INFLUENCE OF NON-CONVENTIONAL REPORTING ON SUSTAINABILITY ACCOUNTING IN THE TEA SECTOR IN MOUNT KENYA REGION

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DECLARATION

Declaration by the Student

This thesis is my original work and has not been presented for an award of a degree in any other university. No part of this thesis may be reproduced without prior written permission of the author and/or Karatina University.

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Declaration by the Supervisors

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

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DEDICATION

I dedicate this research work to my family for their immense love for education and moral support that which lead to the accomplishment of the thesis.

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ABSTRACT

Conventional Accounting has continued to dominate the field of accounting among theorists, ideologists and practitioners for as long as the age of accounting. Emphasis has been laid in reporting of high profits that befit suppliers of capital and the shareholders of the organization. The focus on high profit means more scarce resources are drawn from the environment without due regard on social and environmental aspect of accounting except on economical aspect alone. Sustainable Development Goals and Kenya's Vision 2030 advocate for concern to the environment. Some researchers have endeavored to demonstrate how accountancy need to respond to the social and environmental concerns beyond its traditional goal of profit maximization that singles out shareholders from the many stakeholders. However, these studies have been deficient in addressing the sustainability accounting from the point of stakeholder interests on social and environmental accounting and reporting supported by going concern concept and IAS1, 8, 16, 36 and 37. This study therefore aimed at establishing the influence of social reporting and environmental reporting on sustainability accounting in the tea sector in Kenya. Study objectives included establishing the relationship between methods of reporting; stakeholder interests in social accounting; stakeholder interests in environmental accounting; on sustainability accounting as moderated by the stakeholder knowledge on social and environmental accounting and reporting. These objectives built a conceptual model that was guided by shareholder theory, stakeholder theory and legitimacy theory on sustainable borrow-use-return model. The study adopted Mixed Methods Research of survey design. The target population comprised of the factory unit managers and accountants as the key informants, drawn from tea factories of Mount Kenya region. The sample was obtained by simple random and stratified sampling techniques. Questionnaire was the main data collection instrument which was tested in pilot study for reliability using Cronbach's alpha and for validity using adjusted Kappa index. Other research instruments included interview schedule and observation list. Data analysis entailed simple binary and hierarchical multiple logistic regression analysis using SPSS. Study results was presented in frequencies, percentages and skewness for descriptive and binomial regression output for inferential statistic. The study found out that tea factories practice social activities and environmental activities that they incur costs which were treated as overhead costs and benefits were derived by tea factory in terms long term financial gains and by stakeholder in terms of social and environmental gains. The study also found that there was a statistically significant influence of methods of reporting, social reporting and environmental reporting, both individually and simultaneously, on sustainability accounting; but which was insignificantly moderated by stakeholder knowledge. The study findings were of significance to organizations' strategies to respond to externalities which in accounting terms affect the organizations profits in the long run; also, expanding knowledge of social and environmental accounting. The study recommends tea factories adopt an integration of social reporting, environmental reporting and financial reporting with minimal focus on stakeholder knowledge while the academic field incorporate such reporting in scholarly research in order to strengthen sustainability accounting.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACCA – Accredited Chartered Certified Accountants
AEO – Accountancy Education Organization
CA – Content Analysis
CSR – Corporate Social Responsibility
CVI – Content Validity Index
EAD – Environmental Accounting Disclosures
EC – European Union
EMAS – Environmental Management Accountancy System
ER – Environmental Reporting
FA – Factory Accountant
FUM – Factory Unit Manager
GAAPs – Generally Accepted Accounting Principles
GoK – Government of Kenya
GPD – Gross Domestic Product
GRI – Global Reporting Initiative
HRA – Human Resource Accounting
IAS – International Accounting Standards
IASB – International Accountancy Standards Board
IC – Intellectual Capital
ICAB – Institute of Chartered Accountants of Bangladesh
ICC – Interclass Correlation Coefficient
I-CVI – Item on scale CVI
IFRS – International Financial Reporting Standard
IMA – Institute of Management Accountants
ISO – International Standards Organization
KTDA – Kenya Tea Development Authority
MMAR – Mixed Methods Accounting Research
MMR – Mixed Methods Research
NgSE – Nigerian Stock Exchange
NRF – National Research Fund (Kenya)
NSE – Nairobi Stock Exchange
OLS – Ordinary Least Squares
PAT – Positive Accountancy Theory
QUAN(qual) – Qualitative data analyzed quantitatively
ROA – Return on Assets
SCP – Social Corporate Performance
SEA – Social and Environmental Accounting
SEER – Social, Economic and Environmental Reporting
SPSS – Statistical Packages for Social Sciences
UNEP – United Nations Environmental Program
WB – World Bank
WBC – World Business Council

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Conventional Accounting has continued to dominate the field of accounting among theorists, ideologists and practitioners for as long as the age of accounting. It is clear that traditional accounting and liberal economists lay emphasis on the interest of the suppliers of capital to an organization (Afifuddin & Hahiba, 2010). The main aim of this fundamental focus is to ascertain the measurements of financial performance of an organization based on its asset capacity and claims against what the business owns. Accountants emphasize on reporting higher profit as a sole indicator of an organization's success. Ceteris paribus, purely concentrating on profits means neglect of sources of resources which are scarce. This translates to environmental deteriorations and which human welfare is based (Afifuddin & Hahiba, 2010).

The problem of environmental degradation, injustices in the social arena and exploitations are very well widespread all over the globe. Provisions of nature is by God while to man is acceptance of responsibility to maintain it (Ayman, 2013). Man through the organizations it manages is held accountable for this responsibility of maintaining and preserving environment both at ecological and social spectrums (Ayman, 2013). Accounting is a tool to show if we are really fulfilling such duties from where the resources are drawn to earn profits (Ayman, 2013). There has been a large scale exploitation of natural resources which has never met the level of welfare desired. In Asian countries, there has been increasing growth of Gross Domestic Product (GDP). However, these countries

still experience high environmental problems which mean that high level of economic development does not always mean high environmental sustainability (Chung, 2010).

Dewi (2014) conducted a study in oil and gas companies in Indonesia and found a relationship between social and environmental performance, and economic performance. He further found that employment of costs towards the environment conservation; are associated with social and environmental performance of the company to obtain its legitimacy from the larger community, this being a contrast of governments efforts in introducing programs that try to foster legitimacy of an organization to the community. The organization has no other choice but to engage in reporting the social and environmental engagements. Generally, the externalities have an impact on financial performance of an organization (Lungu, Caraniani, Dascula & Guse, 2011). This is further affirmed by (Dana, 2009) that non-inclusion of information on externalaties cause incompleteness in the financial performance reported by orgainization. However, Basilio, Llena, and Moneva (2011) points out that Spanish concessionaries provide a low quality level of environmental reporting and only do so because of administrative reforms.

Social and Environmental Accounting (SEA) disclosures can be achieved through reporting the organization's Corporate Social Responsibility (CSR) which emphasizes on community participation by business enterprises. A part from public companies, private firms also bear the responsibilities of not only reporting profit from economic activities but also on social and environmental perspectives. It is upon the discretion of firm managers to act on best way possible that accommodate both the society and the environment. It is therefore prudent for an organization to intensify its commitment to its ethical considerations while contributing to economic development in improving the quality of

life of its workforce and to the larger society. This can be accomplished through various CSR activities that the business may participate in for the benefit of its stakeholders (which include employees, suppliers, shareholders, governments, community/society and customers) (Mwangi & Jerotich, 2013).

In the African context, studies have been conducted to explore the impact of Social Accounting on organizational activities. Onunze (2017) found out that social accounting reveals the impact of organizational development activities in the community in Nigeria even though the technique of social accounting is not so common in the country because stakeholders are not adequately informed on the effectiveness and efficiency of reporting audit and accountability information. The level of environmental disclosures is specifically low among listed manufacturing companies in Nigerian Stock Exchange (NgSE) (Uwalomwa & Jarafu, 2012). Human Resources are drawn from the society and need to be carefully accounted for in a calculated step since they drive all other resources in the organization (Ezeagba, 2014). The use of social accounting approaches improves transperancy, accountability and compliance in the organization and encourages the integration of social objectives into the strategic plans.

Kenya being among developing countries has not been an exception in the field of SEA Reporting which is more done in developed countries and African developing countries. Mwangi and Jerotich (2013) found out that CSR is of merit and that firms involved in manufacturing, construction and allied sector of the Nairobi Stock Exchange (NSE) practice CSR. The activities found to be most practiced by the manufacturing and construction firms were community welfare, staff welfare and environmental conservation. A further study of firms in NSE of Kenya supported that actually firms are engaging in

SEA Disclosures (Odhiambo, 2015). The study conducted by Mwasa, Sira, and Maina (2014) established that companies commit part of their profits in long term projects, for example, support of schools in construction of buildings, creating scholarship programs, putting up medical health centers for its employees, sponsoring sporting activities, and striving for continuous product improvement.

Mwangi and Jerotich (2013) asserts that firms should not engage in CSR with hope of improving financial performance but have a view of doing so in order to attain sustainability purposes. They found that the firms achieve efficiency upon practicing CSR which also transform to higher Return on Assets (ROA). On the other hand, monetary form of reporting SEA is preferable to non-monetary form due to easy interpretability by the interested parties **(**Mwasa, Sira & Maina, 2014**).** It is the work of accountants to disclose information of how the business of the organization engaged itself in the maintaining ecological, social and environmental aspects of where it sourced its scarce resources. Mostly, this depends on the attitude of the accountants especially of what they perceive important to be included as non-direct-contributor to the profits. Islam and Dellaportas (2011) after interviewing members of Institute of Chartered Accountants of Bangladesh (ICAB) in determination of their perception towards environmental reporting; it was established that the accountants have positive attitude but with limited progress to practise and still worse of the little concern by the national body to standardize the reporting system of SEA.

These studies have revealed that accounting world is changing face. They are laying emphasis on the Social, Ethical and Environmental Reporting (SEER) which aim at disclosing accountability of an organization to its stakeholders and the environmental

commitment. While the discipline still remains dummy in most organization, some scholars have posited for its being made compulsory with adoption of a unifying standard world wide. This has been advocated by United Nations Environmental Program (UNEP) in collaboration with World Bank (WB). The underlying rationale being creation of legal framework for SEA reporting. Organizations are practising SEA reporting with three main motives in mind; legitimacy motive (image bulding), sustainability (altruism), and bottom line (profitability) (Bronn & Vidaver-Cohen, 2009). In all the studies since 1980s when intensive sustainability sccounting began, there has been little attention to explore social reporting and environmental reporting beyond the normal expectations of reports on conventional financial performance of organizations and enterprises and influence of the two parameters on sustainability accounting in food processing industry beyond secondary data extracted from listed companies in stock markets. This is the focus of this research. The context in agricultural sector, specifically tea sector in Mount Kenya Region.

1.2 Research Problem

Several studies have been conducted advocating for the inclusion of the social issues and environmental issues into annual reports in order to improve financial reporting to cater for stakeholder values (Gray, 2006). One study conducted by Islam and Dellaportas (2011) on Bangladesh companies showed merits of environmental accounting and environmental reporting to organizations. Lungu et al. (2011) conducted exploratory study on companies listed on Euronet Stock Exchange (ESE) on quality of Social and Environmental Accounting (SEA) and found it's improving (Lungu, Caraniani, Dascula & Colceag, 2010) including its efficacy. This has led to social and environmental accounts being created to realign the reporting of SEA with emergence of international bodies like Global Reporting

Initiative (GRI) that shows format of preparation of SEA to supplement International Accounting Standards Board (IASB, 2010) formats.

In Kenya, SEA practices has been noted (Tarus, 2015; Wachira, 2017). Social Accounting Matrix (SAM) has hence emerged from such integrations (Omolo, 2014) to form Integrated Economic Accounts. Several studies have further been conducted on companies listed in Nairobi Stock Exchange to differentiate conventional accounting from SEA and its relation with financial performance (Mwangi & Jerotich, 2013). Social accounting and profitability show mixed results according to Nkawatei (2011) who studied SEA in oil industry in Kenya. Other studies (Wanjala, 2011; Barako, Phil & Izan, 2009) have explored on factors influencing SEA and reporting in which stakeholder value, ethical practices, ownership structure (Barako et al., 2009), value creation (Barako, 2007) have been found to be influencing factors. National Environmental Management Authority (NEMA) has outlined regulations with which organizations need to comply with environmental issues (NEMA, 2012; Kithika, 1999). However disclosure of social aspects and environmental issues of economic activities still remains voluntary.

The trends in the previous studies is the use of secondary data derived from stock markets. Most of these studies are skewed towards construction and manufacturing companies. No attempt was made to use primary data from stakeholders in ascertaining social and environmental accounting. Further agricultural sector has been neglected. This study fills this gap.

1.3 Significance of the Study

The findings of this research are of significant for government decision makers to formulate affirmative policies that stimulate sustainability accounting therefore foster the responsiveness of organizations towards social, ecological and environmental developments. Further, this will be a tool for strategic management by any organization while integrating quality and quantified social and environmental information in the annual financial reports.

The study results enriches already existing knowledge in the field of accountancy by creating phenomena of interests in the social and environmental accounting. This is important for the academicians and scholars, who are in continuous efforts of gathering into coherent knowledge, the different aspects of social and environmental accounting into various learning textbooks and journals.

The study findings reveal the awareness of the stakeholders on social and environmental reporting and whether accountants are just reporting for the sake of bowing to pressure from various lobby groups like NEMA and other non-governmental organizations that push for corporate social accountability.

Processing firms, in specific, Tea sector find the research findings of great important in sustainability by attracting future profits so that there is no predictability of closure into some future time. This is because while Kenya boasts of having tea as leading export earner, the shareholders who are the farmers in small scale growing areas have so far developed discontent. Being aware of social and environmental concerns of the industries shall inform them of other duties performed by Kenya Tea Development Agency (KTDA)

through the specific industries. Such awareness cushions stakeholders' attempted exit from the industry due to market shake ups.

Most importantly, since the field of sustainability accounting is still a growing area of knowledge, the findings of this research can be used to influence the various professional bodies to incorporate the results in the Accounting Standards Framework of reporting.

1.4 Objectives of the Study

This section contain the general objectives and specific objectives which outlined what the research would achieve at the end of the study.

1.4.1 General Objective

The general objective of this study was to establish the influence of non-conventional accounting and reporting on sustainability accounting in the tea sector in Mount Kenya Region.

1.4.2 Specific Objectives

The specific objectives of this study were to:

i) Investigate the relationship between methods of reporting and sustainability accounting in the tea sector of Mount Kenya Region

ii) Examine the relationship between social reporting and sustainability accounting in the tea sector of Mount Kenya Region

iii) Identify the relationship between environmental reporting and sustainability accounting in the tea sector of Mount Kenya Region

iv) Assess the influence of methods of reporting, social reporting and environmental reporting on sustainability accounting in tea sector of Mount Kenya Region

v) Assess the moderating role of shareholder knowledge on the relationship between methods of reporting, social reporting and environmental reporting on sustainability accounting in tea sector of Mount Kenya Region

1.5 Research Hypothesis

The research aimed to test the following hypothesis:

Ho_1: There is no significant relationship between methods of reporting and sustainability accounting in the tea sector of Mount Kenya Region

Ho_2: There is no significant relationship between social reporting and sustainability accounting in the tea sector of Mount Kenya Region

Ho_3: There is no significant relationship between environmental reporting and sustainability accounting in the tea sector of Mount Kenya Region

Ho_4: There is no influence of methods of reporting, social reporting and environmental reporting on sustainability accounting in tea sector of Mount Kenya Region

Ho_5: There is no significant moderating role of shareholder knowledge on the relationship between methods of reporting, social reporting and environmental reporting on sustainability accounting in tea sector of Mount Kenya Region

1.6 Scope of the Study

The study was limited to Mount Kenya Region only among the regions that have tea sector in Kenya. The study was further limited to the certain groups of stakeholders which include the customers, community, employees and government personnel.

1.7 Limitation of the Study

There might have been skewed information from the FUMs when asked about the factories performance on the social and environmental reporting which touches on some the items directors need to consider. Their responses hence might have been more political oriented as the directorship are elective posts. This was the reverse of the presumption that the respondents would provide the truthful knowledge. This limitation was overcome by supplementary questions in the interview schedule. Another limitation encountered was difficulty in finding some factory unit managers upon visit by the researcher since they are the chief executive officers and could be found so held up in meetings elsewhere. This was overcome by asking questions from the immediate person to the FUM.

1.8 Definition of Terms

Accounting – process of identifying, recording, measuring, classifying, summarizing, interpreting and communicating financial information to interested parties for informed decision making

Methods of reporting – techniques through which accounting information is reported by way of financial (economic), social and environmental terms

Social reporting – Despite different definitions of social reporting, this paper defines social reporting as the art and science of practicing and communicating sociopolitical actions of an organization to the stakeholders to permit decision through measures of human capital and community outreach financial costs and benefits.

Environmental reporting – process of measuring and communicating the accounting aspects and concerns of natural capital usage and ecological paradigms

Sustainability Accounting – the ability of accounting body and that of an organization to impact benefit to stakeholders and environment while retaining its continuity by profitability, earning social legitimacy and accumulating standards to govern its prosperity

Non-conventional reporting – the reporting of financial and non-financial items which are outside the scope of universal standards and principles

Accounting Disclosures - the act of communicating both financial and non-financial information

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter looks at empirical review, theoretical review and conceptual framework from which the model was based. It then end with a summary which identified existing gap.

2.1 Empirical Review

This section contains review of previous research and their relationship with the research at hand. The literature was reviewed in terms of sustainability accounting, social reporting, environmental reporting and stakeholder knowledge.

2.1.1 Sustainability Accounting

Sustainability is a concept that encompasses both present and forthcoming generations which envisages that the needs of the people be met. The needs which goes beyond normal profit, are both social and environmental (Gray & Bebbington, 2010). Sustainability hence entails meeting the needs of the present generation without interfering with the quality of life of the future generations. Sustainability accounting is a term used to refer to gathering, analysis, interpretation and communication of information related to sustainability of an organization's financial and economic dealings (Schaltegger & Burrit, 2010) and the purposes of such information to those who bear interest in them (Schaltegger, Zvezdor & Bennett, 2013). According to Gray (2010) sustainability accounting has materialized from the philosophical debates and has emerged from conceptual developments in the field of

accounting (Schaltegger & Burrit, 2010). This is both an extension of conventional accounting and a new accounting field in entirety (Knight, 2013).

Traditional system of accounting is a sticker of internal inventory and flow of financial information and value on the statement of business position and profits and loss on statement of comprehensive income (Parkin, Andy, Buckland , Brooker & White, 2003). These internal reporting relates to the shareholders alone. Parkin et al. (2003), further states that sustainability accounting reports shows costs and benefits accruing from performances on economic, sociocultural and environmental engagements. The magnitude with which stakeholders continue to pile up pressure in relation to organizational responsibility disclaimers, offer a good incentive towards organizational sustainability, to a much extent lead to effectiveness. Such pressures are guiding organizations to put in strategic management and sustainability reporting for stability in offering healthy and stable products (Lungu et al., 2011). The 2012 United Nations Conference on Sustainable Development (Rio+20) further asserted that sustainability reporting in general is an enabling factor for businesses to foster Green Economy (Gobal Reporting Initiative, GRI, 2011).

Sustainability Accounting can be categorized into two: Internal Sustainability Accounting (ISA) and External Sustainability Accounting (ESA). The ISA creates clear visibility between the linkage of unseen costs and benefits and those of financial performance within the context of the institutional operations (Parkin et al., 2003). ESA on the other hand deal with externalities which are not covered in the organization's financial accounts.

Sustainability accounting takes dimension of economic feasibility while incorporating social responsibility aspects and environmental sensitivity (Gray, 2010) in which proponents are putting pressure for better quality of information regarding sustainable practices (Albelda, 2011). The three proponents are not cost-free but bear economic trade-offs and opportunity costs between each other's contents. The social element and environmental components still carry economic viability (Gould, 2011) hence it is important that accountants consider accounting sustainability as part of strategic and routine decision making (Albelda, 2011).

