Employee Volunteering
27. Environmental Shareholder Value	28. Guideline
29. Incentive System	30. Indicator
31. Investment Appraisal	32. Label
33. Life Cycle Assessment	34. Material Flow Accounting 3
35. Material Flow Cost Accounting 2	36. Networks 1
37. Product Line Analysis	38. Quality Circles
39. Reporting	40. Risk Analysis
41. Scenario Analysis	42. Social Accounting
43. Sponsoring	44. Stakeholder Value Analysis
45. Substance Flow Analysis	46. Suggestion Scheme

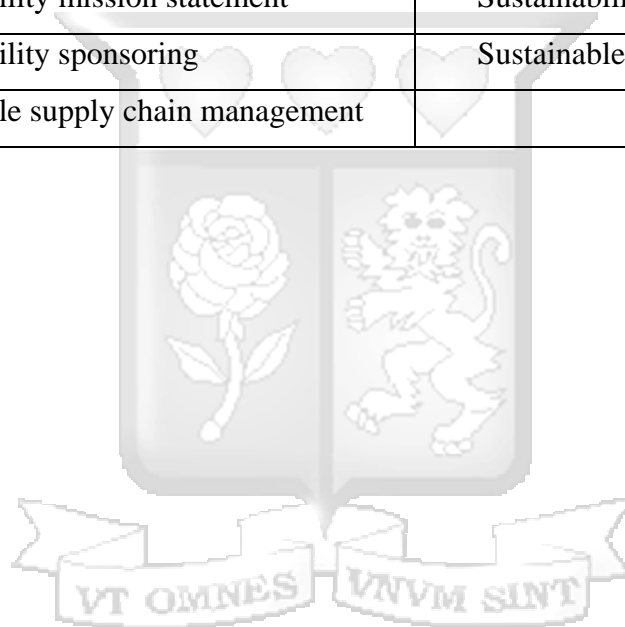
APPENDIX II: List of Sustainability Management tools defined by Matthew Johnson in “Awareness and Application of Sustainability Management Tools in Small and Medium-Sized Enterprises” (Johnson, 2012)

1. Eco-Mapping	2. Social Benchmarking
3. Stakeholder Dialogue	4. Ecological Benchmarking
5. Social Management System	6. Fair Trade Labelling
7. Social Audit	8. Sustainability Labelling
9. Design for the Environment	10. Social Report
11. Organic / Eco-Friendly Labelling	12. Sustainability Benchmarking
13. Life Cycle Assessment	14. Sustainability Network
15. Eco-Efficiency Indicators	16. Eco-Efficiency Analysis
17. Sustainability Balanced Scorecard	18. Environmental Declaration
19. Social Performance Indicators	20. Environmental Accounting
21. Social Accounting	22. Sustainability Performance Indicators
23. Sustainability Report	24. Sustainability Audit
25. Environmental Report	26. Eco-Compass
27. Code of Conduct	28. Environmental Management System
29. Incentive Program	30. Risk Analysis
31. Environmental Audit	32. Corporate Citizenship
33. Sustainable Supply Chain Management	34. Employee Suggestion Scheme
35. Education & Training	36. Quality Management System

APPENDIX III: Overview of SMATs used in Motivation for Corporate Sustainability Management. (Windolph, Harms, & Schaltegger, Motivation for Corporate Sustainability Management: Contrasting Survey Results and Implementation, 2013)

(Eco/Social) ABC analysis	(Eco/Social) checklist
Community advisory panel	Continuous education
Corporate citizenship	Corporate giving
Corporate/Employee volunteering	Cross impact analysis
Early detection	Eco audit
Eco benchmarking	Eco budgeting
Eco circle	Eco compass
Eco control	Eco design/Design for environment
Eco indicators	Eco label
Eco sponsoring	Eco-efficiency analysis
Eco-efficiency indicators	Environmental accounting
Environmental cost accounting	Environmental declaration
Environmental info system	Environmental investment appraisal
Environmental management system	Environmental mission statement
Environmental report	Environmental shareholder value
Fair trade label	Flexible working model
Green purchasing	Green supply chain management
Green/Eco marketing	Human resource control
Human resource report	Incentive system
Internal emissions trading	Life Cycle Assessment
Material and energy flow accounting	Material flow analysis
Material flow cost accounting	Opportunity risk dialogue
Product carbon footprint	Product line analysis
Proposal system	Quality circle
Quality management system	Risk analysis
Scenario analysis	Social accounting
Social audit	Social benchmarking