Accountants, especially the management accountants, have a role to facilitate decision making at the strategic level management (Albelda, 2011). Annually throughout the centuries, the management accountant has had his role skewed towards financial disclosure, taxation and auditing which is related to the internal control of the organization. This function sidelines the sustainability in accounting to the externalities. In order to achieve this, accountants can use such tools as triple bottom line disclosure, Environmental Management Accounting System (EMAS) (Albelda, 2011), and balance scorecard (IFAC, 2011), techniques which are also confirmed by Horngren et al. (2011) as workable for accountants towards measuring sustainability accounting. The management accountant's role as influencer of decision making is one enough a strategic sustainability focus. While participating in strategy formulation, mission statement and vision declaration of the organization, management accountants need to play an active role in sustainability accounting right at this point (CIMA, 2011). The organization should hence develop concrete goals towards achieving sustainability accounting (Vinal, Sharma & Low, 2012). Numerous reason exist justifying the need for accountants' engagement in sustainable

development. First, new jurisdiction advancing towards sustainable development for organizations, secondly, the global pressure from international leaders pushing for organization's sustainability knowledge, and thirdly is the unwavering call for accountants to put in the forefront practices of sustainable development (Ferreira, Moulang & Hendro, 2010).

2.1.2 Sustainability Accounting and Accounting Standards

Generally accepted standards of accounting like International Accounting Standards (IAS) and International Financial Reporting Standards (IFRSs) lack specificity of a clause that deal with SEA and reporting (Farkas, 2011). There has been arguments that social and environmental aspects are not within the circles of IAS although in reality there are liabilities directly or indirectly arising from the environment due to organization's business. It is therefore important to amend accounting reporting standards to include social and environmental issues (Farkas, 2011). It is evidence that there are no concrete direct guidelines linking sustainability accounting in IAS, despite this fact, there are still some IAS that can be traced to SEA reporting. Taking into account these indirect links may boost the organization's awareness on social and environmental issues (European Commission, EC, 2001). International Accounting Standards (IAS) that bear relevance to the social and environmental issues include IAS1, IAS8, IAS16, IAS36, and IAS37.

2.1.2a IAS 1: Presentation of Financial Reports

ISA1 deal with reporting in a universally accepted standard the performance and financial position of a firm and the cash-flows for a given financial period with the objective of decision making. The decisions are based on income, expenses, assets, liabilities which are directly attributable to shareholder's equity (Firoz, 2010). According to SEA, an

independent report is required to disclose on social and environmental costs precisely where such liabilities have financial and economic impact. The independent report is due to non-obligation by IAS1 to cater for costs and liabilities on social and environmental aspects, however, when the accountant discloses SEA information in the annual reports then the accounting policies should state what the costs are representing (IAS 1, 2008). Amending this enclosure is in support with the going concern concept which this study translates to accounting sustainability unless the accountant and the management wish to liquidate the organization.

2.1.2b IAS 8: Accounting Policies Changes in Accounting Estimates and Errors

At circumstances when the IFRS is absent, the management is at liberty to use own judgement to coil, decide and apply accounting policy that is reliable, fairly and truly represent financial position and performance permitting informed judgement by the users for the costs and liabilities of transactions that bear economic impact and not merely considering their legal form (Firoz, 2010). This is where transactions bearing social and environmental impacts that are of economic significance are considered to be disclosed and qualifying digression from normal policies.

2.1.2c IAS 8: Property, Plant and Equipment

An organization always do a long term budgeting of Plant, Property and Equipment (PPE). The cash outlay for PPE arises due to social and environmental reasons. Such long term investments in PPE however capitalized as non-current assets, may not immediately raise benefits that are economic for the organization or even in future (IAS 16, 2012). IAS 8 allows for investments of that nature to be recognized as non-current asset since in accrual terms, the economic benefits may exceed the social and environmental costs in future

(IASCF, 2006). This kind of accounting shall reduce future damage in the environment and minimize social injustices (Firoz, 2010).

2.1.2d IAS 36: Impairment of Assets

IAS36 states that organization whose business is in economic terms may identify and recognize any potential impairments (IASCF, 2006). For instance, social aspect or environmental factor may be a mayhem to the organization in that it can ruin its financial reputations. In accordance to IAS37, an organization entity can create obligations for clean-up costs for environmental detriments and social injustices (Kamieniecka & Nazka, 2013).

2.1.2e IAS 37: Provisions, Contingent Liabilities & Contingent Assets

This standards bear an objective of the correct method of representations and tenets of evaluations applied to the contingent assets and liabilities (IAS 37, 2012). Contingent liability is an obligation emanating from past transactions and whose presence will arise only by the occurrence of uncertain events arising in future or such non-occurrence both of which are beyond the organization's control but has economic impact. Although an entity should not recognize contingent liabilities, it should be disclosed unless the financial units is remote (Firoz, 2010), SEA can be traced from this aspect in its impacts on financial disclosures. IAS37 recommends that a provision need to be recognized at presence of its current obligation as a result of past activities in such a way that the costs can be estimated reliably (IASCF, 2006). This standards provides for recognition of restoring or removing obligations occurring due to social and environmental factors in a particular period.

European Commission on Environment (ECE, 2011) has observed that the constructs of sustainability is increasing exponentially. This has led to numerous practices, connotations

abstractly being coiled from existing theoretical and non-numerical data, tools and techniques of sustainability accounting, systems which accountants need to incorporate in their sustainability disclosures. Systems like Environmental Management System (EMS) is example of schemes by the international community that is being intertwined in the International Standards Organizations (ISO) like ISO14000 limiting economic practices within the prospects of environmental management. The clauses for environmental management are very well pronounced in ISO 14001:2004 which outline EMS requirements in conjunction to ISO 14004:2004 that lays the general guidelines (ECE, 2011). Sustainability accounting even though posits a very unique field requiring specialist and technical knowledge to advisory personnel is also pushed by regulatory structures (Gobal Reporting Initiative, GRI, 2011) commonly linked to accounting standards and guidelines (Accountability, 2011). EMAS and ISO 14001 have gained institutional and internationally recognition (Schaltegger et al., 2013) and in accounting policy formulations.

Implementation of these standards lies on the internal and external factors that drive organizations towards the implementation of the sustainability accounting standards (Neugebauer, 2012). These factors interact (Perkins & Neumayer, 2010). Although Negash (2009) stresses insufficiency in GRI to monitor SEA disclosures, it has generally been considered as the most applicable in reporting for the stakeholders interests and that qualitative reporting is also necessary to support such reporting (Lungu et al., 2011). Integrated value information is hence important. International Accounting Standards Board (IASB) formulated a non-mandatory guideline that shall assist organizations to present narrative statements towards sustainability accounting. This is in addition to the principles

laid by IFRS. The narrative reports are aimed at providing awareness among users of the information of how non-financial items impacted on the published financial statement (IASB, 2010). GRI establishes the principles of maintaining sustainability accounting reports which need to include the materiality, inclusion of stakeholders, the context of sustainability and the information completeness (GRI, 2011) and also suggest for factors of qualitative measures including accuracy, preciseness, reliability and comparability as they are advocated by the accounting reporting standards. Lungu et al. (2011) after conducting exploratory study in terms of evolution in finance and economics gave likely standards of merging the theories of GRI standards with their practical aspects. GRI principles and guidelines tend to be most applied on SEA reporting (Lozano & Huisingh, 2011). The GRI pinpoints guidelines that are universal with industry indices that enable stakeholders to make comparison of various organizations' SEA success (Amani, 2011).

2.1.3 Methods of Reporting

The regulatory bodies of accounting currently do not legally obligate organizations to report their economic activities in harmony with social, ecological and environmental aspects. There are hence very little if any the enforceable guidelines nor principles which can govern the tenets of sustainability reporting. Even the Charter for International Chamber of Commerce (ICC) for sustainability development and World Business Council (WBC) have missed mentioning the depth of resource use for social and environmental aspects of accounting (Rob & Jan, 1997).

Despite the above inadequacies in principles of SEA, study and experience by (Lungu et al., 2011) in accounting has recommended that adding social and environmental information into economic reports leads to increased competitive advantage, the

information need to be captured by redesigning the company's website, where collated social reports and environmental reports are published in a well set guideline after which it is audited after being integrated into financial statements to form a composite of social reporting, environmental reporting and financial reporting. Tools like balance scorecard, EMA and the triple bottom line reporting can be used to report the information (IFAC, 2011).

2.1.4 Social Reporting: Human Capital and Community Outreach

Social reporting entailed the preparation of information concerning organization's social, community and other stakeholders' activities. Such social accounts contain a mix of both quantifiable and non-financial information and descriptive non-financial information; apart from the financial information itself that dominates the traditional accounts (Gray, 2008). Social and accounting is a term which has seen evolution in its definition since it was first coined by Linowess in 1968 when he defined "socioeconomic accounting" in an attempt to bring in new facets of accounting which include the aspects of sociological, political and economics of accounting whose curvature surpasses the conventional accounting (Lowrry, 2011). The term social accounting was used synonymously alongside other terms like Corporate SEER (Chulian, Husillos & Gonzalez, 2008), social and environmental accounting, corporate social reporting, non-financial reporting; and entailed the act of communicating the impacts of an organization's economic impacts to the society and the environment to a specific group of interested group of people in the society and to the entire society (Mwasa, Sira & Maina, 2014).

Rob and Jan (1997) found that companies need to disclose social information relating to number of employees and the approximate pay, meeting employee needs, concern of

disabled employees, arranging for pension, charity and donations. Apart from just reporting on social factors, the organizations need to practically sell in the market safety products, partner with human rights, maintain customer relations and ensure a satisfied workforce, be in good relationship with the government, build good rapport with the community and ensure a condusive working environment for all employees (CSR Report, 2011). When employees are incorporated in management activities, there is an increased value of each individual to the organization in accordance with human resource accounting (HRA) (Flamholtz, Bukken & Hua, 2003). Measuring human capital including intellectual capital (IC) (Gauthrie, Petty, Yongvanich & Ricceri, 2000) is of merit in reflection of competitive human capital and being strategic which is achieved by valuing and reporting for it in financial terms (Toulson & Dewe, 2004). The organizations need to report on human capital related matters like training and development (Vountisjarvi, 2006).

2.1.5 Environmental Reporting: Ecological Factors and Natural capital

The phrase 'Environmental accounting" may take different dimensions of definitions. Simply it entailed consequences that arise due to a firm's usage of input and release of output (ACCA, 2015). The inputs are drawn from the environment while releasing outputs to it. These bear costs which leads to another definition of environmental accounting as the act of identifying, measuring and allocating environmentally associated costs whose integration to decision making is prudent which is then communicated to the stakeholders (Institute of Management Accountants, 2015). The careful examination of the impact of the organization's products and services while utilizing input is what is referred to as identification. Environmental reporting is therefore the practice with which accountants incorporate propositions of environmental management techniques and conservation

modules into the conventional annual disclosures (International Federation of Accountants, 2015).

Environmental reporting is tool for measuring environmental practices and performance by organizations (Hajnalka, 2012), in which business terms focus on understanding the costs and returns from environmental engagements. The fundamental aim of environmental accounting system is to help in the comprehension of existing tradeoffs on conventional accounting and economic aims and environmental strategic purposes as a tool to formulate policies (Ahmad, 2012). Environmental Reporting (ER) forms part of the company's communication system. ER is valuable towards realization of the environmental performances apart from profit making objective. ER is hence a means of communicating to all stakeholders (Ahmad, 2012) whose concern on environmental issues continues to grow every other day.

Ahmad (2012) recommends that any environmental expenditure incurred while a company engages in environmental concerns, need to be treated as capital expenditure. This is so because it is from the environment that the business draws its resources that is converted for the purposes of further sales to earn considerable profits. These process can be guided by EMAS which reduces the organization's impact in the environment that also responds to environmental interests of both internal and external stakeholders (Pederson, 2007). Moreover, EMS is a way of complying with the regulations while minimizing costs of audits by customers and magnify market image and still lead to change management which is profitably achieved if sustainability accounting is accomplished (Mohamad, Saravanan & Seetharaman, 2007).

Environment entails the totality of plants, animals, socioeconomics and cultural tenets which include physical factors such as land, air, biological factors, soil and water surrounding human beings (GoK, 2013). Environmental issues according to (CSR Report, 2011) include environmental protection and improvements, careful resource use that lead to controlling the environmental impact on aspects of quantity of emitted gas, recycling of waste materials (Schaltegger, Bennet, Burrit & Jasch, 2008). This leads in using resources to maximize production and so are returns while retaining the status of the environment or improving it (Ahuja, 2014). Accountants need to pay attention to environmental pollution prevention prevailing due to economic activities hence budget for costs pollution prevention rather than costs abatements (Russo & Fouts, 1997). Vision 2030, medium plans and sustainable development goals advocate for combating climate change, protection of freshwater and wetlands (water management), accounting for natural resources and depreciation of natural resources, soils fertility and depletion, protection of wildlife habitats, air quality (GoK, 2013).

2.1.6 Stakeholder Knowledge on Accounting Reporting

Individuals and/or group of individuals bearing the likelihood of affecting or being affected by the business activities of the organization are the stakeholders of that organization (Parkin et al., 2003). Stakeholders share valued information which disintegrates into purchasing of products (the customers), provision of incentives (the community), provision of funds and good financial terms (the financiers),holding of stock and having direct interest to the organization (the shareholders), putting concerted effort within the organization on assigned responsibilities (the employees) (Harrison, Freeman, & Sa De Abreu, 2015); analyzing and making information available in discernable form (financial

analysts) (Campbell & Slack, 2011). It is further notes that reporting to stakeholders on sustainability accounting pools together the resources and efforts (Tantalo & Priem, 2014) of the stakeholders to the organization's achievement of its objectives. The stakeholders hence relate to each other in one way or another while interacting to the organization in the way of attitude (Cording, Harrison, Hoskisson & Jonsen, 2014). It is important to include into the financial reports the information to which all of them have interest.

Stakeholder knowledge here is taken by the study to mean the awareness that the stakeholders have about social and environmental disclosures. The awareness of how the components of social accounting, environmental accounting, and disclosures is good influence of what the organizations choose to disclose to the interested parties (Hossain, Rowe & Mohammed, 2013). This means a vast knowledge of such aspects would lead to widespread reporting of SEA. The awareness is very well intensified when done through the media (Hossain et al., 2013), although, media reports both negative and positive impacts of the organizations, the negative information is likely to be neglected by accountants. Presence of legal provisions may also lead to creation of awareness of SEA among stakeholders (Belal, 2006). Lack of knowledge by awareness may hence limit the extent to which accountants will report on SEA (Elsakit & Worthington, 2012).

2.2 Theoretical Review

Review of literature discloses a number of theories associated with sustainability disclosures and other corporate accounting and reporting. These theories include agency theory, signaling theory (Yi, Davey & Ian, 2011), the accountability theory, contingency theory, shareholder theory, stakeholder theory, critical theory, and resource dependency theory (Narendra, 2013). Positive accounting theory (PAT) is one of the theories that offer

clarity and forecasting about accounting decisions and choices affecting stakeholder's wealth based on the concept of agency problems (Collin, Tagesson, Anderson & Hassan, 2009). PAT puts it that agency costs as on agency theory vary with companies based on political and social influence (Broberg, Tagesson & Collin, 2010). Chen and Roberts (2010) expounds the theoretical overlap in the legitimacy theory, institutional theory, resource dependency theory and stakeholder theory in reporting for sustainability accounting. Conclusion drawn by (Chen & Roberts, 2010) is that selection of the theories should depend on the focus of the study. This study hence shall lay emphasis on legitimacy theory and stakeholder theory towards accepting or rejection of the research hypothesis.

2.2.1 Shareholder Theory

The theory lays much emphasis on reporting to the shareholders alone in reference to profits. It only focuses on the shareholder as the sole party affected by the organization's economic activities. Shareholders want the managers to maximize value towards their interest (Stout, 2013). However, such values are threatened during great economic depressions. Shareholder is just one of the many stakeholders that organization need to look at in terms of accounting and that concentration on shareholders is done at the detriment of other stakeholders. Hence the study reviews stakeholder theory in the next section.

2.2.2 Stakeholder Theory

Moriarty (2011) stresses on stakeholder democracy in the aspect of the firm's control and governance in the community. His argument is that managers need to put aside skewed cognitive self-interests and plan for the distributive objective of balancing interests and wellbeing of all stakeholders (Harrison, Bosse & Phillips, 2010) of the business by

allocating benefits to them. It is found out that most firms' actions are in consistency with the predictions of stakeholder theory (Brower & Mahajan, 2012). Such actions augment Social Corporate Performance (SCP) that in turn leads to improved financial performance of firms (Luo & Bhattacharya, 2006). In as much as stakeholder theory increases SCP, it is anonymous with CSR theory (Henisz, Dorobantu & Nartley, 2001 as cited in (Harrison, Freeman & Sa De Abreu, 2015).

Stakeholder theorists (Freeman, Harrison, Wicks, Prmar & De Colle, 2010) emphasize that stakeholder theory is simply for managerial purposes. It is an instrument for measure of how to run a firm and as well a standard for evaluating the manager's decisions. Such decisions are made inclusive of accountants. On the other hand, all firms bear social obligation to manage all stakeholders despite whether or not they have expertise. This makes stakeholder theory a practical theory (Harrison, Freeman & Sa De Abreu, 2015) since well treated stakeholders share the organization's valuable information which transforms to good attitude hence loyalty. Loyalty will mean that there are stable profits in every financial year.

For the purposes of disclosures in accounting, this study pinpoints more on stakeholder theory that was described by (Yi et al., 2011) as supporting the inclusiveness of several stakeholders in a bond with the organization (Donna & Alexis, 2014). Therefore, sole responsibility of accounting is to relay information in addressing stakeholder's risk management (Harrison & Smith, 2015).

2.2.3 Legitimacy Theory

Legitimacy theory defines the relationship between the organization and the entire society or community from which it draws its resources. Although, both Stakeholder theory and Legitimacy theory fits the organization into the larger community system, Legitimacy theory puts much emphasis on the society as a whole, (subsisting of both stakeholders and non-stakeholders) and lay focus on the organizations' stakeholders as explained by Yi et al. (2011). On the other hand Chen & Roberts (2010) takes a slightly different stand that this theory applies when assumptions of social expectations are upheld and the audiences on target are not explicitly named.

Legitimacy theory advocates that the organizations should conduct their business in the perspective view of societal expectations and norm. This is what is referred to as societal compliance or simply social contract. All these are to ensure that perceived societal legitimacy is met (Li, Clarkson, Richardson & Vasvari, 2008). From the legitimacy mirror, a style is emerging of companies in developing countries placing greater emphasis on sustainability reporting to proper address stakeholder holistic expectations so as to attract capital and build successful business image (Faisal, Greg & Rusmin, 2012). A study conducted by Nihal (2015) by cross-sectional sector analysis of environmental disclosures in legitimacy theory context failed to confirm legitimacy theory as an explicator as a framework of reporting for environmental accounting as should be the case with high impact industries in Turkey. The contrary proved that only medium impact industries have standalone environmental disclosures (Nihal, 2015).

Investors of capital and customers may dissociate with a company if a gap occur in the legitimacy leading to stalled operations and irreversible economic impacts since

community expectations define social aspects of a company (Makela & Nasi, 2010). From these studies, legitimacy theory plays an important explanation of why SEA disclosures need be highly adopted by companies. The society needs to stamp its approval of the operations of an organization, this only possible by upholding the tenets of Legitimacy theory hence the business to live to the theory of going concern.

2.2.4 Sustainable Borrow-Use-Return Model

Bob (2011) further expounded the 3-Nested Dependencies Model explained by (Willard, Upward, Leung & Park, 2013), when he modified it to Sustainable Borrow-Use-Return Model. The theory put into question the rapid rate at which the natural inventory, human stock and social capital are utilized than there replenishment and suggests that the organizations need to go back to the society and the natural environment to restore whatever has been used. This is only possible when accountants accommodates into their decision making the sensitivity to social and environmental spheres by accounting and reporting for them.

2.3 Conceptual Framework

Conceptual framework was the model that the study shall displayed logical comprehension of the relationship among the independent and dependent variable and confluence of intervening variable (Uma, 2006). Theoretical approach to hypothesis development was done in which testing of relationships lead to constructing a model to demonstrate the influence of methods of reporting, social reporting, and environmental reporting on Sustainability Accounting as moderated by stakeholder knowledge.

Independent Variables **Moderating Variable** **Dependent Variable**

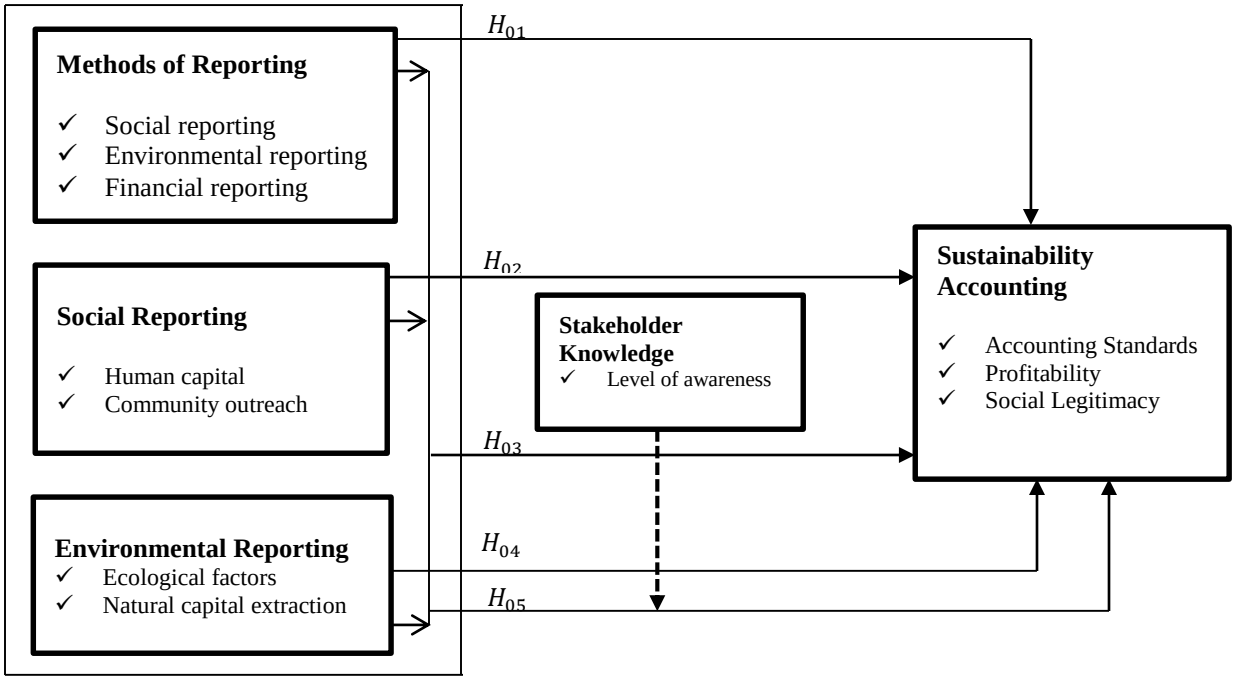

Figure 2. 1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter comprises of several sub sections which are presented in the following order: Research design, study area, target population, sampling technique & sample size, research instruments, validity & reliability, data collection procedures, data analysis, ethical considerations and operationalization of variables.

3.1 Research Philosophy

Research philosophy is concerned with how the things are perceived to be in the world (Saunders, Lewis & Thornhill, 2009). The philosophy supports the assumptions underlying a research study and strategy and the methodology chosen for search a study (Saunders et al., 2009) hence specifying the kind of research design that is most appropriate for a certain study. This study is anchored under pragmatism research paradigm. While there exists numerous philosophical research approaches (axiology, ontology, epistemology, positivism, realism, interpretative, objectivism, subjectivism, radical constructivism), pragmatism thinking approach argues that choosing one philosophy over the other is unrealistic and that the most important factor to consider is the research question (Saunders et al., 2009). Since this study involves both quantitative method (which takes constructivism, interpretative, inductive, naturalistic techniques) and qualitative method (which takes positivism and deductive approach), the mixed methods (that gives in depth understanding of a phenomena) which the study adopted was best anchored under pragmatism research philosophy.

3.2 Research Design

Traditionally, empirical accounting researchers have either opted for the basis of quantitative or qualitative methodology, triangulation, or mixed method designs during the stages of collection, analysis, presentations and interpretations of accounting research data (Ryan, Scapens & Theobald, 2002). Researchers like Ihantola and Kihn (2011) after undertaking theoretical review found out that mixed methods need checking for validity and reliability of research data at all stages. Webb, Campbell, Scherest and Schwartz (1996) in their study of unobtrusive measures found very robust meritious outcomes of adopting mixed method designs which includes improving validity of constructs.

The study adopted Mixed Methods Research (MMR) design which was defined approximately the year 2000 (Lund, 2012). Some researchers like (Venkatesh, Brown & Bala, 2013) have also referred to MMR as the third methodological movement which was gaining imminence use among researchers. Adoption of MMR for this study was justified by the fact that it provided greater discernment (Creswell, 2012) in the understanding of SEA Accounting and Reporting and Stakeholders while determining their influence on Sustainability Accounting; assisted in obtaining mass knowledge in order to draw informed conclusions and arrive at future research areas as the researcher was not be pegged on one research design alone (Gail, 2013; Frels & Onwuegbuzie, 2013). In this context, the study found it even better to term MRR as Mixed Method Accounting Research (MMAR) (Ihantola & Kihn, 2011) as based on the study context.

MMR did away with the weaknesses that would have been encountered when singly working with quantitative or qualitative research designs (Salehi & Golafshani, 2010) which bore other rationales like the respondent's enrichment, integrity in measurements,

and improving significance (Collins, Onwuegbuzie & Sutton, 2006). The study further narrowed down to two kinds of MMR: convergent parallel MMR (Tashakkori & Teddlie, 2010) which helped to collect and collate quantitative data with qualitative data (Plano, Vicki, & Creswell, 2008); and embedded MMR QUAN(qual) (Plano et al., 2008) as cited in (Creswell, 2014) which accommodated collection of quantitative and qualitative data at the same time (Creswell, 2012). The quantitative research was used to towards analyzing the objectives that led to either reject or accept the hypothesis while qualitative research supported the hypothesis (Cronholm & Hjamarsson, 2011). It is noted by (Baker, 2011) that there has been paradigm shift from a conventional framework to positivist research where scientific model is tested and inferences made, this is based on quantitative research. The study was endeavored to get the stakeholder opinion and attitude towards SEA accounting and reporting, this could only be achieved by applying qualitative research method (Gravetter & Forzano, 2012) which captured the reality in details in that some of the social and environmental factors like human beings and ecological issues were observed in their natural settings (Hossain et al., 2013). Further, qualitative research was emic in nature (Morrow, 2007). Emic kind of research reveals unique opinions of the society (Huang, Mohammad, Rowe & Lai, 2011) which this study looked at social factors in social accounting.

The study further used survey strategy that enabled the researcher to get the same type of data from a large group of respondents in a standardized manner and checked for the pattern trend in the data that assisted generalize (Fowler, 2009) the research findings to the population (Martyn, 2010). Survey strategy is a sub-set of descriptive studies which fitted the study at hand and also linked to deductive approaches that is majorly applicable in

business inquiries and management research (Saunders , Lewis & Thornhill, 2009). Sample survey cemented and facilitated data collection and analysis in group of traits in a population and that large amount of data can be drawn from a vast population with great economy. The study derived information by asking questions (White & McBurney, 2013) from respondents as guided by the research instruments. The survey design was very prudential in collating qualitative data whose analysis is very possible quantitatively using statistical techniques (Fink, 2002; Fink, 2012; Murray, 2010). The objectives of this study aimed at finding relationship between variables which was possible to obtain in data collection using survey strategy (Babbie , 2007).

3.3 Study Area

The study was carried in Mount Kenya Region, Kenya. Mount Kenya region encompass five regions where tea is grown. These counties include Nyeri, Meru, Embu, Kirinyaga, Tharaka Nithi, Murang'a, and Kiambu. Tea is grown in these areas in altitudes of 4900 feet to 5100 feet. The climate bear temperatures that range as low as 12^{o}c in June-August and high 27^{o}c in January-March and September-October; with annual rainfall of 500ml-1500ml which favor tea farming. Majority of the people engage in tea farming as economic activity. There is widespread in the tea farming around Mount Kenya Region. Kenya Tea Development Agency and other players in the area have continued to practice social and environmental reporting endeavored at sustainable tea production. With such practices, stakeholders in the area still show little satisfaction of the economic, social and environmental reporting; this informed the choice of Mount Kenya region as the study area.

3.4 Target Population

The population in the study was FUMs, Factory Accountants and Accounts Clerks. The study targeted 111 respondents drawn from 37 tea factories around the entire Mount Kenya region. The tea factories included Chinga, Gacharage, Gachege, Gathuthi, Gatunguru, Githambo, Githongo, Gitugi, Igembe, Ikumbi, Imenti, Iriaini, Kagwe, Kambaa, Kanyenyaini, Kathangariri, Kiegoi, Kimunye, Kinoro, Kionyo, Kiru, Makomboki, Mtaara, Michimikuru, Mungania, Mununga, Ndarugu, Ndima, Nduti, Ngere, Njunu, Ragati, Rukuriri, Theta, Thumaita, and Weru. The study sort information from Factory Unit Managers, Factory Accountants, Factory Assistant Accountants or Accounts Clerks drawn from each tea factory. The mentioned group of respondents, by nature of their professions, are well versed with accounting concepts, principles and conventions and were well placed in responding to interrogations concerning economic, social and environmental accounting and reporting within the tea catchment areas of Mount Kenya region.

3.5 Sampling Design

3.5.1 Sample Size

In order to obtain a sample of the respondents, the researcher used Nassiuma sample size formula of obtaining a representative of the population. Nassiuma's formula has three factors determining the sample size which included population (N), coefficient of covariance (c), and standard error (e). It is acceptable in most surveys a covariance ranging from 21% to 30% and standard error of 2% to 5% (Nassiuma, 2000). The study adopted c of 30% and e of 2%, these values for c and e were appropriate for this study because the upper limit of c and lower limit of e leads to large sample size (Nassiuma, 2000) that minimizes sampling error and so was sampling variability (Mugenda & Mugenda, 2003).

A further factor that was considered in choosing Naussima 2000 model is because it leads to a manageable sample size (Neuman, 2000) large enough to draw reliable research conclusions at minimal resource (finance, time and human) use (Mugenda & Mugenda, 2003). $n = {Nc^2}/{c^2 + (N-1)e^2}$ (Eq. 3.1)

Where n = Sample size
N = Population
c = covariance (coefficient of variation)
e = standard error

Table 3. 1: Sample Size of the Study

Stratum	Target	Sample size using Nassiuma's Formula
Factory Unit Managers	37	31
Accountants	37	31
Tea Factory Accounts	37	31
Total	**111**	**93**

3.5.2 Sampling Technique and Procedure

Stratified sampling was applied. The stratified sampling enabled inclusion of all subgroups in the sample (Mugenda & Mugenda, 2003). The stratified sampling was useful in supplementing randomization which enhances MMR (both quantitative and qualitative studies) to be undertaken (Cohen, West & Aiken, 2003). Stratification was conducted by grouping the respondents into strata called counties. Most of the tea factories were grouped in regions by the tea authorities but the study used strata of counties.

Since the study focused on heterogeneous population in terms of income levels, opinions, age and sex, hence probabilistic simple random sampling technique was applied to ensure each respondent get equal chance of being chosen from the population (Mugenda & Mugenda, 2003).

3.6 Data Collection Instruments

The research utilized both primary and secondary data. Primary data was obtained using semi-structured questionnaires. The questionnaire was used due to its quick ability to administer and highly convenience the respondents who could fill it at their own free time (Cooper & Schindler, 2008). Matrix questions in the questionnaire was utilized to measure perceptions on a Likert scale (Mugenda & Mugenda, 2003). Questionnaire was fit instrument for a survey strategy in a MMR that this study focus on in which survey was preferred data collection procedure due to its capability of turnaround in data collection which was economical (Creswell, 2014).

Semi-structured interviews were used to gain deep information (Soh & Martinov, 2011) from key informants which included Factory Unit Managers (FUMs) and Factory Accountants (FAs) concerning SEA reporting. Interviews were conducted to FUMs and FAs because of their broad comprehension of the organization's conventional accounting and SEA reporting.

3.7 Reliability and Research Validity

The quality of research findings depend on the reliability and validity of measuring instrument. The research instrument was checked for reliability to detect the amount of random error in the measurement so as to ensure that it was consistent and stable enough to meet predictability of the model (Ng'ang'a, Kosgei & Gathuthi, 2009). It has been noted that an instrument may produce reliable results which are invalid (Kimberlin & Winterstein, 2008) and such invalidity arise from systematic error (Weiner, 2007). The study hence further sorted for testing validity to determine the extent with which the research instrument quantified what it is meant to measure (Weiner, 2007). The researcher

bore the responsibility to identify the fountainhead of random and systematic error which have ruinous effects to hypothesis justification (Crocker & Algina, 2008). The sources of such errors were determined as explained below.

3.7.1 Reliability of Research Instrument

A pilot study was undertaken to in order to validate the research instrument for its capability to produce consistence results. The main concern in instrument's reliability was the internal consistency of the scale used. The commonly applied indicator of internal consistency was the Cronbach's alpha coefficient (Pallant, 2005). Thirty questionnaires administered in Nyeri County were used to run test for reliability. The researcher adopted the research instrument for main data collection if reliability had Cronbach's alpha of 0.70 value generally accepted in social sciences as a good reliability correlation value (Wuensch, 2002; Pallant, 2005). The Cronbach's alpha produced by the pilot study was 0.895. A rule of thumb for acceptable levels of Cronbach's alpha coefficient recommended by George and Mallery (2003), as in Table 3.1. According to Table 3.1 the study's alpha was good hence the research instrument was reliable.

Table 3. 2: Range of Cronbach's alpha coefficient

S.No	Cronbach's alpha value	Acceptability remark
1.	$0.9 \leq \alpha \leq 1$	Excellent
2.	$0.8 \leq \alpha < 0.9$	Good
3.	$0.7 \leq \alpha < 0.8$	Acceptable
4.	$0.6 \leq \alpha < 0.7$	Questionable
5.	$0.5 \leq \alpha < 0.6$	Poor
6.	$\alpha < 0.5$	Unacceptable

(Source: George & Mallery (2003, p.231)

3.7.2 Validity of Research Findings

In order to ascertain that the instrument conform to the constructs of which it is supposed to measure (Field, 2009), test for validity was done. This ensured that the research instrument has its individual items capture constructs under measure. The study adopted face and content validity. Face validity simply estimated whether a scale appears to measure a construct but which was non-assurance that content was sufficiently covered. This prompted for content validity measure. Content validity fitted well mixed method research (Newman, Lim & Penida, 2013). Content validity is the degree of appropriateness of questionnaire items in representing the construct under study (Waltz, Strickland & Lenz, 2005). Since there is no universally recommended statistical test to measure content validity (Kimberlin & Winterstein, 2008), this study used experts' judgement (Ng'ang'a et al., 2009; Ayre & Scally, 2013). Experts' judgement can be measured into a single unit that were developed by Walzt and Bausell (1983) called Content Validity Index (CVI) (Newman et al., 2013). The CVI was computed in a four-scale-relevance rating where 1=not relevant, 2=somewhat relevant, 3=quite relevant and 4=very relevant (Waltz, Strickland, & Lenz, 2005; Wilson, Schumsky & Pan, 2012)). The CVI is always threatened by chance agreement risk. To take care of chance agreement, item on scale was computed and fitted in the adjusted multirator formula to give adjusted kappa index(k^*).

Computation of chance agreement first: $p_c = \left(\frac{N!}{A!(N-A)!}\right) * 0.5^N$ which is a manupilated binomial random variable formula since the expert judgement was condenced to two responses only; where ($N = number\ of\ experts$, $A = number\ of\ experts\ agreeing\ on\ relevance\ of\ the\ research\ instrument$, $p_c = the\ probable\ value\ of\ chance\ agreement$) in the measuring scale of the items of the

instrument. Then followed by computation of adjusted kappa index:$k^* = \frac{I-CVI-p_c}{1-p_c}$. The standards explained by (Fleiss, 1981) and Cicchete's interclass correlation coefficient (ICC) (Ciccheti & Sparrow, 1981) was used to interpret the fitness of the reliability as in Table 3.2. The study produced a kappa index of 0.72 and according to Table 3.3, this was considered good hence the research instrument was valid.

Table 3. 3: Cicchete's Interclass Correlation Coefficient

S.No.	Adjusted Kappa Index Range	Interpretations
1.	0.40 and below	Poor
2.	Between 0.41 to 0.59	Fair
3.	Between 0.60 to 0.74	Good
4.	0.75 and above	Excellent

(Source: George & Mallery (2003, p.231)

3.8 Data Collection Procedures

The researcher sought authority from the university, which was granted. Using the university authorization letter, the researcher applied for research permit from National Commission for Science and Technology (NACOSTI) as per Science and Technology Act, Chapter 250 of the Laws of Kenya. The government through its advisory institution NACOSTI permitted the researcher to conduct research in six counties which included Kiambu, Murang'a, Nyeri, Kirinyaga, Embu, Meru and Laikipia. The Government research permit had regulation that the research permit be presented to County Commissioner and County Director of Education for every county mentioned before the researcher embarked on research in a particular county. Go ahead was accorded the researcher by the County Commissioners and County Director of Education for Nyeri County, Kiambu County, Murang'a County, Kirinyaga County, Embu County and Meru

County. However, researcher did not conduct research in Laikipia County but did it in Tharaka Nithi County instead, since Laikipaia County rarely has tea industries.

The researcher recruited four research assistants who were trained and taken through the questionnaires including the study area. The research assistants were reminded of how to carry themselves while conducting the research, use of research language, ethical considerations and ways of collecting quality data. The research began by a pilot study in Nyeri County where questionnaire was administered to five FUMs, five Factory Accountants and five Accounts Clerks for all tea factories in Nyeri County so as to meet the minimum required number for a pilot. In every county the researcher visited, the researcher was accompanied with research assistants so as to administer the research instrument concurrently at different tea factories. Questionnaires were administered in approximately 15-20 minutes while the interview schedule conducted in average of 10 minutes. Observation schedules were used to record all economic, social and environmental undertakings by the tea factories. Respondents' consent of voluntary provision of information was first sought before administering the questionnaire or conducting the interview. At the end of every day, the researcher collected all questionnaire and input the data in SPSS where data cleaning was done. The research was conducted for a period of one month.

3.9 Data Analysis and Presentation

This section is made of two forms of data analysis techniques namely quantitative and qualitative analysis. The section begins with analysis of response rate. Quantitative analysis shows how the items in the questionnaire were designed and used for data collection. It further explains how the research hypothesis were subjected to statistical modelling. It

further explores on the choice of chi-square as a test statistic in testing for independence between the independent and dependent variables and justification of such a choice for evaluating hypothesis one to three. The influence of single independent variable on dependent variable is further discussed through the use of binary logistic regression technique. The qualitative analysis further demonstrates how multiple binary logistic regression was used in analysis of hypothesis four and five. The subsection ends with showing how sample results were inferred to the population. Finally, the qualitative analysis part demonstrate the procedure employed in organizing the non-numerical data. It had been explained under research design the choice of MMR, hence the justification for analyzing both quantitative and qualitative data.

3.9.1 Response Rate

The study was conducted from a sample of 93 respondents selected from a population of 111 respondents of FUMs, factory accountants and accounts clerks. The sample size was obtained using Naussima's formula. A total of 93 questionnaires were administered to the respondents by the researcher and assisted by research assistants. 68 filled questionnaires were obtained which was 73.12% response rate. Babbie (1990) proposed that a response rate of 70% is very good, which this study met the minimum the threshhold. Interview schedule was further used to interview fifteen FUM out of thirty one FUM

3.9.2 Quantitative Data Analysis Section

Questionnaire was used as the research instrument to collect quantitative data. The questionnaire was organized into sections containing dependent variable (sustainability accounting), the three independent variables (methods of reporting, social reporting and environmental reporting) from which relationships were analyzed and moderated by

stakeholder knowledge. The questionnaire items were measured using ordinal scale in a five-point Likert options which ranged from 1-5, where 1 was the lowest score and 5 the highest score; and namely "1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree." The scale is a rating type which have remained popular among researchers in gathering quantitative data (Lee & Soutar, 2010) in which agree-disagree rating apply towards measuring numerous constructs (Revilla, Saris & Krosnick, 2014). While there has been numerous debates (Joshi, Chandel & Pal, 2015) on the optimal number of option categories for a Likert scale, (Dillman, Smyth & Christian, 2009) maintains that four or five point Likert is adequate to produce good results. This research hence adopted five-point rating Likert options.