Social cost accounting	Social indicators
Social management system	Social marketing
Social mission statement	Social report
Social/Cultural sponsoring	Socio-eco-efficiency analysis
Socio-efficiency indicators	Stakeholder dialogue
Stakeholder value indicators	Sustainability accounting
Sustainability audit	Sustainability balanced scorecard
Sustainability benchmarking	Sustainability control
Sustainability indicators	Sustainability label
Sustainability management system	Sustainability marketing
Sustainability mission statement	Sustainability report
Sustainability sponsoring	Sustainable design
Sustainable supply chain management	



APPENDIX IV: Tool used to survey the frequency and purpose of SMAT in Swedish Listed Companies (Carlsson, 2017).

Tool	Definition
Environmental Tools	
Environmental Budget	It determines funds available for environmental issues in the next period. It sets out environmental targets (Gray and Bebbington, 2001)
Environmental Cost Accounting	It records and measures direct and indirect environmental costs to determine production costs for different products/services (Parker, 2000)
Environmental Life cycle	It addresses the environmental issues of a product and their impact on the environment throughout its life-cycle
Environmental Performance Indicators	EPIs measure environmental issues and the links between company business and the environment. They are represented by financial and non-financial data numerical data which provides key information about the organisation's environmental issues such as the environmental impact of its operational activities (Henri and Journault, 2008)
Social Tools	
Social Budget	This tool helps to determine the funds available for social issues in the coming period. It sets out the social targets (Schaltegger et al. 2002)

<p>Social Performance Indicators</p>	<p>SPIs provide information in activities that can be regarded as socially effective and efficient. They are represented by numerical measures and provide key information on employee health and safety, equal opportunities, diversity management and social assessment of the products (Schaltegger et al. 2002).</p>
<p>Integrative Tools</p>	
<p>Eco-efficiency analysis</p>	<p>It develops and optimizes product characteristics and operational activities concerning the relationship between their economic value added, the use of natural resources and the firms objectives (Virtanen et.al., 2013)</p>
<p>Sustainability Report</p>	<p>It communicates a firm's environmental social and economic results to stakeholders in order to demonstrate the firm's commitment to sustainability issues and to increase its level of transparency (Joseph, 2012).</p>
<p>Sustainability Balance Scorecard</p>	<p>It integrates environmental and social aspects to the conventional Balanced Scorecard (BSC). It aims to identify, systematize and measure the strategic central economic, ecological and social objectives (Hansen and Schaltegger, 2016)</p>

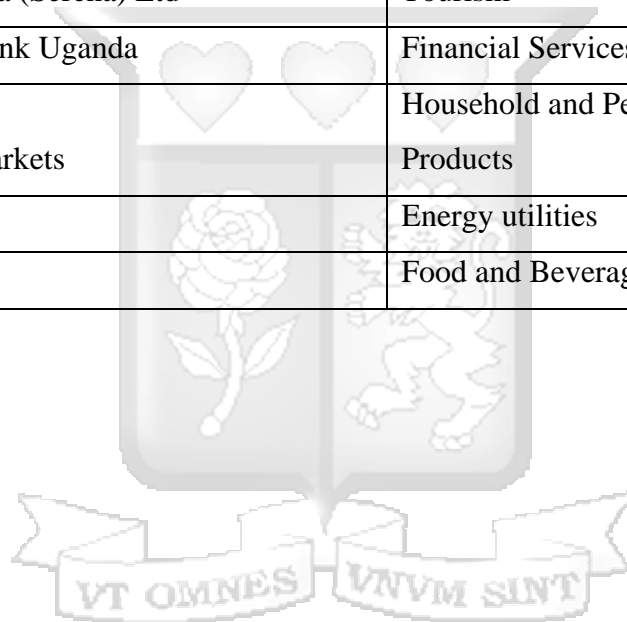
APPENDIX V: Tool adopted to study the level of application of SMAT in East Africa.

Tool	What is the level of application of this tool?					
	0 Not in use	1 Mildly used	2 Used	3 Averagely used	4 Frequently used	5 Highly used
Environmental Budget						
Environmental Cost Accounting						
Environmental Life Cycle Assessment						
Environmental Performance Indicators						
Social Budget						
Social Performance Indicators						
Eco-efficiency Analysis						
Sustainability Reports						
Sustainability Balanced Scorecard						
Risk Analysis						
Social Accounting						
Life-Cycle Assessment						
Quality Management System						
Sustainability Audit						
Sustainability benchmarking						
Social Benchmarking						
Social Report						
Environmental Report						

APPENDIX VI: List of organizations in the target population.