In order to analyze the Likert scale data, the study developed a composite scale (Boone & Boone, 2012) by summing up the individual responses and then finding the average (Joshi et al., 2015). Any responses beyond three was considered as the respondents being in agreement with the questionnaire item statements. The data quantitative data analysis began by coding the data into SPSS, then data entry, cleaning of data and finally running statistical tests. The dependent variable was first recorded from five-categorical data into binary data where 1 represented sustainable while 0 represented unsustainable. 1 represented values from 3.1-5 while zero represented values from 1-3. The independent and moderating variable were converted from a five-point scale to a three point scale where 1 represented weak influence (taking the values 1-2), 2 represented moderate influence (taking the value 3) and 3 represented strong influence (taking the values 4-5) (Joshi et al., 2015). The recording was based on composite score derived from Likert scale. The final

categorical data facilitated test of independence using Chi-square, and running simple binary and multiple logistic regression.

3.9.2.1 Chi-square Test for Independence

The association between independent variables and dependent variable in the hypothesis one, two and three; were tested using Chi-square test for independence. The test is recommended by Moore, Notz and Flinger (2013). The use of the test statistic was to identify whether there is a significant association individual independent variables measured categorically on dependent variables as measured in binary form which fulfilled the requirement of the test statistic (Moore et al., 2013). The values of the independent variable transformed into three categories: weak, moderate and strong. The dependent variable was recoded into two variables: sustainable and unstainable.

Chi-square test of independence was then performed at 5 percent level of significance in evaluating first, second and third hypothesis. The hypothesis were stated as null, otherwise alternative as outline below:

H_{01}: *There is no association between sustainability accounting and methods of reporting*
H_{11}: *There is an association between sustainability accounting and methods of reporting*

H_{02}: *There is no association between sustainability accounting and social reporting*
H_{12}: *There is an association between sustainability accounting and social reporting*

H_{01}: *There is no association between sustainability accounting and environmental reporting*
H_{11}: *There is an association between sustainability accounting and environmental reporting*

The null hypothesis stated that a given values of methods of reporting, social reporting and environmental reporting, they cannot predict sustainability accounting while the alternative

hypothesis stated that given values of methods of reporting, social reporting and environmental reporting, the variable can predict the sustainability accounting. The analysis of null hypothesis involved computing Chi-square test statistics in finding out the association between independent variable(i) measured on levels of influence and dependent variable(d) measured in terms of sustainability. This is defined by the formula below (Moore et al., 2013):

$$x^2 = \sum\left[\left(O_{i,d} - E_{i,j}\right)^2 / E_{i,d}\right] \quad \text{(Eq. 3.2)}$$

Where: x^2 is the test statistic

$O_{i,d}$ is the observed frequency of the independent variable (i) at a level of influence and dependent variable (d) at level of sustainability

$E_{i,d}$ is the expected frequency of the independent variable (i) at a level of influence and dependent variable (d) at a level of sustainability

The expected frequency $E_{i,d}$ was calculated using the formulae below (Moore, Notz, & Flinger, 2013):

$$E_{i,d} = {R_i * C_d}/{N} \quad \text{(Eq. 3.3)}$$

Where $E_{i,d}$ is the expected frequency of level of influence of independent variable (i) and level of sustainability for dependent variable (d)

R_i is the total number of observations in the sample at given level of influence for independent variable (i)

C_d is the total number of observations in the sample at a given level of sustainability for the dependent variable

N is the sample size

The counts of the composite scores were determined and the SPSS command ‘weight. In a cross-tabulation, the test statistic was distributed as x^2 on $(r-1)(c-1)$ degree of freedom. The probability value of the chi-square output was then compared with the predefined five percent level of significance. This was used to test for association between sustainability accounting as the output variable and methods of reporting, social reporting and environmental reporting as the predictor variables.

3.9.2.1 Binary Logistic Regression

Binary Logistic regression could only be run with dependent variable (y) taking two values: either 1 or 0. The Likert scale values of the items measuring sustainability accounting were transformed by recoding the five-point Likert scale into dichotomous values of 1 and 0, where 1 represented sustainable while 0 represented unsustainable. 1 represented values from 3.1 to 5 while zero represented values from 1 to 3. The counts for ‘unsustainable’ and ‘sustainable’ was then done. These counts represented the number of respondents agreeing that sustainability accounting is “unsustainable” and those saying it is “sustainable.” The independent and moderating variables were converted from a five-point scale to a three point scale by transformation of Likert scale which was recoded where 1 represented weak influence (from the values 1-2), 2 represented moderate influence (from the value 3) and 3 represented strong influence (from the values 4-5). The counts for ‘weak,’ ‘medium,’ and ‘strong’ was then done which were cross-tabulated by sustainability accounting. Therefore dependent variable took binary values (sustainable and unsustainable) while the independent variables taking three-point categorical values (weak, medium and strong) influence. The SPSS command “weight cases” was used to weigh the counts for the output variable (sustainability accounting) and the counts for predictor variables (methods of

reporting, social reporting and environmental reporting) using "weight cases by number of respondents" then the binary logistic regression run to find the statistical significance of the association between sustainability accounting and the predictor variables.

3.9.2.1a Simple Logistic Regression Models

The study used simple logistic regression to model the relationship between the levels of influence of independent variables on dependent variable's sustainability. Logistic regression is most applied when modelling binary response variables (Bob, 2013) in social sciences. This study involved ascertaining the association of individual independent variables and the dependent variable at 5% level of significance. When the dependent variable follows a Bernoulli distribution and the dependent variable assumes either continuous or categorical values, then it is recommended that such data be analyzed using regression technique (Agresti, 2002; Kothari, 2014; Warner, 2013).

The dependent variable was binary and hence could only assume two values 1 and 0 with probabilities $\pi(x_i)$ and $1 - \pi(x_i)$ respectively. Hence, the dependent variable (Y) follows a Bernoulli distribution with $E(Y) = \pi(x_i)$; that sustainability accounting is "sustainable."

This meant that $E(Y_i) = \pi(x_i) + \varepsilon = \beta_0 + \beta_1 X_i$ where $i = 1,2,3, \dots, n$

When the above equation was converted to least squares, bounded by range of $0 \leq \pi(x) \leq 1$, an equation similar to Least Squares was obtained as $\hat{p} = \hat{\beta}_0 + \hat{\beta}_1 X_1$ where p was the expected probability that $(Y = 1)$ for a given value of (X) and that expected values of Y are asymptotic, then p took the following probability (Newsom, 2015) equation:

$$\hat{p} = \frac{exp(\beta_0 + \beta_1 X)}{1 + exp(\beta_0 + \beta_1 X)} = \frac{e^{\beta_0 + \beta_1 X}}{1 + e^{\beta_0 + \beta_1 X}} \quad \text{(Eq. 3.4)}$$

Where exp stand for exponent function, also written as e. The above equation was then subjected to logit transformation having unbounded range so as to obtain simple binary logistic regression model as given below:

$$logit[\pi(x)] = ln\left\{\frac{\pi(x)}{1-\pi(x)}\right\} = \beta_0 + \beta_1 X_i \quad \text{(Eq. 3.5)}$$

The logit parameters β_0 (the constant) and β_1 (logistic regression coefficient) were fitted in the equation using Maximum Likelihood (ML) method (Hosmer, Lemeshow & Sturdivant, 2013) which was analogous to least squares in a linear regression. ML was the method of finding least deviance between the observed and the expected values using calculus. ML was conducted using different iterations until final value of deviance (negative two log likelihood) was obtained (Nussbaum, 2015). Since the study involved Bernoulli trials, Maximum Likelihood Estimator (MLE) used is as given below where there was probability of p if $y_1 = 1$, or $1 - p$, if $y_1 = 1$:

$$L(\beta_0, \beta_1) = \prod_{i=1}^{n} P_i^{y_i}\left(1 - P_{X_i}\right)^{1-y_i} \quad \text{(Eq. 3.6)}$$

G that is similar to the R^2 in LSM was used to judge the model fit with or without the predictors. This was conducted through comparison of the deviance using (Cohen et al., 2003) notation below:

$$Model\ Goodness\ of\ fit, G = \chi^2_{(df)} = D_{(model\ without\ the\ variable)} - D_{(model\ with\ the\ variable)}$$

$$\chi^2_{(df)} = D_{null} - D_k = -2LL_{null} - (-2LL_k);\ which\ also\ given\ as - 2ln\left(\frac{L_{null}}{L_k}\right) \quad \text{(Eq. 3.7)}$$

Significance of the simple binary logistic regression model

In order to infer the binary regression results, the study used the test statistic with the hypothesis that:

the null hypothesis $H_0: B_1 = 0$ against alternative hypothesis $H_1: B_1 \neq 0$

The influence of single independent variable on the sustainability of the dependent variable was tested at 95% confidence interval and 5% level of significance. The output for p-value was compared with the 0.05 where p-values less than 0.05 was treated as significant and that the predictor variable significantly influenced the sustainability of the dependent variable. The test was applied in testing the influence of methods of reporting, social reporting and environmental reporting on sustainability accounting. The p-values less than 0.05 denoted that methods of reporting, social reporting and environmental reporting, individually, influenced sustainability accounting

3.9.2.1b Multiple Logistic Regression Models

In order to test for the hypothesis, binary logistic regression analysis was run to regress dependent variable on each independent variable where relationships (Warner, 2013; Kothari, 2004) were tested. The model was used to test the fifth hypothesis. The test of hypothesis five using multiple logistic regression was to assess the moderating role of shareholder knowledge on the relationship between methods of reporting, social reporting and environmental reporting on sustainability accounting in the tea sector. The dependent variable was recorded into dichotomous variable as sustainable and unsustainable. The influence of independent variable on the dependent variable was recoded into tri-categorical variable as weak, moderate and strong influence. The influence of the independent variables on the dependent variable was first ascertained by use of standard multiple regression in which all the independent variables were entered into the analysis simultaneously as factors after setting the reference categories of the dependent variable. The moderator and the independent variables were then checked for interactions after

which hierarchical regression was conducted to find out the moderating effect at 95% confidence interval and 5% level of significance.

The study adopted multiple logistic regression model below:

$$\boldsymbol{log}\left\{\frac{\pi(x)}{\mathbf{1}-\pi(x)}\right\} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1 X_1} + \boldsymbol{\beta_2 X_2} + \boldsymbol{\beta_3 X_3} + \boldsymbol{\beta_4 X_4} \quad \text{(Eq. 3.8)}$$

A hierarchical multiple logistic regression would give the model below:

$$\boldsymbol{log}\left\{\frac{\pi(x)}{\mathbf{1}-\pi(x)}\right\} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1 X_1} + \boldsymbol{\beta_2 X_2} + \boldsymbol{\beta_3 X_3} + \boldsymbol{\beta_5 X_1 X_2 X_3 X_4} \quad \text{(Eq. 3.9)}$$

Where: $\boldsymbol{\beta_0} - is\ the\ constant$

$\boldsymbol{\beta_1}, \boldsymbol{\beta_2}, \boldsymbol{\beta_3}, \boldsymbol{\beta_4} - logistic\ regression\ coefficients$

$\boldsymbol{X_1} - methods\ of\ reporting$

$\boldsymbol{X_2} - social\ reporting$

$\boldsymbol{X_3} - environmental\ reporting$

$\boldsymbol{X_4} - stakeholder\ knowledge$

$\boldsymbol{X_1 X_2 X_3 X_4} - interraction\ term$

The regression coefficients were reported but not interpreted since they loosely indicate probabilities. Instead, the Exp(B) which is the odds ratio for every predictor was interpreted as predicting the likelihood of the dependent variable as being sustainable at 5% level of significance.

The multiple regression tested the hypothesis below:

Null hypothesis $\boldsymbol{H_0}: \boldsymbol{B_1} = \boldsymbol{B_2} = \boldsymbol{B_3} = \boldsymbol{B_4} = \mathbf{0}$; against $\boldsymbol{H_1}: \boldsymbol{B_1} \neq \boldsymbol{B_2} \neq \boldsymbol{B_3} \neq \boldsymbol{B_4} \neq \mathbf{0}$

Negative two log likelihood and Wald's test was used to test the above hypothesis after conducting an Omnibus test to determine the model fitness. Inferences were then drawn by

comparing the p-value with the alpha value, where p-values less than the alpha value at 0.05 revealed a significant influence of independent variables on dependent variable.

3.9.3 Qualitative Data Analysis Section

The study adopted a MMR where apart from analyzing quantitative data, qualitative data was also analyzed. The analysis of qualitative data took the form of organizing the respondent's word into some thematic items. These data was obtained by use of interview schedule and observation list. The predetermined questions in the interview schedule were asked the respondents while the observation list was directly used by the researcher to record information.

3.10 Measurement of Variables

Table 3. 4: Measurement of Variables

Objective	***Variable***	***Type***	***Operationalization***	***Operational definition of variable***	***Measurement***	***Hypothesized direction***
1	Methods of reporting	Independent variable	Methods of reporting is treated as media of reporting social accounting and environmental accounting	Reporting methods is treated as ways by which social reporting and environmental accounting is done	Ordinal scale	No relationship with sustainability accounting
2	Social reporting	Independent variable	Social reporting is taken as social accounting disclosures	Social reporting is art of disclosing the social accounting interests of stakeholders	Ordinal scale	No relationship with sustainable accounting
3	Environmental reporting	Independent variable	Environmental reporting is taken as environmental accounting disclosures	Environmental reporting is art of disclosing environmental accounting interests of stakeholders	Ordinal scale	No relationship with sustainable accounting
4	Stakeholder knowledge	Moderating variable	Stakeholder knowledge is taken as level of awareness	Stakeholder knowledge is the capability of the stakeholder to understand aspects being reported	Ordinal scale	No moderating effect on the relationship between social and environmental reporting and sustainability accounting
5	Sustainability accounting	Dependent variable	Sustainability accounting is taken as continued profitability, supportive standards and gain of social legitimacy	Sustainability accounting is treated as accounting meeting its current profitability while operating to foreseeable future	Ordinal scale Ratio scale	No relationship with the independent variables

3.11 Ethical Considerations

The study was conducted by respecting the respondents' privacy. The right to anonymity was granted to respondents and every other research participant where necessary. Assurance of non-disclosure of information rendered was instilled to the respondents. The researcher sought participants' consent and their right to voluntary participation. Voluntary participation involved the participants being explained for the objectives and aim of the study so that they would at will disclose any personal information required. The researcher was careful not to issue form of inducement to participants and assure them that the research was academic in nature and whose findings had long term benefits to them. The requirement by Law of interviewing human beings were fulfilled by successfully acquiring research permit from NACOSTI and County governments.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

Introduction

The chapter contains data analysis, interpretations and discussions. It begins by analysis of the profile of the respondents in terms gender, age, highest education level, professional body, and cadre and job experience. The section continues with diagnostic test for Likert scale and attestation for analysis of Likert scale. The core study findings are then presented by following the study objectives and hypothesis. The main subsections include sustainability accounting, methods of reporting, social reporting, environmental reporting and stakeholder knowledge. The chapter then ends with analysis of moderating influence of stakeholder knowledge on the relationship between the factors and output variable.

4.1 Background of the Respondents

The section is contains the analysis of the profile of the respondents in terms of gender, age, highest education qualification attained, the membership of professional body, cadre and the job experience of the respondents. The elements in respondents' profile was a confirmatory test of their knowledge on social and environmental reporting.

4.1.1 Gender of the Respondents

The study asked the respondents of their gender category. The study found out that the respondents were unevenly distributed by gender. The male were the majority participants in the study as shown in Figure 4.1

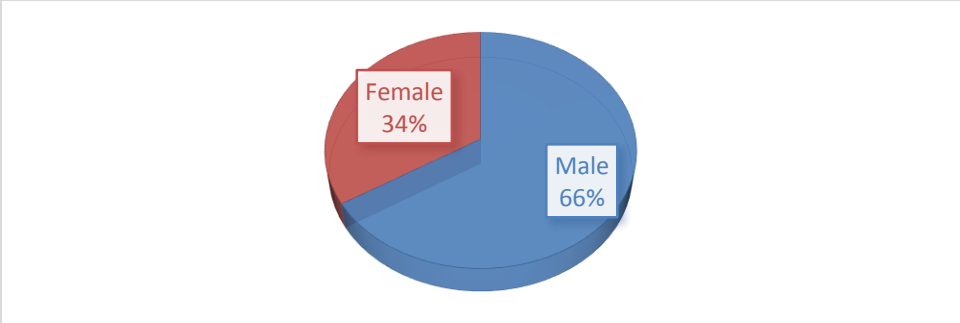

Figure 4. 1: The Gender Distribution of the Respondents

The result having majority of the respondents as male can be attributed to the fact that most job positions are still male dominated.

4.1.2 Age Bracket of the Respondents

The respondents were asked of their ages. The ages were measured in an ordinal scale of age brackets consisting of 18-24 years, 24-30 years, 30-36 years, 36-42 years, 42-48 years, 48-54 years, 54-60 years and above 60 years, considering that 60 years is the average retirement age in Kenya. The study revealed that majority of the respondents were between ages 42-48 years, followed by 30-36 years. Notably, there were no respondents at the age of 18-24 years in which forms high proportion of youths Kenya as presented in Figure 4.2.

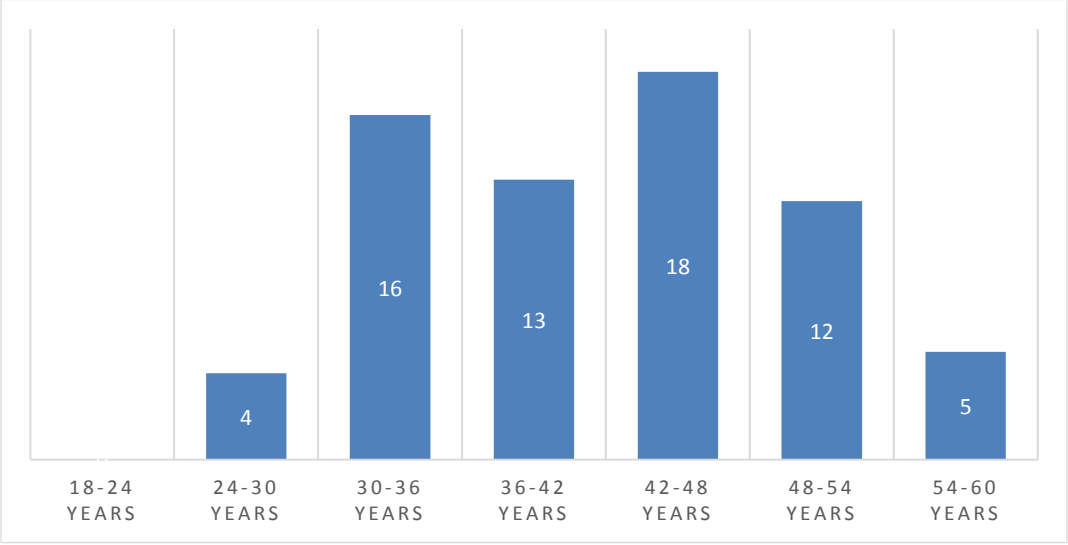

Figure 4. 2: Age Bracket of the Respondents

The bar graph presenting the age distribution was almost bell shaped, indicating that most of the respondents are middle aged with few youths employed. The organizations are still having some of the employees in the management and in accounting section who are nearing to retire. Notably, there were no respondents at the age of 18-24 years in which forms high proportion of youths Kenya but which is an age of those who have just completed their undergraduate studies. The study hence established that youths are still few in the accounting field despite the fact that university and accounting professional firms are graduating many youths. However, the middle aged employees means that the study was seeking information from participants who have gained good work experience.

4.1.3 Respondents' Education Qualification

The study sort to identify the education level of the respondents so as to gauge their capability to tackle elements of social reporting, environmental reporting and sustainability accounting. The highest educational qualifications were categorized under secondary education and below, diploma, undergraduate, masters and doctorate. The results in Figure 4.3 revealed that majority of the respondents had undergraduate as their highest level of education, followed by masters. Notably, somebody still had less than secondary education as the highest academic qualification, who during interview revealed that had done professional accounting examinations as shown in Figure 4.3

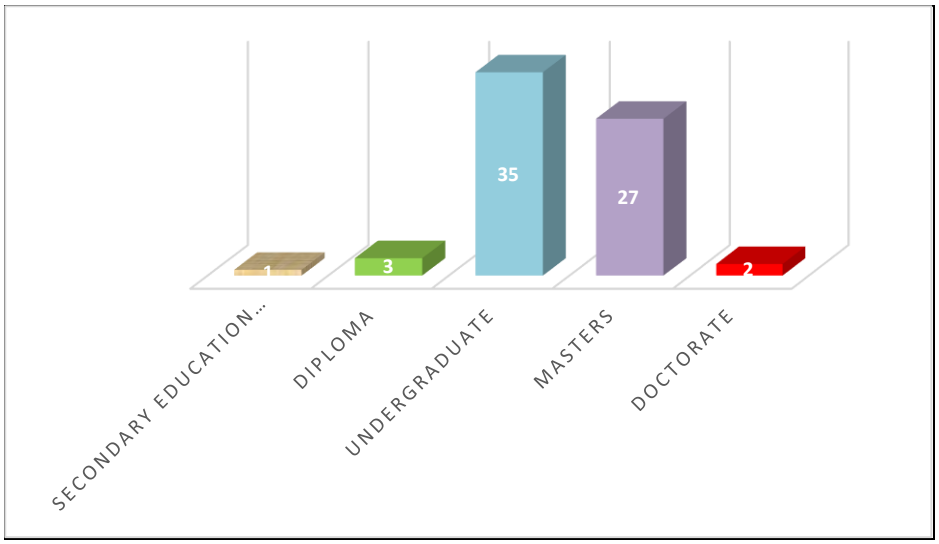

Figure 4. 3: Educational Qualification of the Respondents

The output showed that most of the respondents had academic qualification to make decision and hence tackle the matter at hand that required one had undergone education in order to interpret sustainability accounting tenets.

4.1.4 Professional Body Membership of the Respondents

The respondents were asked to state whether they belong to professional bodies in accounting that grant practicing certificates. These professional bodies included the Institute of Certified Public Accountants of Kenya (ICPAK), Association of Chartered Accountants (ACCA), Certified Information System Auditing (CISA), Association of International Accountants (AIC), and International Federation of Accountants (IFAC). It was revealed that most of the study respondents were members of professional bodies of accounting based in Kenya. The output in Figure 4.4 showed that ICPAK which is based in Kenya had a majority of membership. Just a few respondents were members of professional accounting bodies that were based outside Kenya. Some were members of professional international accounting body but based in Kenya. The most important factor

is that most respondents were at least a member of professional accounting body. The results are as indicated in Figure 4.4

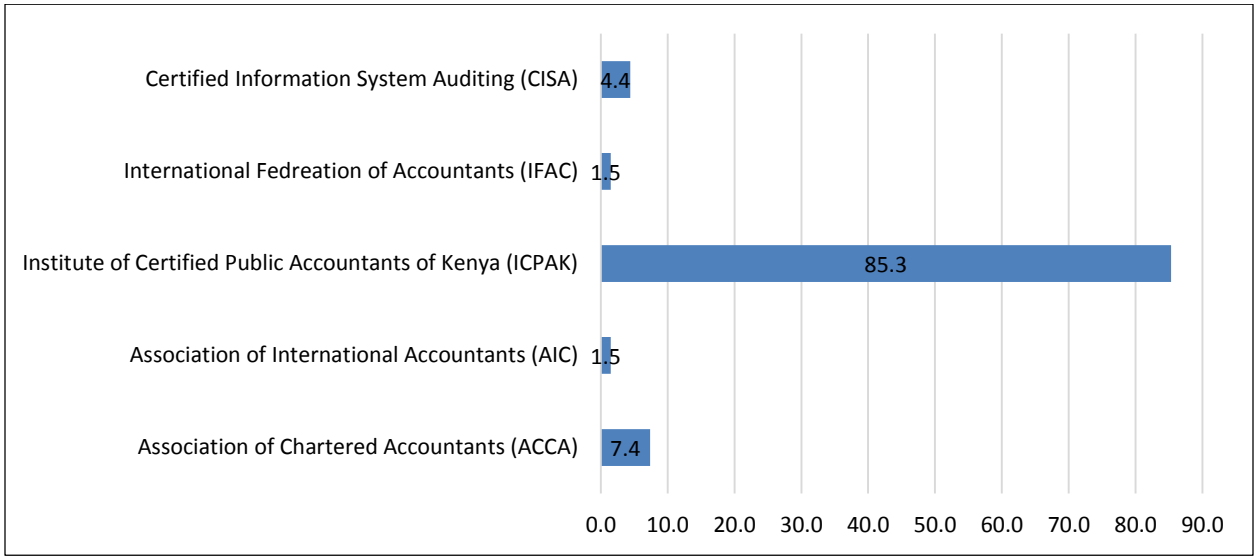

Figure 4. 4: Professional Accounting Body Membership of the Respondents

The results indicated that the each respondent was a member of at least one accounting professional body, was a critical element since it indicated that the respondents understood the financial reporting and had knowledge to interpret accounting statements hence sustainability accounting.

4.1.5 Job Cadre of the Respondents

The respondents were asked to state their job cadre in terms of position held in the organization. These positions were FUM, Factory Accountant, Factory Assistant Accountants and Accounts Clerks. It was notable that the kind of respondents who participated were accountants as showed in Figure 4.5

Figure 4. 5: Cadre of the Respondents

The majority of the respondents being accountants was good for the study as these are the practitioners of accounting in the daily encounters. The FUMs were slightly more than the accounts clerks, this too ratio too was good for the study since the FUMs deal with strategic decision making to which is required when undertaking social reporting and environmental reporting. The accounts clerks, having the educational qualification and being members of professional accounting bodies were good informants of the study that sort information in the areas that accounts clerks interact with while undertaking their responsibilities.

4.1.6 Job Experience of the Respondents

The study sort to reveal the level of job experience of the respondents in terms of years worked in the same position related to accounting. Job experience in terms of years worked were asked in an ordinal scale ranging as 1-5 years, 5-10 years, 10-15 years, 15-20 years, and over 20 years. The study established that the respondents had good work experience as shown in Figure 4.6.

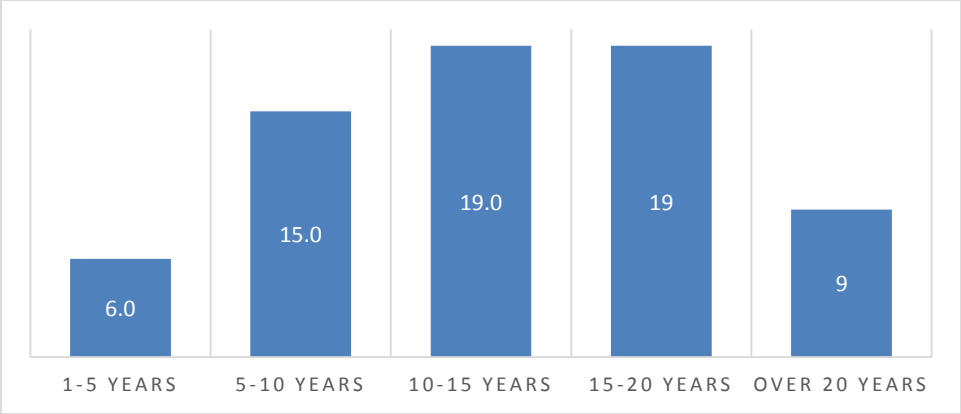

Figure 4. 6: Work Experience of the Respondents

The respondents who had work experience between 1-5 years and above twenty were fewer than those whose experience were between 5-20 years. The majority of these respondents had a work experience of 10-20 years. This revealed that the study was dealing with participants who had gained enough time span to gather skills of accounting practice in dealing with accounting matters.

The study revealed that revealed that most of the target respondents were middle aged, had attained university education, were members of at least one professional body of accounting and especially ICPAK which is the largest professional body in Kenya covering accounting profession. The cadres of the respondents were those either making strategic financial decisions or dealing with finance and accounting matters, majority of whom had long working experience. With their education qualifications, professional body membership, and long working experience in accounting field; the study concluded that the respondents had enough knowledge of accounting and reporting.

4.2 Relationship between Methods of Reporting and Sustainability Accounting

This section contains analysis of methods of reporting and sustainability accounting in the tea industry. It begins by determining the value of the dependent variable (sustainability accounting) by determining the mean analysis of the items that measured it, then summary statistics of sustainability accounting, level of sustainability accounting. The value of the first independent variable (methods of reporting) is determined by first analyzing means of the items that measured it, descriptive summary statistics, and strength of methods of reporting. The section then looks at cross tabulation of sustainability accounting by methods of reporting leading to test for model fit and finally determining the model in which the first hypothesis is tested which involved determining the influence of methods of reporting on sustainability accounting in the tea sector.

4.2.1 Sustainability Accounting in the Tea Sector

The subsection entails analysis and discussion on the level of sustainability accounting in the tea sector in Mount Kenya region by evaluating the items that measured it. Sustainability accounting was measured in terms of accounting standards, profitability of the company and social legitimacy. The individual questionnaire items were evaluated by the use of means and standard deviation. Mean of means, standard deviation, skewness and kurtosis of the composite score was then computed. The respondents were asked to rate the extent to which sustainability accounting was supported by accounting standards. The accounting standards selected to support the sustainability accounting were IAS1, IAS8, IAS16, IAS36 and IAS37 which were established as supporting sustainability accounting. The mean and standard deviation analysis of accounting standards as a measure of sustainability accounting is as shown in Table 4.1.

Table 4. 1: Mean Analysis of Sustainability Accounting under Accounting Standards

S.N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Accounting Standards								
1.	IAS1: Presentation of financial reports support sustainability accounting in the Tea Sector	68	1 (1.5%)	6 (8.7%)	15 (22.1%)	38 (55.9%)	8 (11.8%)	3.68	.854
2.	IAS8: Accounting policies, changes in accounting estimates and errors supports sustainability accounting in the Tea sector	68	1 (1.5%)	7 (10.3%)	19 (27.9%)	29 (42.7%)	12 (17.6%)	3.65	.943
3.	IAS16: Property, plant and equipment supports sustainability accounting in the Tea sector	68	1 (1.5%)	5 (7.4%)	16 (23.5%)	37 (54.4%)	9 (13.2%)	3.71	.847
4.	IAS36: Impairment of assets supports sustainability accounting in the Tea sector	68	2 (2.9%)	5 (7.4%)	18 (26.5%)	35 (51.4%)	8 (11.8%)	3.62	.898
5.	IAS37: Provisions, contingent liability supports sustainability accounting in the Tea sector	68	2 (2.9%)	5 (7.4%)	24 (35.3%)	30 (44.1%)	7 (10.3%)	3.51	.889

The mean and small standard deviation for IAS1 revealed the respondents agreed that presentation of financial reports support sustainability accounting in the tea sector. The mean and the small standard deviation for IAS8 shows accounting policies, changes in the accounting estimates and errors support accounting sustainability in the tea sector. The mean and the small standard deviation for IAS16 revealed that property, plant and equipment accounting supports sustainability accounting in the tea sector. The mean and the small standard deviation for IAS36 indicated that the standard of impairment of assets support sustainability accounting in the tea sector. The mean and the small standard deviation for IAS37 showed that standard for provisions and contingency liability support sustainability accounting in the tea sector. The study revealed that the accounting standards IAS1, IAS8, IAS16, IAS36 and IAS37 support sustainability accounting in the tea sector.

Secondly, sustainability accounting was evaluated in terms of profitability. The respondents were asked to rate profitability to the extent to which they perceive how different items of profitability support measure sustainability accounting. The results showed that profitability level of an organization is an indicator of sustainability accounting as demonstrated by reported improvement in profits due to social reporting and environmental reporting that is categorized under operational costs as indicated in Table 4.2.

Table 4. 2: Mean Analysis of Sustainability Accounting under Profitability

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Profitability								
1.	Social reporting has improved the profits of the tea industries	68	2 (2.9%)	7 (10.3%)	12 (17.6%)	38 (55.9%)	9 (13.3%)	3.66	.940
2.	Environmental reporting has led to improved tea industry profits	68	2 (2.9%)	3 (4.4%)	14 (20.6%)	35 (51.5%)	14 (20.6%)	3.82	.913
3.	In comparison, tea industries practicing social and environmental accounting and reporting realize more profits that those that do not	68	2 (2.9%)	8 (11.8%)	6 (8.8%)	39 (57.4%)	13 (19.1%)	3.78	.990
4.	Tea industry sales get higher during periods of heightened social reporting	68	6 (8.8%)	4 (5.9%)	19 (27.9%)	31 (45.6%)	8 (11.8%)	3.56	1.071
5.	Social accounting and reporting entails high cost of operations by the tea industry	68	4 (5.9%)	4 (5.9%)	10 (14.7%)	37 (54.4%)	13 (19.1%)	3.75	1.028
6.	Environmental accounting and reporting entails high cost of operations by the tea industry	68	4 (5.9%)	6 (8.8%)	8 (11.8%)	30 (44.1%)	20 (29.4%)	3.82	1.132

The results in Table 4.2 showed the mean for first item was approximately four and small standard deviation, indicating that the respondents agreed that social reporting has improved the profits of the tea industry. The second item showed that environmental reporting has improved the tea industry profits. The third item revealed that tea factories practicing social and environmental accounting and reporting realize higher profits that those that do not practice it. The fourth item had a mean of approximately four and higher

standard deviation hence showing that the respondents were of varied opinions that industry sales get higher during periods of heightened social reporting. The fifth item had mean of approximately four indicating social accounting and reporting entails high cost of operations by the tea industry. This; however, was on a premise of varied opinions since the standard deviation of 1.028 was slightly high. The sixth item had a mean of four and a higher standard deviation of 1.132. This showed that the respondents on a varied opinion that environmental accounting and reporting entails high cost of operations by the tea industry. The study hence showed that profitability is an indicators of sustainability accounting.

Thirdly, sustainability accounting was measured under social legitimacy. The respondents were asked to rate the extent to which social legitimacy items measure sustainability accounting. The output of social legitimacy items showed that accounting disclosures need to meet the needs of the surrounding community and that if the needs are not met then accounting statements are invalid in social legitimacy aspect as demonstrated on Table 4.3.

Table 4. 3: Mean Analysis of Sustainability Accounting under Social Legitimacy Aspects

S.N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Social Legitimacy								
1.	Tea factory enter into contracts with the community	68	1 (1.5%)	8 (11.8%)	8 (11.8%)	33 (48.5%)	18 (26.4%)	3.87	.991
2.	Sustainability accounting is financially healthy for the tea factory's stakeholders	68	1 (1.5%)	1 (1.5%)	4 (5.9%)	43 (63.2%)	19 (27.9%)	4.15	.718
3.	Social and environmental accounting rights are forfeitable by tea factory's stakeholders	68	3 (4.4%)	3 (4.4%)	13 (19.1%)	40 (58.8%)	9 (13.3%)	3.72	.912
4.	Tea factory stakeholders determine areas of sustainability accounting	68	6 (8.8%)	3 (4.4%)	6 (8.9%)	43 (63.2%)	10 (14.7%)	3.71	1.066
5.	Sustainability accounting influence the decisions by tea factory stakeholders	68	3 (4.4%)	5 (7.4%)	5 (7.4%)	45 (66.1%)	10 (14.7%)	3.79	.939
6.	Sustainability accounting enable tea factory to decide areas to invest on	68	4 (5.9%)	4 (5.9%)	13 (19.1%)	36 (52.9%)	11 (16.2%)	3.68	1.014
7.	Tea accounting disclosures meet the needs of the surrounding society	68	2 (2.9%)	3 (4.4%)	7 (10.3%)	35 (51.5%)	21 (30.9%)	4.03	.930

The first aspect of social legitimacy indicated that tea factories enter into contracts with the surrounding community. The second item revealed that sustainability accounting is financially healthy for the tea factory's stakeholders. The third item showed that social and environmental accounting rights are forfeitable by the tea factory stakeholder. The fourth item showed that the respondents had varied opinion that tea factory stakeholders determine the areas of sustainability accounting. The fifth item, which revealed that sustainability accounting influence the financial decisions by the tea factory stakeholders. The sixth item had a mean of four and a higher standard deviation of 1.014 which was an indication that the respondents are greatly divided in their opinion that sustainability accounting enable tea factory to decide areas to invest on. The seventh item had indicated that accounting disclosures need to meet the needs of the surrounding society.

The means of means of the combined means of accounting standards, profitability and social legitimacy was further computed and the results indicated that in overall, the respondents agreed that the selected accounting standards, profitability and social legitimacy are measures of sustainability accounting as shown in Table 4.4.

Table 4. 4: Summary Statistics of Sustainability Accounting

Perception	Frequency
Mean of means	3.745
Mean of standard deviation	0.949
Skewness	0.790
Kurtosis	1.516

The results in Table 4.4 showed statistic distribution that bore a positive skewness (0.790). The output indicated that most of the respondents believe that accounting standards (IAS1, IAS6, IAS8, IAS16, IAS36 and IAS37), profitability and social legitimacy are measures of sustainability accounting since they support it. Sustainability accounting is hence premised on accounting standards, profitability and social legitimacy aspects.

The study further reworked the quantification of the respondent's perception on the level of sustainability accounting in the tea sector. This was done by recording the mean of composite scores as unsustainable (1-3) and sustainable (3.1-5). The counts of the measure revealed that more respondents perceived sustainability accounting as sustainable as shown in Table 4.5.

Table 4. 5: Level of Sustainability Accounting

Perception	Frequency	Percent
Unsustainable	28	41.2
Sustainable	40	58.8
Total	**68**	**100.0**

The results showed that a slight majority of the respondents (58.8%) agreed that there level of sustainability accounting is sustainable while still (41.2%) disagreed that sustainability accounting is within the tea factory's financial capability to be practiced to foreseeable future. These results shows that sustainability accounting is sustainable by the tea factories. Further, it is prudent to note that in order to determine the relationship between sustainability accounting and methods of reporting, social reporting and environmental reporting; sustainability accounting measure was retained in numerical values where each composite score was transformed by transformation of recoding into different values. The values for unsustainable were represented by "0" which was transformed from the composite Likert values of (1-3) while values for sustainable were represented by "1" which was transformed from composite values (3.1-5). These numerical composite measures for all items of sustainability accounting were then used to run simple binary logistic regression with sustainability accounting as the outcome variable and methods of reporting, social reporting and environmental reporting as the predictor variable as shown in the section 4.3, 4.4 and 4.5.

4.2.2 Methods of Reporting

The methods of reporting was determined in the aspects social reporting, environmental reporting and financial reporting. First, mean and standard deviation analysis was conducted to determine the average opinion of respondents on each item that measured

methods of reporting. Standard deviation of the individual items was computed to obtain variability of the extent of agreement of the respondents on the items of methods of reporting. Means of means were finally worked out to obtain the single opinion of respondents on methods of reporting. The counts for means was computed to determine the proportion of respondents perceiving the influence of methods of reporting on sustainability accounting as low, medium or high. These counts were then cross-tabulated with those of sustainability accounting, which were then recoded and weighted to run Chi-square and simple binary logistic regression.

The results of the mean of the items of methods of reporting indicated that social reporting and environmental reporting are slight moderately practiced by tea factories while financial reporting remain the most dominant method of communicating accounting information with all respondents (100%) agreeing it utilized by tea factories as shown in Table 4.6.

Table 4. 6: Mean Analysis of Methods of Reporting

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
1.	Social reporting is used by the tea factory to communicate accounting information	68	6 (8.8%)	16 (23.5%)	23 (33.8%)	7 (10.3%)	16 (23.6%)	3.16	1.277
2.	Environmental reporting is utilized by the tea factory in communicating accounting information	68	7 (10.3%)	11 (10.3%)	11 (22.1%)	30 (44.1%)	9 (13.2%)	3.40	1.161
3.	Financial reporting is used by the tea factory in communicating accounting information	68	0 (0%)	0 (0%)	0 (0%)	0 (0%)	68 (100.0%)	5.00	.000

The results of the methods of reporting showed the first item indicated that just slight majority believed that social reporting is used by the tea factory to communicate accounting information. The second item indicated that slight majority of those who responded believe that environmental reporting is utilized by the tea factory to report accounting information. The mean of third item, having a mean of zero showed that all the respondents strongly

agreed that financial reporting is utilized by the tea factory to communicate accounting information.