Name of Organization	Industry	Country
Bamburi Cement	Construction materials	Kenya
Bank of Kigali	Financial Services	Rwanda
Barclays Bank of Kenya	Financial Services	Kenya
BOC Kenya Ltd	Energy utilities	Kenya
British American Tobacco Kenya	Tobacco	Kenya
Centum Investment Co. Ltd	Financial Services	Kenya
CIC Insurance Group Ltd	Financial Services	Kenya
Cooperative Bank of Kenya	Financial Services	Kenya
CRDB Bank	Financial Services	Kenya
Deacons East Africa	Household and Personal Products	Kenya
E.A Cables Ltd	Energy utilities	Kenya
East African Breweries (EABL)	Food and Beverages	Kenya
Equity Group Holding	Financial Services	Kenya
Eveready East Africa Ltd	Energy utilities	Kenya
ICPAK	Financial Services	Kenya
I & M Holdings	Financial Services	Kenya
Jubilee Holdings Limited	Financial Services	Kenya
KCB Group	Financial Services	Kenya
KenGen	Energy utilities	Kenya
KenolKobil Ltd	Energy utilities	Kenya
Kenya Airways Ltd	Aviation	Kenya
Kenya Pipeline Company	Energy utilities	Kenya
Kenya Power & Lighting Co.	Energy utilities	Kenya
Kenya Re-insurance Corporation Ltd	Financial Services	Kenya
Liberty Kenya Holdings Ltd	Financial Services	Kenya
Nairobi Securities Exchange Ltd	Financial Services	Kenya
National Insurance Corporation	Financial Services	Uganda
National Microfinance Bank PLC	Financial Services	Tanzania
National Social Security Fund (NSSF)	Financial Services	Kenya
Nation Media Group (NMG)	Media	Kenya

New Vision printing and Publishing Company Ltd	Media	Uganda
Pride Microfinance Ltd	Financial Services	Uganda
Safaricom Limited	Telecommunications	Kenya
Stanbic Bank Uganda	Financial Services	Uganda
Standard Chartered Bank Kenya	Financial Services	Kenya
Standard Group Ltd	Media	Kenya
Stanlib Fahari I-reit	Financial Services	Kenya
Tanzania Portland Cement Company Ltd	Construction materials	Tanzania
Total Kenya Ltd	Energy utilities	Kenya
TPS Easter Africa (Serena) Ltd	Tourism	Kenya
Trust Finance Bank Uganda	Financial Services	Uganda
Uchumi Supermarkets	Household and Personal Products	Kenya
Umeme Ltd	Energy utilities	Uganda
Unga Group Ltd	Food and Beverages	Kenya



APPENDIX VII: Operationalization of Variables

The Operationalization framework consisted of a systematic elaboration of how the dependent and independent variables were measured.

Variable	Variably Type	Measurement	Type of Analysis
Application of SMAT	Dependent	<p>List of all tools as in Table 2.1</p> <p>Environmental Tools: Environmental Budget, Environmental Cost Accounting, Environmental Life Cycle Assessment, Environmental Performance Indicators, Environmental Report</p> <p>Social Tools: Social Budget, Social Performance Indicators, Social Accounting, Social Benchmarking, Social Report</p> <p>Economic Tools: Eco-efficiency analysis, Risk analysis, Life-cycle Assessment, Quality Management System</p> <p>Integrative tools: Sustainability Balance Scorecard, Sustainability Audit, Sustainability Benchmarking, Sustainability Reports.</p>	<p>Descriptive s</p> <p>Frequency</p> <p>Percentage</p>
Legitimacy	Independent	<p>Environmental and social regulations and laws</p> <p>Societal stakeholders</p> <p>Institutional pressures</p> <p>Pressure to be Socio-efficient</p> <p>Sustainability-related customer demands</p>	<p>Descriptive</p> <p>Frequency</p> <p>Percentage</p> <p>Means</p> <p>Inferential Statistics</p> <p>Regression</p>
Market Success	Independent	<p>Increased turnover</p> <p>Competitiveness</p> <p>Brand equity</p> <p>Innovation</p>	<p>Descriptive</p> <p>Frequency</p> <p>Percentage</p> <p>Means</p> <p>Inferential Statistics</p> <p>Regression</p>
Internal Improvement	Independent	<p>Improve employee motivation</p> <p>Employer attractiveness</p> <p>Improved internal processes</p> <p>Use of resources available</p> <p>Reduce costs of processes and increase eco-efficiency</p>	<p>Descriptive</p> <p>Frequency</p> <p>Percentage</p> <p>Means</p> <p>Inferential Statistics</p> <p>Regression</p>

APPENDIX VIII: Questionnaire

Section A

- i. Name of your organization
.....
- ii. Location of your Headquarters....
.....
- iii. Which industry is your organization in?