The study findings showed that social reporting and environmental reporting practices are still very low among the accounting practitioners of the tea industry. It shows that financial reporting still remains the most dominant method of reporting among the companies of the tea industry. The mean of means of the methods of reporting was then computed. While computing the mean of means, the financial reporting item was omitted since it was most dominant and hence its inclusion could have given a much skewed mean of means. The omission of financial reporting in the mean of means is that the main focus was social reporting and financial reporting. The results of mean of means are as indicated social reporting and environmental reporting was moderately practiced as shown in Table 4.7.

Table 4. 7: Summary Statistics of Methods of Reporting

Perception	Frequency
Mean of means	3.2800
Mean of standard deviation	1.2190
Skewness	-.2925
Kurtosis	-.6300

The mean of means results were negatively skewed (-.2925). This showed that social reporting and environmental reporting, as methods of reporting financial information by the tea factories is just moderate. The still dominant method is financial reporting.

The value of methods of reporting was computed as counts after transforming the five-point Likert scale into three-point categorical measure. The five-point Likert scale was in the range (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree). The mean of five-point Likert scale was recoded into three-point categorical scale for purposes of running Chi-square and simple binary logistic regression. The level of influence was

obtained using three-point categorical scale that was arrived by transforming the Likert values 1-2 to represent Low (1), 3 to represent Medium (2) and 4-5 to represent High (3). The terms “Low”, “Medium” and “High” connote the extent of influence of methods of reporting after which counts were determined. The results in Table 4.8 showed that majority of the respondents believed that methods of reporting either had a moderate (27.9%) or strong (50.0%) influence. There was a weak opinion (22.1%) that methods of reporting does not influence sustainability accounting.

Table 4. 8: Strength of the Influence of Methods of Reporting

Perception	Frequency	Percent
Weak	15	22.1
Moderate	19	27.9
Strong	34	50.0
Total	**68**	**100.0**

The results indicated that the choice of methods of reporting play a major role in influencing sustainability accounting. The means that integration of social reporting, environmental reporting and financial reporting drive prudentially sustainability accounting. The measures presented in Table 4.8 were the values used in finding the relationship between methods of reporting and sustainability accounting.

4.2.3 Association between Methods of Reporting and Sustainability Accounting

The counts in Table 4.8 was cross tabulated with the results Table 4.5 conducted to examine the influence of various strengths of methods of accounting on sustainability accounting. The output of the cross tabulation is presented in Table 4.9 which showed that 20.6% of the respondents who felt that methods of reporting was weak, considered sustainability accounting as unsustainable while just 1.5% considered it sustainable. Similarly, 10.3% of

the respondents who felt that strength of methods of reporting was moderate, considered sustainability accounting as sustainable and 17.6% considered it unsustainable. Moreover, majority of the respondents (47.1%) who felt that methods of reporting is strong, considered sustainability accounting sustainable while only 2.9% considered it unsustainable. Generally majority of the respondents (58.8%) agreed that sustainability accounting as opposed to 41.2% of them who said that it is unsustainable.

Table 4. 9: Cross Tabulation of Sustainability Accounting by Methods of Reporting

Strength	Unsustainable		Sustainable		Total	
	Frequency	Percentage	Frequency	Percentage	Freq	%
Weak	14	20.6	1	1.5	15	22.1
Moderate	12	17.6	7	10.3	19	27.9
Strong	2	2.9	32	47.1	34	50.0
Total	**28**	**41.1**	**40**	**58.9**	**68**	**100.0**

It was observed that weak and moderate choice of methods of reporting little support sustainability accounting. When all methods of reporting was strong, then sustainability accounting was sustainable. The study hence found that the strength of choice of methods of reporting accounting information need to be strong for sustainability accounting to be sustainable.

The counts for influence of methods of reporting (see Table 4.8) and counts for strength of sustainability accounting (see Table 4.5) were then adjusted to represent the population by weighting the cases in order to run Chi-square test and simple binary logistic regression to test the relationship between methods of reporting and sustainability accounting. The relationship was being was on a hypothesis that there was a significant relationship between methods of reporting accounting information and sustainability accounting in the Tea Sector in Mount Kenya region. The null hypothesis that was tested was stated as:

$\boldsymbol{Ho_1}$: There was no significant relationship between methods of reporting and sustainability accounting in the tea sector of Mount Kenya Region

A Chi-square test of independence was conducted to test for an association between methods of reporting and sustainability accounting at 5% level of significance. The Chi-square test of independence revealed that the probability values were less than the level of significance as in Table 4.10. The null hypothesis was hence rejected and the study concluded that there was a significant association between methods of reporting and sustainability accounting as evidence by Pearson chi-square as $(\chi^2{}_{(2)} = 38.123, p = 0.001)$. The findings were also confirmed by Likehood Ratio value in which $\left(\chi^2{}_{(2)} = 44.570, p = 0.001\right)$. The output also revealed that linear by linear association between the variables was significant $(\chi^2{}_{(1)} = 36.588, p = 0.001)$. The output was presented in Table 4.10.

Table 4. 10: Chi-square test for Sustainability Accounting against Methods of Reporting

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.123	2	.000
Likelihood Ratio	44.570	2	.000
Linear-by-Linear Association	36.588	1	.000
N of Valid Cases	68		

The study findings hence confirmed that there was a statistically significant association between methods of reporting and sustainability accounting. The integration of social reporting, environmental reporting and financial reporting hence is important factor that will drive sustainability accounting that has not happened under traditional form of reporting.

The influence of methods of reporting on sustainability accounting was further examined by running a simple binary logistic regression. The output confirmed that methods of reporting had significance influence on sustainability accounting $\left(Wald's\ test: \chi^2_{(1)} = 20.271, p < \alpha\right)$ at five percent level of significance. Further, the simple binary regression indicated that the sustainability odds ratio of sustainability accounting at 95% confidence level for methods of reporting was 18.258 with confidence interval of $(5.156 \leq CI \leq 64.655)$. The results obtained are presented in Table 4.11.

Table 4. 11: Odds Ratio for Logistic Regression of Sustainability Accounting on Methods of Reporting

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	MR	2.905	.645	20.271	1	.000	18.258	5.156	64.655
	Constant	-6.154	1.486	17.139	1	.000	.002		

The regression produced the model below:

$$\boldsymbol{log\left\{\frac{\pi(x)}{1-\pi(x)}\right\} = -6.154 + 2.905X_1} \qquad \textbf{(Eq. 4.1)}$$

This means that the choice of methods of reporting was 18.258 times more likely to increase sustenance of pursuit for sustainability accounting. These results were confirmed by the interview schedule in which some accountants asserted that sustainability accounting can only be pursued when to a sustainable level when all methods of reporting are employed, that is, social reporting, environmental reporting and financial reporting. Some FUM stated during the interview that the integration of the methods of reporting could highly influence sustainability accounting.

4.3 Relationship between Social Reporting and Sustainability Accounting

This section presents the analysis of the relationship between social reporting and sustainability accounting. It begins by looking at the financial implication of practicing social reporting by the tea factory. The financial implication is looked at in terms of whether cost is incurred and the benefits gained out of such undertakings. Social reporting was measured in terms of human capital and community outreach. The items that measured social reporting are then analyzed in terms of means and standard deviation in order to determine the degree to which respondents agree with them. Means of means were finally worked out to obtain the single opinion of respondents on social reporting. The counts for means was computed to determine the proportion of respondents perceiving the influence of methods of reporting on sustainability accounting as low, medium or high. These counts were then cross-tabulated with those of sustainability accounting, which were then recoded and weighted to run Chi-square and simple binary regression analysis which was the test of the second hypothesis.

4.3.1 Social Reporting in the Tea Sector

The subsection presents the determination of the value of the independent variable, social reporting. The subsections first begin by looking at the financial implication of the social reporting.

Financial implication was looked under sub-variables human capital and community outreach. The respondents were asked to state in a binary statement whether cost are incurred and benefit are derived from human capital undertakings. The descriptive statistics indicated that majority of the respondents agreed that costs are incurred and benefits derived from the items that measured social reporting; however, they derived benefit from

such protection of intellectual property as supported by 80.9% of the respondents. The results of the descriptive binary-response items under human capital is presented in Table 4.12.

Table 4. 12: Financial Implication of Human Capital Elements to the Tea Factory

S. N	ITEM	Financial Implication to the Tea Factory							
		Are costs incurred?				Do you derive any benefit?			
		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%
	Tea Factory Human Capital								
1.	Tea factory supports youth and youth affairs	55	80.9	13	19.1	53	77.9	15	22.1
2.	Tea factory create wealth to the community	51	75.0	17	25.0	52	76.5	16	23.5
3.	Tea factory creates and expand employment opportunities	67	98.5	1	1.5	66	97.1	2	2.9
4.	Tea factory facilitate training and development for its employees	67	98.5	1	1.5	67	98.5	1	1.5
5.	Tea factory generates businesses	60	88.2	8	11.8	60	88.2	8	11.8
6.	Tea factory protects intellectual property	1	1.5	67	98.5	55	80.9	13	19.1

The study findings indicated that the tea factory incurred cost towards undertaking the human capital elements which included supporting the youth and youth affairs, wealth creation to the community, employment creation and expansion, development of its employees and business generation. However, it was revealed that the tea factory did not incur cost in protecting intellectual property. This was confirmed by the by the interview schedule in which some FUMs stated that the procedure in processing of tea was predefined and any innovation arose from tea research institutes. It was found out that the tea factory derived financial benefits by undertaking the human capital items.

The study further explored the financial implication of community outreach as a sub-variable of social reporting where the items were measured in a binary-response of yes and no. The descriptive statistics indicated that the items that measured community outreach

had the respondents agreeing that costs are incurred and benefits derived. All the respondents (100%) supported that tea factory continuously develop and improve infrastructure and also derive benefit from it as supported by 95.6% of the respondents. The results are as presented in Table 4.13.

Table 4. 13: Financial Implication of Community Outreach Elements to the Tea Factory

S. N	ITEM	Financial Implication to the Tea Factory							
		Are costs incurred?				Do you derive any benefit?			
		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%
	Tea Factory Community Outreach								
1.	Tea factory offer education sponsorship	67	98.5	1	1.5	64	94.1	4	5.9
2.	Tea factory have gender balance programs	59	86.8	9	13.2	62	91.2	6	8.8
3.	Tea factory has put in place health facilities and participate in community health care	12	17.6	56	82.4	56	82.4	12	17.6
4.	Tea factory has put up community based projects	66	97.1	2	2.9	66	97.1	2	2.9
5.	Tea factory has constructed recreational facilities	15	22.1	53	77.9	15	22.1	53	77.9
6.	Tea factory has put campaigns on gender vulnerability	18	26.5	50	73.5	51	75.0	17	25.0
7.	Tea factory ensures air quality is maintained	58	85.3	10	14.7	58	85.3	10	14.7
8.	Tea factory has created central services and facilities for the community	61	89.7	7	10.3	62	91.2	6	8.8
9.	Tea factory continuously develop and improve infrastructure	68	100	0	0.0	65	95.6	3	4.4

The study revealed that the tea factories incurred costs in education sponsorship, gender balance programs, community based projects, maintenance of air quality, creation of central services and facilities and development of infrastructure. However, there was an indication that the tea factories does not incur costs on putting up health facilities and community health, recreational facilities and protection of gender vulnerability. The study found out that the tea factory derive financial benefits from all the community outreach items except on recreational facilities.

The mean analysis of items measuring the sub-variable human capital was conducted to determine the extent to which the respondents agreed with the items as being undertaken by the tea factory. The output had a mean of four and small standard deviations for the first to the fourth item indicating that the respondents agreed that tea factories supported youth and youth affairs; created wealth to the community; creates and expand and employment opportunities; facilitated training and development for its employees; the tea factories generate businesses from its operations. The sixth item large standard deviation indicating that the respondents agreed on a varied opinion that the tea factory undertake intellectual property protection. The output indicated that a mean of four and a small standard deviation, showing that the respondents agreed that The fifth, sixth and eighth items; however, had a mean of four with a large standard deviation of 1.180 indicating that the respondents were much divided in their agreement that the tea factory undertook construction of recreational facilities. The items which were measured in a five-Likert scale have the results presented in Table 4.14.

Table 4. 14: Mean Analysis of Tea Factory Human Capital Items

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Tea Factory Human Capital								
1.	Tea factory supports youth and youth affairs	68	2 (2.9%)	5 (7.4%)	8 (11.8%)	36 (52.9%)	17 (25.0%)	3.90	.964
2.	Tea factory create wealth to the community	68	1 (1.5%)	1 (1.5%)	10 (14.7%)	31 (45.5%)	25 (36.8%)	4.15	.833
3.	Tea factory creates and expand employment opportunities	68	0 (0.0%)	0 (0.0%)	5 (7.4%)	31 (45.5%)	32 (47.1%)	4.37	.731
4.	Tea factory facilitate training and development for its employees	68	1 (1.5%)	0 (0.0%)	2 (2.9%)	40 (58.8%)	25 (36.8%)	4.29	.670
5.	Tea factory generates businesses	68	1 (1.5%)	0 (0.0%)	9 (13.2%)	37 (54.4%)	21 (30.9%)	4.13	.751
6.	Tea factory protects intellectual property	68	3 (4.4%)	3 (4.4%)	13 (19.1%)	26 (38.2%)	23 (33.9%)	3.93	1.055

The study revealed that tea factory undertook the human capital items in which costs were incurred and benefits derived. These costs either reduces the profits of the factories or some factories simply budget for them and categorize them under contingency liabilities.

There was an analysis of the items that measured the social reporting elements under community outreach by the tea factory. The fifth, sixth and eighth items had a mean of four with a large standard deviation of 1.180 indicating that the respondents were much divided in their agreement that the tea factory undertook construction of recreational facilities. The results are as presented in Table 4.15.

Table 4. 15: Mean Analysis of Community Outreach Items by the Tea Factory

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Tea Factory Community Outreach								
1.	Tea factory offer education sponsorship	68	1 (1.5%)	4 (5.9%)	2 (2.9%)	42 (61.8%)	19 (27.9%)	4.09	.824
2.	Tea factory have gender balance programs	68	2 (2.9%)	7 (10.3%)	1 (1.5%)	41 (60.3%)	17 (25.0%)	3.94	.976
3.	Tea factory has put in place health facilities and participate in community health care	68	2 (2.9%)	6 (8.8%)	5 (7.4%)	41 (60.3%)	14 (20.6%)	3.87	.945
4.	Tea factory has put up community based projects	68	2 (2.9%)	4 (5.9%)	1 (1.5%)	40 (58.8%)	21 (30.9%)	4.09	.910
5.	Tea factory has constructed recreational facilities	68	5 (7.4%)	9 (13.1%)	5 (7.4%)	34 (50.0%)	15 (22.1%)	3.66	1.180
6.	Tea factory has put campaigns on gender vulnerability	68	19 (27.9%)	28 (41.2%)	11 (16.2%)	6 (8.8%)	4 (5.9%)	1.93	0.292
7.	Tea factory ensures air quality is maintained	68	4 (5.9%)	6 (8.8%)	6 (8.8%)	36 (52.9%)	16 (23.6%)	3.79	1.087
8.	Tea factory has created central services and facilities for the community	68	2 (2.9%)	8 (11.8%)	4 (5.9%)	35 (51.5%)	19 (27.9%)	3.90	1.039
9.	Tea factory continuously develop and improve infrastructure	68	1 (1.5%)	4 (5.9%)	1 (1.5%)	23 (33.7%)	39 (57.4%)	4.40	.900

The study found that the tea factory undertook community outreach activities of education sponsorship, gender balance programs, participation in community health care, undertaking community based projects, air quality control and infrastructure development. However, the study revealed that the tea factory did little campaign on gender vulnerability and putting up recreational facilities. The findings link up well with the statements that the tea factory commit funds in undertaking the community outreach activities as had previously been discussed.

Summary statistics was then conducted to find the overall respondent's perception of the social reporting items undertaken by the tea factory. The summary statistics in Table 4.16 indicated that the mean of means of social reporting was four with a small standard deviation of 0.9438.

Table 4. 16: Summary Statistics of Social Reporting

Perception	Frequency
Mean of means	4.0093
Mean of standard deviation	0.9438
Skewness	-1.2840
Kurtosis	2.3152

The findings had a left skewed distribution (-1.2840) revealing that the respondents agreed that social reporting elements were undertaken by the tea factory.

The value of social reporting was computed as counts after transforming the five-point Likert scale into three-point categorical measure. The five-point Likert scale was in the range (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree). The mean of five-point Likert scale was recoded into three-point categorical scale for purposes of running Chi-square and simple binary logistic regression. The level of influence was obtained using three-point categorical scale that was arrived by transforming the Likert values 1-2 to represent Low (1), 3 to represent Medium (2) and 4-5 to represent High (3). The terms "Low", "Medium" and "High" connote the extent of influence of social reporting after which counts were determined. Table 4.17 indicated that 17.6% of the respondents felt that social reporting had a weak influence on sustainability accounting, 23.5% felt that social reporting had a moderate influence. However, a majority of the respondents felt that social reporting had a strong influence on sustainability accounting. The results are as indicated in Table 4.17.

Table 4. 17: Strength of Influence of Social Reporting

Perception	Frequency	Percent
Weak	12	17.6
Moderate	16	23.5
Strong	40	58.8
Total	**68**	**100.0**

The study hence revealed that the practice of social reporting in terms of human capital items and community outreach items had a contributing influence in the sustenance of the sustainability accounting. The measure presented in Table 4.17 was the values used in finding the relationship between methods of reporting and sustainability accounting.

4.3.2 Association between Social Reporting and Sustainability Accounting

The strength of influence of social reporting was compared with sustenance of sustainability accounting by cross-tabulating the variables. The results in indicated that the respondents who felt that the influence of social reporting was weak, believed that it does not support sustainability accounting. The respondents who felt that the influence of social reporting was weak believed that sustainability accounting was unstainable (17.6%%) none of the respondents believed that it was sustainable. The respondents who felt that the strength of influence of social reporting was strong believed that sustainability accounting was unsustainable (10.3%) but a majority (48.5%) of them believed that it is was sustainable. Generally, majority of the respondents (58.8%) believed that social reporting made sustainability accounting sustainable. The results which are presented in Table 4.18.

Table 4. 18: Cross Tabulation of Sustainability Accounting by Social Reporting

Strength	Unsustainable		Sustainable		Total	
	Frequency	Percentage	Frequency	Percentage	Freq.	%
Weak	12	17.6	0	0.0	12	17.6
Moderate	9	13.3	7	10.3	16	23.6
Strong	7	10.3	33	48.5	40	58.8
Total	28	41.2	40	58.8	68	100.0

It was found out that sustainability accounting was much influenced by increasing strength of social reporting. When social reporting is intensified and constantly practiced, sustainability accounting is greatly improved and its sustainability assured.

The relationship for social reporting and sustainability accounting was tested on a hypothesis that there was a significant influence of social reporting on sustainability accounting in tea factories of Mount Kenya region. The null hypothesis was stated as:

> $\boldsymbol{Ho_2}$: There was no significant relationship between social reporting and sustainability accounting in the tea sector of Mount Kenya Region

The Chi-square test of independence was run to examine the association between social reporting and environmental reporting. The Chi-square test of independence revealed that the probability values were less than the level of significance as in Table 4.19. The null hypothesis was thence rejected and the study concluded that there was a significant association between social reporting and sustainability accounting as evidence by Pearson chi-square as $(\chi^2{}_{(2)} = 27.901, p = 0.001)$. The findings were also confirmed by Likehood Ratio value in which $\left(\chi^2{}_{(2)} = 33.111, p = 0.001\right)$. The output also revealed that linear by linear association between the variables was significant $(\chi^2{}_{(1)} = 27.463, p = 0.001)$. The results are presented in Table 4.19.

Table 4. 19: Chi-square test for Sustainability Accounting against Social Reporting

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.901	2	.000
Likelihood Ratio	33.111	2	.000
Linear-by-Linear Association	27.463	1	.000
N of Valid Cases	68		

The study findings hence confirmed that there was a statistically significant association between social reporting and sustainability accounting. This means that the practice of

social reporting is assist in communicating social activities of tea factories which hence build sustainability reporting.

The influence of social reporting on sustainability accounting was further explored by running a simple binary logistic regression model. The output in Table 4.11 confirmed that social reporting had significance influence on sustainability accounting $\left(Wald's\ test: \chi^2_{(1)} = 18.620, p < \alpha\right)$ at five percent level of significance. Further, the simple binary regression indicated that the sustainability odds ratio of sustainability accounting at 95% confidence level for methods of reporting was 9.598 with confidence interval of $(3.436 \leq CI \leq 26.809)$. This means that social reporting was 9.598 times more likely to increase sustenance of pursuit for sustainability accounting than when it is not practiced. The results are as shown in Table 4.20.

Table 4. 20: Odds Ratio for Logistic Regression of Sustainability Accounting on Social Reporting

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	SR	2.262	.524	18.620	1	.000	9.598	3.436	26.809
	Constant	-5.116	1.345	14.481	1	.000	.006		

The model produced is presented below:

$$\boldsymbol{log\left\{\frac{\pi(x)}{1-\pi(x)}\right\} = -5.116 + 2.262X_2} \qquad \textbf{(Eq. 4.2)}$$

These results were confirmed by the interview schedule in which some accountants asserted that sustainability accounting can only be pursued when to a sustainable level when items of social accounting are practiced by committing costs and the whether benefits are derived or not, the items need to be reported in annual financial reports.

4.4 Relationship between Environmental Reporting and Sustainability Accounting

This section presents the analysis of the relationship between social reporting and sustainability accounting. It begins by looking at the financial implication of practicing environmental reporting elements by the tea factory. The financial implication was looked at in terms of whether cost was incurred and the benefits gained out of such undertakings. Environmental reporting was measured in terms of ecological factors and energy and natural capital extraction. The items that measured environmental reporting are then analyzed in terms of means and standard deviation in order to determine the degree to which respondents agree with them. Means of means were worked out to obtain the single opinion of respondents on environmental reporting. The counts for means was computed to determine the proportion of respondents perceiving the influence of environmental reporting on sustainability accounting as low, medium or high. These counts were then cross-tabulated with those of sustainability accounting, which were then recoded and weighted to run Chi-square and simple binary regression analysis which was the test of the third hypothesis.

4.4.1 Environmental Reporting in the Tea Sector

The subsection presents the determination of the value of the independent variable, environmental reporting. Environmental reporting was looked at in terms of ecological factors and natural capital extraction as practiced by the tea industry. The subsection began by looking at the financial implication of the environmental factors if practiced by the tea factory. Financial implication was inquired in form of binary response of ‘yes’ and ‘no’ whether costs were incurred and benefits derived. Mean analysis of the environmental factors was then conducted after which means of means and standard deviation are

presented to show the overall perception of respondents on the environmental reporting factors. The subsection ends by determining the strength of influence of environmental reporting.

The first sub-parameter of environmental accounting was ecological factors and energy whose financial implication analysis. Majority of the respondents (92.6%) agreed that funds were committed in maintaining soil fertility, depletion control and salinity while 95.6% agreed that costs are incurred to undertake forestry activities; however, when respondents were asked whether tea factory use alien species of tea. 73.5% of the disagreed that the tea factory incur cost in use of alien species of tea. Some FUMs stated during the interview that species of tea are developed at Kenya tea research centers and farmers educated of them. A unique tea species of tea, purple tea, was developed in Kenya as confirmed by an FUM. One of the FUMs however, confirmed that costs are incurred to process the unique tea species from which there are great benefits to the tea factory, a factor which 73.5% rest of the respondents stated that benefits are derived from quality processed tea and not use of alien species of tea, as presented in Table 4.21.

Table 4. 21: Financial Implication of Ecological and Energy Elements to the Tea Factory

S. N	ITEM	Financial Implication to the Tea Factory							
		Are costs incurred?				Do you derive any benefit?			
		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%
	Ecological Factors and Energy								
1.	Tea factory undertakes forestry activities	65	95.6	3	4.4	65	95.6	3	4.4
2.	Tea factory protects wildlife resources and habitats	61	89.7	7	10.3	59	86.8	9	13.2
3.	Tea factory ensures maintained soil fertility, depletion control and salinity management	63	92.6	5	7.4	61	89.7	7	10.3
4.	Tea factory use alien species of tea	18	26.5	50	73.5	18	26.5	50	73.5
5.	Tea factory utilizes renewable energy	58	85.3	10	14.7	59	86.8	9	13.2
6.	Tea factory undertake innovative energy conservation methods	55	80.9	13	19.1	65	95.6	3	4.4

The study findings indicated that the tea factory commits funds in undertaking environmental reporting factors that included undertaking forestry activities, protection of wildlife and habitats, maintenance of soil fertility and salinity management, use of renewable energy and innovative energy conservation measures. However, the tea factory itself rarely commit funds to use of alien species of tea. The study further reveals that the tea factory derived benefit from undertaking the ecological and energy factors.

The second sub-parameter under environmental reporting that the study explored its financial implications to the tea factory was natural capital extraction. The results in Table 4.22 revealed that 92.6% of them agreed that benefit the tea factory other respondents (95.6%) agreed that the tea factory incurred costs towards combating climate change, something which 91.2% of them confirmed benefits the tea factory. When asked whether the tea factory committed funds in ensuring efficiency in use of natural resources, 76.5% disagreed. It was revealed by 89.7% of the respondents that the tea factory incur costs in paying fines for pollution and accidental discharge and that such payments made are

supposed to alleviate any wrangles with the surrounding community. The results are as presented in Table 4.22.

Table 4. 22: Financial Implication of Natural Capital Extraction Items by the Tea Factory

S. N	ITEM	Financial Implication to the Tea Factory							
		Are costs incurred?				Do you derive any benefit?			
		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%
	Natural Capital Extraction								
1.	Tea factory controls land degradation	61	89.7	7	10.3	63	92.6	5	7.4
2.	Tea factory has mechanisms of combating climate change	65	95.6	3	4.4	62	91.2	6	8.8
3.	Tea factory ensures efficient use of natural resources	52	76.5	16	23.5	63	92.6	5	7.4
4.	Tea factory manages water freshness and the catchment	63	92.6	5	7.4	67	98.5	1	1.5
5.	Tea factory controls and manages agricultural wastes	63	92.6	5	7.4	65	95.6	3	4.4
6.	Tea factory ensures quality air to the surrounding	58	85.3	10	14.7	53	77.9	15	22.1
7.	Tea factory valuates and records natural capital within the catchment area	17	25.0	51	75.0	14	20.6	54	79.4
8.	Tea factory pays fines for pollution and accidental discharge	61	89.7	7	10.3	62	91.2	6	8.8

The study hence found out that the tea factory commit funds in undertaking natural capital extraction factors that included land degradation control program, combating of climate change, natural resource efficacy use, water management, agricultural waste control, waste management and control.

The individual items that measured environmental reporting were further evaluated by computing the means to reveal the degree to which the respondents agreed with the expressions of the items as practiced by the Tea Factory. The first sub-parameter of environmental reporting was ecological factors and energy which results showed that first items which measured ecological and energy factors had a mean of four denoting that the respondents agreed the ecological activities are practiced in financial terms. The fourth item had a mean of four and a large standard deviation of 1.01. This showed that majority

of the respondents were of varied opinions that the tea factory made use of alien species of tea as presented in Table 4.23.

Table 4. 23: Mean Analysis of Ecological and Energy Factors to the Tea Factory

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Ecological Factors and Energy								
1.	Tea factory undertakes forestry activities	68	2 (2.9%)	0 (0.0%)	0 (0.0%)	43 (63.3%)	23 (33.8%)	4.25	.741
2.	Tea factory protects wildlife resources and habitats	68	2 (2.9%)	6 (8.8%)	4 (5.9%)	38 (55.9%)	18 (26.5%)	3.94	.976
3.	Tea factory ensures maintained soil fertility, depletion control and salinity management	68	2 (2.9%)	4 (5.9%)	0 (0.0%)	39 (57.4%)	23 (33.8%)	4.19	.797
4.	Tea factory use alien species of tea	68	4 (5.9%)	3 (4.4%)	5 (7.4%)	40 (58.8%)	16 (23.5%)	3.90	1.010
5.	Tea factory utilizes renewable energy	68	3 (4.4%)	2 (2.9%)	10 (14.7%)	32 (47.1%)	21 (30.9%)	3.97	.992
6.	Tea factory undertake innovative energy conservation methods	68	2 (2.9%)	5 (7.4%)	8 (11.8%)	32 (47.1%)	21 (30.8%)	3.96	.999

The result showed that majority of the respondents agreed that the tea factory undertakes innovative energy conservation measures. The practice of ecological and energy factors is one of the drivers of environmental reporting that support sustainability accounting.

The second sub-parameter for environmental reporting which analyzed in terms of means was natural capital extraction. Mean analysis of natural capital extraction was done to ascertain the respondents level of agreement of the factory's undertaking of the items of natural capital extraction. Most of the items that measured natural capital extraction had a mean of four and a small standard deviation. The sixth item had a mean of four and a large standard deviation of 1.060. This indicated majority of the respondents agreed but on a varied opinion that tea factory ensures quality air to the surrounding environment. During the interview, some respondents still felt that however much the tea factory has made efforts to erect tall fume chambers, not all the fume has been controlled even though it put mechanism to ensure the fume is not harmful. The seventh item had a mean of four and a

large standard deviation of 1.020. This revealed that majority of the respondents were in agreement that the tea factory valuates and keep record of natural capital within the catchment area. A considerable percentage (16.2%) however were divided whether the factories carry out such valuations or not, meaning it is not widely practiced. The eighth item had a mean of four and large standard deviation 1.015. This showed that majority of the respondents agreed that tea factory incur fines on accidental discharge or pollution. The results are presented in Table 4.24.

Table 4. 24: Mean Analysis of Natural Capital Extraction by the Tea Factory

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Natural Capital Extraction								
1.	Tea factory controls land degradation	68	2 (2.9%)	5 (7.4%)	6 (8.8%)	38 (55.9%)	17 (25.0%)	3.93	.951
2.	Tea factory has mechanisms of combating climate change	68	3 (4.4%)	5 (7.4%)	1 (1.5%)	42 (61.7%)	17 (25.0%)	3.96	.984
3.	Tea factory ensures efficient use of natural resources	68	3 (4.4%)	2 (2.9%)	3 (4.4%)	41 (60.4%)	19 (27.9%)	4.04	.921
4.	Tea factory manages water freshness and the catchment areas	68	2 (2.9%)	2 (2.9%)	4 (5.9%)	41 (60.4%)	19 (27.9%)	4.07	.852
5.	Tea factory controls and manages agricultural wastes	68	2 (2.9%)	2 (2.9%)	3 (4.4%)	34 (50.0%)	27 (39.8%)	4.21	.890
6.	Tea factory ensures quality air to the surrounding	68	3 (4.4%)	6 (8.8%)	8 (11.8%)	33 (48.5%)	18 (26.5%)	3.84	1.060
7.	Tea factory valuates and records natural capital within the catchment area	68	3 (4.4%)	5 (7.4%)	11 (16.2%)	34 (50.0%)	15 (22.0%)	3.78	1.020
8.	Tea factory pays fines for pollution and accidental discharge	68	3 (4.4%)	5 (7.4%)	6 (8.8%)	37 (54.4%)	17 (25.0%)	3.88	1.015

The study results indicated that the tea factories undertake the factors of natural capital extraction. The elements of natural capital extraction being undertaken by the tea factory included land degradation control, combating of climate change, programs of efficient use of natural resources, water management in terms maintaining freshness and preserve of water bodies, management agricultural wastes, ensuring of air quality and pollution control. The study also found out that the tea factory do pay fine in circumstances of any

accidental waste discharge. The undertaking of the natural capital extraction factors auger with the findings that were discussed that the tea factory incur costs in them and also derive benefit out of them.

Mean of means and a combined standard deviation of all the items measuring environmental reporting was further computed. Mean results in Table 4.25 gave an output of a mean of four with a standard deviation of 0.9434. The results were negatively skewed (-1.4614) which means more respondents responded with high score. The results are presented in Table 4.25.

Table 4. 25: Summary Statistics of Environmental Reporting Factors in the Tea Factory

0**Perception**	**Frequency**
Mean of means	3.9943
Mean of standard deviation	.9434
Skewness	-1.4614
Kurtosis	2.9682

The output indicated that majority of the respondents were in agreement that the tea factory undertakes the activities that need to be reported under environmental reporting. The value of environmental reporting was then computed as counts after transforming the five-point Likert scale into three-point categorical measure. The five-point Likert scale was in the range (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree). The mean of five-point Likert scale was recoded into three-point categorical scale for purposes of running Chi-square and simple binary logistic regression. The level of influence was obtained using three-point categorical scale that was arrived by transforming the Likert values 1-2 to represent Low (1), 3 to represent Medium (2) and 4-5 to represent High (3). The terms “Low”, “Medium” and “High” connote the extent of influence of environmental

reporting after which counts were determined. The results indicated majority of the respondents (63.2%) felt that environmental reporting had a strong influence on sustainability accounting in the tea sector in Mount Kenya region. The results are indicated in Table 4.26.

Table 4. 26: Strength of Influence of Environmental Reporting in the Tea Factory

Perception	Frequency	Percent
Weak	9	13.2
Moderate	16	23.5
Strong	43	63.2
Total	**68**	**100.0**

The output showed the influence of environmental reporting on sustainability accounting increases with the strength of its practice. The practice hence need to be constantly high for an assured sustainability accounting. The counts presented in Table 4.26 were then used as measure of environmental reporting in determining the relationship between environmental reporting and sustainability accounting in which weighting of the cases was done in order to run Chi-square and simple binary logistic regression after cross tabulation.

4.4.2 Association between Environmental Reporting and Sustainability Accounting

The study further assessed the how different strength of environmental reporting relate with the sustenance of sustainability accounting. The counts for the measure of environmental reporting (Table 4.26) was cross tabulated with the counts of the measure of sustainability accounting (Table 4.5). The output was presented in a contingency table where sustainability accounting was cross-tabbed by environmental reporting. The results indicated that all the respondents (n=9) who believed that the influence of environmental accounting is weak, also felt that it would make sustainability accounting unsustainable. Out of the 43 respondents that believed that the influence of environmental reporting is

strong, 8.8% felt that even with the strength of influence it would lead to unsustainable practice of sustainability accounting while 54.4% felt that it would lead to sustainable practice of sustainability accounting. The output is as presented in Table 4.27.

Table 4. 27: Tabulation of Sustainability Accounting by the Environmental Reporting

Strength	Unsustainable		Sustainable		Total	
	Frequency	Percentage	Frequency	Percentage	Freq	%
Weak	9	13.2	0	0.0	9	13.2
Moderate	13	19.2	3	4.4	16	23.6
Strong	6	8.8	37	54.4	43	63.2
Total	**28**	**41.2**	**40**	**58.8**	**68**	**100.0**

The study findings revealed that when the strength of influence of environmental reporting is intensified, then the practice of sustainability accounting is actually sustainable. This is taken into consideration that there are costs incurred and benefits derived from elements of environmental reporting.

This study further tested hypothesis that there was a significant influence of environmental reporting on sustainability accounting in tea factories of Mount Kenya region. The null hypothesis was stated as:

> $\boldsymbol{Ho_3}$: There was no significant relationship between environmental reporting and sustainability accounting in the tea sector of Mount Kenya Region

The Chi-square test of independence was first run to examine the association between social reporting and environmental reporting at 5% level of significance. The Chi-square test of independence revealed that the probability values were less than the level of significance as in Table 4.19. The null hypothesis was thence rejected and the study concluded that there was a significant association between environmental reporting and sustainability accounting as evidence by Pearson chi-square as $(\chi^2_{(2)} = 36.622, p =$

0.001). The findings were also confirmed by Likehood Ratio value in which $\left(\chi^2_{(2)} = 41.943, p = 0.001\right)$. The output also revealed that linear by linear association between the variables was significant $(\chi^2_{(1)} = 33.589, p = 0.001)$. The results are presented in Table 4.28.

Table 4. 28: Chi-square test for Sustainability Accounting against Environmental Reporting

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.622	2	.000
Likelihood Ratio	41.943	2	.000
Linear-by-Linear Association	33.589	1	.000
N of Valid Cases	68		

The study findings hence confirmed that there was a statistically significant association between environmental reporting and sustainability accounting. This means that sustainability accounting is assured by the practice of environmental reporting to the stakeholders of the tea factories.

The influence of environmental reporting on sustainability accounting was further explored by running a simple binary logistic regression model. The output confirmed that environmental reporting had significance influence on sustainability accounting $\left(Wald's\ test: \chi^2_{(1)} = 20.272, p < \alpha\right)$ at five percent level of significance. Further, the simple binary regression indicated that the sustainability odds ratio of sustainability accounting at 95% confidence level for environmental reporting was 28.659 with confidence interval of $(6.651 \leq CI \leq 123.488)$. This means that environmental reporting was 28.659 times more likely to increase sustenance of pursuit for sustainability accounting than when it is not practiced. The output are shown in Table 4.20.

Table 4. 29: Odds Ratio for Logistic Regression of Sustainability Accounting on Environmental Reporting

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	ER	3.355	.745	20.272	1	.000	28.659	6.651	123.488
	Constant	-8.234	2.023	16.569	1	.000	.000		

The model produced is presented below:

$$log\left\{\frac{\pi(x)}{1-\pi(x)}\right\} = -8.234 + 3.355X_3 \quad \textbf{(Eq. 4.3)}$$

The results indicated that environmental reporting positively influence sustainability accounting. These results were confirmed by the interview schedule in which some accountants asserted that sustainability accounting can only be pursued to a sustainable level when items of environmental reporting since costs are incurred and the benefits are enjoyed by the stakeholders and the tea factory.

4.5 Sustainability Accounting and its Relationship with Methods of Reporting, Social Reporting and Environmental Reporting in the Tea Sector

This section contains the analysis of the relationship between the dependent variable and all the independent variables. Multiple logistic regression was run in order to test for the partial relationship between the predictor variables and outcome variable.

The study tested hypothesis that there was a significant influence of methods of reporting, social reporting and environmental reporting on sustainability accounting in tea factories of Mount Kenya region. The null hypothesis was stated as:

> $\boldsymbol{Ho_4}$: There is no influence of methods of reporting, social reporting and environmental reporting on sustainability accounting in tea sector of Mount Kenya Region

Simultaneous multiple logistic regression was run in order to test for hypothesis four. The output of the multiple logistic regression showed that when the independent variable are simultaneously entered into the model, methods of reporting statistically significantly influence sustainability accounting $\left(Wald\ \chi^2_{(1)} = 6.360, p < \alpha\right)$ at 5% level of significance. The influence had a positive beta hence indicating that as the integration of methods of reporting are intensified, the influence on sustainability increases. The results also showed that there was a statistically significance influence of social reporting on sustainability accounting $\left(Wald\ \chi^2_{(1)} = 4.526, p < \alpha\right)$ at 5% level of significance. The findings had a positive beta hence showing that increasing strength of social reporting increases sustainability accounting. It was also observed that environmental accounting significantly influence sustainability accounting $\left(Wald\ \chi^2_{(1)} = 8.155, p < \alpha\right)$. The Wald's test results are presented in Table 4.30.

Table 4. 30: Odds Ratio for Logistic Regression of Sustainability Accounting on the Methods of Reporting and Environmental Reporting

Independent Variable		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	MR	2.284	.906	6.360	1	.012	9.812	1.663	57.883
	SR	2.693	1.266	4.526	1	.033	14.778	1.236	176.649
	ER	4.090	1.432	8.155	1	.004	59.730	3.607	989.155
	Constant	-22.183	7.093	9.782	1	.002	.000		

a. Variable(s) entered on step 1: MR, SR, ER.

The output showed that the association was positive indicating that as environmental reporting increases, sustainability also increases.