Industry	Tick where appropriate
Agriculture	
Transport & Logistics	
Construction	
Financial Services	
Food and Beverages	
Healthcare Services	
Media	
Real Estate	
Telecommunications	
Learning Institutions	
Tourism	
Non- Profit Organizations	
Textile and Apparels	
Any Other	

- iv. What is the size of your organization based on number of employees?
(Please tick where appropriate)

No. of Employees	Tick as appropriate
1-100 employees	
101-250 Employees	
251-500 Employees	
Above 500 Employees	

Section B

1. The table below list SMAT used by organization in Sustainability Management Accounting. On a scale of 0 to 5, 0 being not in use and 5 being highly used, please indicate the level of application of these tools in your organization.

Tool	What is the level of application of this tool?					
	0 Not in use	1 Mildly used	2 Used	3 Averagely used	4 Frequently used	5 Highly used
Environmental Budget						
Environmental Cost Accounting						
Environmental Life Cycle Assessment						
Environmental Performance Indicators						
Social Budget						
Social Performance Indicators						
Eco-efficiency Analysis						
Sustainability Reports						
Sustainability Balanced Scorecard						
Risk Analysis						
Social Accounting						
Life-Cycle Assessment						

Quality Management System						
Sustainability Audit						
Sustainability benchmarking						
Social Benchmarking						
Social Report						
Eco-efficiency Analysis						
Environmental Report						

2. Please indicate any other Sustainability Management Accounting tools used in your organization and the level of their application.

Any other Tool not mentioned above	1 Mildly used	2 Used	3 Averagely used	4 Frequently used	5 Highly used

3. On a scale of 1-5, (1 being very low, 2 being low, 3 being average, 4 being high, 5 being very high), please indicate the level of influence of motivating factors to the application Sustainability Management tools in your organization

	Motivating Factors	1 = Very low	2= Low	3= Moderate	4= High	5 = Very High
i.	Influence from environmental and social regulations and laws					
ii.	Influence from societal stakeholders e.g. NGOs					

iii.	Institutional pressures e.g. pressure from trade unions and associations					
iv.	Pressure to increase 'market success' (increase turnover, competitiveness, brand equity and innovation)					
v.	Pressure to improve employee motivation and employer attractiveness					
vi.	Pressure to develop and promote products and services that meet sustainability-related customer demands					
vii.	Pressure to improve internal processes of the organization					
viii.	Pressure to better use resources available					
ix.	Pressure to reduce costs of processes and increase eco-efficiency					
x.	Pressure to be socio-efficient, that is, to reduce the organizations social impact					

4. Please indicate any other factors that affect application of Sustainability Management Tools in your organization

5. On a scale of 1-5, (1 being very low, 2 being low, 3 being average, 4 being high, 5 being very high), please rate the following barriers to application of Sustainability Management Tools

Barriers	1 = Very low	2= Low	3= Moderate	4= High	5 = Very High
Lack of Awareness of available tools					
Cost implications of SMAT tools					
Company culture limiting adoption of new tools					
Unwillingness by top management to drive towards sustainability management accounting					
Insufficient financial resources for sustainability development					
Lack of expertise in Sustainability management accounting					

6. Please indicate any other barriers that you feel may affect application of Sustainability Management Tools in your organization

7. In your own opinion, what is your perception on the Adoption of Sustainability Management Accounting tools in East Africa in the next five years?

- Not important to the success of an organization
- Marginally important to the success of an organization
- More important to the success of an organization
- Much more important to the success of an organization
- Unable to determine

Conclusion

Although no personal names or company names are published with the results, it helps the researcher to know who in the company has filled the questionnaire.

Please give your title below

.....

May we contact you again for any follow-up if necessary?

Yes.....

No.....

If yes, please provide your email address

.....