The odds ratio test indicated that methods of reporting accounted for 9.812 times the sustenance probability of sustainability accounting. Social reporting accounted for 14.778

times more the sustenance probability of sustainability accounting. Environmental reporting accounted for 59.730 times the more likely to increase sustainability accounting. It was hence deduced that methods of reporting, social reporting and environmental reporting had a significant influence on sustainability accounting. It hence observed that social elements, environmental elements and financial elements in accounting both impact the organization either internally or externally and on its flows and stock. The flows are manifested in environmental costs and benefits, social costs and benefits and economic costs and benefits.

4.6 Moderating influence of Stakeholder Knowledge on the Relationship between the Factors and Sustainability Accounting in the Tea Sector

This section contains the analysis of the moderating influence of stakeholder knowledge on the relationship between the factors and the sustainability accounting in the tea sector of Mount Kenya region. The factors included methods of reporting, social reporting and environmental reporting. The section first begins by determining the value of stakeholder knowledge by running an output on mean analysis of the individual items that measured stakeholder knowledge then mean of means which revealed the level of stakeholder agreement with the understanding of accounting information. A two way interaction is shown to reveal whether stakeholder knowledge moderates individual factors. The section the ends by indicating the hierarchical logistic regression output of the odds ratio of the moderating influence of stakeholder knowledge on all factors fed on one model with the output variable.

4.6.1 Stakeholder Knowledge of Accounting Reporting in the Tea Sector

This subsection describes the level of stakeholder knowledge on accounting reporting of sustainability accounting in the tea sector of Mount Kenya region. The stakeholder knowledge items were analyzed in terms of means and standard deviation. The sub-section also presents mean of means of all the items that is an overall rating of the level of stakeholder knowledge. The strength of influence of stakeholder knowledge is then determined after which it is cross tabulated with sustenance of sustainability accounting. The results of mean analysis of stakeholder knowledge is presented in Table 4.31.

Table 4. 31: Mean Analysis of Stakeholder Knowledge

S. N	ITEM	N	SD	D	N	A	SA	MEAN	SD
	Natural Capital Extraction								
1.	Tea factory stakeholders raise questions on social and environmental activities during annual meetings	68	1 (1.5%)	4 (5.9%)	15 (22.1%)	40 (58.7%)	8 (11.8%)	3.74	.803
2.	Tea factory creates awareness on social accounting and reporting to the stakeholders	68	1 (1.5%)	1 (1.5%)	13 (19.1%)	41 (60.3%)	12 (17.6%)	3.91	.748
3.	Tea factory creates awareness on environmental accounting and reporting to the stakeholders	68	1 (1.5%)	2 (2.9%)	9 (13.2%)	46 (67.7%)	10 (14.7%)	3.81	.322
4.	Tea factory stakeholders write to the factory concerning its social activities	68	3 (4.4%)	5 (7.4%)	11 (16.2%)	41 (60.3%)	8 (11.8%)	2.07	.997
5.	Tea factory stakeholders write to the factory concerning its environmental activities	68	3 (4.4%)	4 (5.9%)	17 (25.0%)	36 (52.9%)	8 (11.8%)	2.29	1.235
6.	Tea factory stakeholders create forums to discuss company's social and environmental	68	33 (48.5%)	16 (23.5%)	5 (7.4%)	9 (13.2%)	5 (7.4%)	2.38	1.172
7.	Tea factory stakeholders raise concerns through lobby groups about the factory's social and environmental reporting	68	16 (23.5%)	21 (30.9%)	18 (26.5%)	11 (16.2%)	2 (2.9%)	2.24	1.094

The output in Table 4.31 indicated that the first item of stakeholder knowledge has a mean of four and a standard deviation of 0.875. This showed that the respondents agreed tea factory stakeholders raise questions on social and environmental activities during annual general meeting. The second item had a mean of four and a standard deviation of 0.748

which showed that majority of the respondents agreed that tea factory creates awareness on social accounting and reporting to the stakeholders. The third item had a mean of four and a standard deviation of 0.322. This revealed that majority of the stakeholders agreed that tea factory creates awareness on environmental accounting and reporting to the stakeholders. The fourth item had a mean of two and a standard deviation of 0.997. This showed that majority of the respondents disagreed that the tea factory stakeholders write to the factory concerning its social activities. The fifth item had a mean of two and a high standard deviation of 1.235. This means that majority of the respondents disagreed on a varied that tea factory stakeholders write to the tea factory concerning its environmental activities. This was the same case for item six and seven in which the respondents disagreed that tea stakeholders create forums to discuss company's social and environmental reporting or form lobby groups to pursue social and environmental reporting by the tea factories.

The study indicated that the stakeholder knowledge on accounting in terms of social and environmental reporting is manifested through raising questions during annual reports, knowledge gained through created awareness by the tea factory on social reporting and environmental reporting. This conforms with the study by (Sidorova & Gurvitsh, 2012) However, stakeholder knowledge does not manifest itself through stakeholder writing to the tea factory concerning social and environmental activities, creation of forums nor raising concerns through lobby groups. The interview discussions also revealed that the stakeholders rarely use lobby groups to raise social and environmental concerns. These study findings are supported by Thomson (2014) who suggested that stakeholders need to be educated on social matters.

The mean of means analysis of the stakeholder knowledge was also conducted. The analysis was to determine the level of the respondents' agreement with the stakeholder's knowledge on elements of social and environmental accounting which when reported support sustainability accounting. The results are as presented in Table 4.32.

Table 4. 32: Summary Statistics of Stakeholder Knowledge

Perception	Frequency
Mean of means	2.514
Mean of standard deviation	0.702
Skewness	-1.122
Kurtosis	-0.062

The result in Table 4.32 indicated that the mean of means was three with a standard deviation of 0.702 which also had a negative skewness value and kurtosis of -0.062. This means the half of the respondents agreed that the respondents had knowledge on accounting reporting and sustainability accounting. The other half of the respondents disagreed that the respondents had knowledge on social reporting, environmental reporting and sustainability accounting.

4.6.2 Test of Moderating Influence of Stakeholder Knowledge

This subsection contain the tested hypothesis that there was a significant moderating influence of stakeholder knowledge on the relationship between methods of reporting, social reporting and environmental reporting on sustainability accounting in tea factories of Mount Kenya region. The null hypothesis was stated as:

> $\boldsymbol{Ho_5}$: There was no significant moderating role of shareholder knowledge on the relationship between methods of reporting, social reporting and environmental reporting on sustainability accounting in tea sector of Mount Kenya Region

After determining the value of stakeholder knowledge in subsection 4.7.1, its moderating influence was then tested on the relationship between methods of reporting (MR), social reporting (SR) and environmental reporting (ER) and sustainability accounting (SA). Two way interaction was conducted to determine the significance interaction between each independent variable and the moderator variable. A backward iteration was adopted to ensure that only significant interaction is adopted in the final regression model. The results of the interaction are as presented in Table 4.33.

Table 4. 33: Output from Logistic Regression on Sustainability Accounting on all Explanatory Variables and the Moderator Variable

Variables in the Equation							
		B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
Step 1[a]	MR	4.595	4.789	.921	1	.337	98.982
	SR	1.340	4.725	.080	1	.777	3.820
	ER	3.023	2.644	1.307	1	.253	20.551
	MR by SK	-.770	1.684	.209	1	.647	.463
	SK by SR	.528	1.698	.097	1	.756	1.695
	ER by SK	.431	.891	.234	1	.629	1.539
	Constant	-23.123	7.488	9.536	1	.002	.000
Step 2[a]	MR	3.342	2.539	1.733	1	.188	28.280
	SR	2.760	1.328	4.322	1	.038	15.799
	ER	2.805	2.622	1.145	1	.285	16.522
	MR by SK	-.325	.901	.130	1	.718	.722
	ER by SK	.518	.870	.355	1	.551	1.680
	Constant	-23.038	7.467	9.519	1	.002	.000
Step 3[a]	MR	2.513	1.006	6.246	1	.012	12.341
	SR	2.849	1.317	4.681	1	.031	17.264
	ER	3.563	1.562	5.200	1	.023	35.268
	ER by SK	.229	.310	.547	1	.460	1.258
	Constant	-23.241	7.515	9.564	1	.002	.000
Step 4[a]	MR	2.284	.906	6.360	1	.012	9.812
	SR	2.693	1.266	4.526	1	.033	14.778
	ER	4.090	1.432	8.155	1	.004	59.730
	Constant	-22.183	7.093	9.782	1	.002	.000
a. Variable(s) entered on step 1: MR * SK , SK * SR , ER * SK .							

The overall model was:

$$\boldsymbol{log\left\{\frac{\pi(x)}{1-\pi(x)}\right\} = -22.183 + 2.284X_1 + 2.693X_2 + 4.090X_3} \qquad \textbf{(Eq. 4.4)}$$

Where $\boldsymbol{X_1} is\ methods\ of\ reporting$;

$\boldsymbol{X_2}$ $\boldsymbol{i}s\ social\ reporting$;

$\boldsymbol{X_3}\ is\ environmental\ reporting$

The hierarchical multiple logistic regression output in Table 4.33 indicated that the first step of the regression are insignificantly contributing to the model when all the three two-way interactions are included($p = 0.647,\ 0.756,\ 0.629; > 0.05$). In step two, the backward iteration omitted the interaction between social reporting and environmental reporting while in step three, interaction between methods of reporting and stakeholder knowledge was deleted by backward iteration. However, the interaction of environmental reporting by stakeholder knowledge was still insignificant. In the final model in step four, where all insignificant interactions were deleted, the results showed that none of the two way interactions were retained in the model.

The results showed that stakeholder knowledge does not moderate the relationship between methods of reporting and sustainability accounting. There was also no significant moderating influence of stakeholder knowledge on the relationship between social reporting and sustainability accounting. Similarly there was no significant moderating influence of stakeholder knowledge on the relationship between stakeholder knowledge and sustainability accounting. The overall model indicated that there was no significant moderating influence of stakeholder knowledge on the relationship between methods of reporting, social reporting, environmental reporting and sustainability accounting.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents discussions of data that had been analyzed and interpreted in chapter four. The discussions are based on the study objectives which involved influence between methods of reporting and sustainability accounting; influence of social reporting and sustainability accounting; influence of environmental reporting and sustainability accounting; relationship between methods of reporting, social reporting, environmental reporting and sustainability accounting. The chapter entails comparison of the research findings with previous studies, those that agree and others that contrast in which contribution to knowledge is made. Conclusions and recommendations are then drawn from the discussions. The chapter then with suggestion of areas for further research.

5.1 Discussion of Research Findings

The study sought to establish the influence of methods of reporting, social reporting and environmental reporting on social reporting. The factors are discussed through simple binary logistic regression looking and multiple binary logistic regression between methods of reporting, social reporting, environmental reporting and sustainability accounting. The moderating influence of stakeholder knowledge on the relationship is finally discussed. The study revealed that methods of reporting significantly influence sustainability accounting such that integrated reporting is key driver to sustainability accounting (Kelly, Naomi & Christopher, 2017).

5.1.1 Background of the Respondents

The study revealed that most of the target respondents were middle aged, had attained university education, were members of at least one professional body of accounting and especially ICPAK which is the largest professional body in Kenya covering accounting profession. The respondents were those either making strategic financial decisions or dealing with finance and accounting matters, majority of whom had long working experience. With their education qualifications, professional body membership, and long working experience in accounting field; the study observed that the respondents had enough knowledge of accounting and reporting. The knowledge is part of the management accounting that is crucial in providing sustainability information (Matembele, 2014) for strategic decision making and determining of the influence of externalities' influence on sustainability accounting. This is in consistent with ACCA report by Hannah (2010) which stated that accountants are in a better position to deep comprehension of social, environmental and economic issues which focus on long-term accounting practices for the gain of all stakeholders. In order to radicalize the rationality of conventional accounting to sustainability accounting, it is the function of general managers and accountants to play the role of identifying social and environmental risks (Bebbington & Ian, 2016).

Accountants are much concerned with the continuity of an organization's life, not just for internal use but also externally to all stakeholders and hence their practice of social accounting, environmental accounting and choice of method of reporting actually supports this concept (Joshi & Li, 2016). However, the research conducted to demonstrate social reporting as a signal of future financial performance (Lys, Naughton & Wang, 2015) had findings that contradict the findings here. Lys et al. (2015) argue that managers undertake

social reporting and environmental reporting to advance their personal gains and reputation at the cost of stakeholders (Cheung & Roca, 2013). This study, despite these contradictory findings, established that accountants need to embrace into practice the integrated choice of methods of reporting in order to attract social capital and environmental capital as later explained under the influence of social reporting and environmental reporting.

5.1.2 Influence of Methods of Reporting on Sustainability Accounting

The study was conducted to determine the influence of methods of reporting on sustainability accounting. Sustainability accounting was first measured in terms of three indicators that included accounting standards, profitability and social legitimacy. Methods of reporting were measured in terms of financial reporting, social reporting and environmental reporting.

The study revealed that the accounting standards IAS1, IAS8, IAS16, IAS36 and IAS37 support sustainability accounting in the tea sector. These findings are consistent with Farkas (2011) who found out that the accounting standards that have social and environmental relevance and which are pegged on sustainability accounting include: IAS1, IAS8, IAS16, IAS36 and IAS37. This is supported by the fact that disclosure of information on sustainability has increased in the recent years (Frias, Ariza & Garcia, 2012). There also some standards like Sustainability Accounting Standards Board (SASB, 2013) which is operative in the United States and also GRI that have been put forth to guide social reporting and environmental reporting, this is due to increasing trend of pressure on companies to do such reporting (Ali, 2013). There are also standards like ISO 14001 which is concerned with environmental management is meant to convince managers and accountants to input environmental issues into their operational plans (Ismail, Ramli &

Darus, 2014). These studies indicate that although these are established Generally Accepted Accounting Principles (GAAPs) that guide the practice of traditional accounting of financial accounting and reporting, some of the IAS and other upcoming standards like GRI, SASB and ISO 14001 are available to guide social and environmental management accounting practices and reporting towards sustainability accounting. However, there are still variations in which organizations are adopting the reporting standards for sustainability accounting (Artie & Pimtong, 2014).

The study also sought to establish profitability as an indicator of sustainability accounting. The results indicated that the practice of social reporting, environmental reporting lead to improved profits which in the long run hence support sustainability accounting. Further, tea factories that practice social and environmental reporting realize higher profits than those which do not practice it. This is further confirmed by the respondent's opinion that sales increase in some proportion due to social reporting and environmental reporting. While the profits can improve, social reporting and environmental reporting is costly as an operating cost. The results show that profitability and sustainability are inextricable. While these results show that profitability support sustainability accounting, Martens, Entz and Wonneck (2013) who did research on ecological agriculture found that sustainability accounting has very little influence on profitability except on technology and innovation. However, a research conducted to find out whether sustainability was compatible with profitability, concluded that most aspects of sustainability accounting can greatly affect profitability (Laura, Emilio & Juan, 2016).

The last indicator of sustainability accounting established by the study was social legitimacy. The study findings showed that social legitimacy is a measure of sustainability

accounting in terms of the contracts between tea factory and the community, stakeholders require sustainability accounting and that they can forfeit the social and environmental accounting rights that a tea factory may be financially practicing. The society bear expectations of how an organization's manner of conducting its business (Cuganesan, Guthrie & Ward, 2010). Although the stakeholders can forfeit such rights, there is a mixed opinion whether stakeholders spell the areas of sustainability accounting. The finding is supported by the empirical evidence that companies at times tend to manipulate their social and environmental undertakings in order to be socially legitimate (Hopwood, 2009). Further, it is revealed that the sustainability accounting can influence the financial decisions of the tea factory stakeholders but whether it determines areas the tea factory can invest in remains a dilemma. Sustainability accounting practices need to meet the societal needs of the community in its immediate environment. Social legitimacy has a great influence on environmental reporting found by the study conducted by Mokhtar, Zulkifli and Josuh (2014) who studied environmental management accounting and reporting for environmental activities. The concept of social legitimacy is hence an indicator of sustainability accounting (Unerman & Chapman, 2014; Gray, Brenan, & Melpas, 2014).

On the relationship between methods of reporting and sustainability accounting; the study found that methods of reporting had a significant influence on sustainability accounting $\left(Wald's\ test: \chi^2_{(1)} = 20.271, p < \alpha\right)$ at five percent level of significance. The study established that the most dominant method of reporting economic information has been financial reporting. This method is considered traditional and has failed to capture all stakeholders' needs. The study hence found that integration of the three methods of reporting, that is, financial reporting, social reporting and environmental reporting has a

statistically significant influence on sustainability (Lodhia, 2015). Such integration captures the elements of social reporting and environmental reporting (Morros, 2016). Financial reporting has fallen short of addressing all factors that affect the organization's economic undertaking (Faria, 2016) and hence it cannot on its own support sustainability accounting without bringing in the concepts of social reporting and environmental reporting.

5.1.3 Influence of Social Reporting on Sustainability Accounting

Social reporting was analyzed based on human capital and community outreach which were interrogated in terms of whether the tea factory undertake activities of human capital and community outreach in which costs are incurred and benefits derived.

The study findings indicated that the tea factory incurred cost towards undertaking the human capital elements which included supporting the youth and youth affairs, wealth creation to the community, employment creation and expansion, development of its employees and business generation. Human capital investment takes a significant proportion of costs of operation of a business. These are the labor costs in terms of salary, recruitment, retention, and development of employees (Kuras & Swiacik, 2014). Some studies suggest that the costs of human capital is actually the cost incurred to acquire people and develop employees (Alnasser, Shaban & Atieh, 2014). When the costing is wrongly done, it disorients the measurement on return on investments by various stakeholders (Alnasser et al., 2014). However, it was revealed that the tea factories did not incur cost in protecting intellectual property. This was confirmed by the by the interview schedule in which some FUMs stated that the procedure in processing of tea was predefined and any innovation arose from tea research institutes. It was found out that the tea factory derived

financial benefits by undertaking the human capital items. It has been established that accounting for intellectual property poses challenge to many accountants in its valuation (Sulanjaku, 2013). The tea factories in question lack autonomy, they are managed centrally employing same policies and strategies. This kills room for innovation at factory level and hence need for accounting for intellectual property rights and such intangible asset if not accounted for may cause risk to an entity (Gordon & Russel, 2011). The intellectual property are provided for under IAS38 but other standards like IFRS and FAS still lack framework of accounting for it.

The study revealed that the tea factory undertook the human capital items which included support of youth and youth affairs, wealth creation, employment creation and expansion, training and development of tea factory employees and business generation. The interview conducted revealed that the elements need to be integrated into the annual financial reports since they are practiced by the tea factories, this was stated by some of the accountants. These studies are consistent with findings by Dewi (2014) that studied on companies' response to operational externalities which indicated that companies have social exposure. Organizations derive value from human capital disclosure which can improve company's valuation in the market (Ramin, 2013).

The study revealed that the tea factories incurred costs in community outreach activities like education sponsorship, gender balance programs, community based projects, maintenance of air quality, creation of central services and facilities and development of infrastructure. However, there was an indication that the tea factories do not incur costs on putting up health facilities and community health, recreational facilities and protection of gender vulnerability. The study found out that the tea factories derive financial benefits

from all the community outreach items except on recreational facilities. The practice of such activities has been found to attract better employees and lower risks of turnover, and this enable organizational innovation and growth (Dhaliwal, Oliver, Albert & Yong, 2011). These community outreach activities lead to creation of social capital which become intangible resources that a business owe the stakeholders (Gannon & Roberts, 2014).

The study concluded that there was a significant association between social reporting and sustainability accounting as evidence by Chi-square as $(\chi^2_{(2)} = 38.123, p = 0.001)$. The findings were also confirmed by Likehood Ratio value in which $\left(\chi^2_{(2)} = 44.570, p = 0.001\right)$. The output also revealed that linear by linear association between the variables was significant$(\chi^2_{(1)} = 36.588, p = 0.001)$. The study findings hence confirmed that there was a statistically significant association between social reporting and sustainability accounting. These findings are consistent with the results of survey conducted by KPMG (2013) on 4100 companies in 41 countries and which also confirmed that social reporting is growing. Study by Mrsik and Kostovski (2015)also found that social reporting has influence on sustainability accounting These social elements practised and reported by companies include community outreach activities, employment creation and charity work (Mrsik & Kostovski, 2015). Another study has observed that social reporting, apart from benefiting stakeholders, is of importance to the organization since it improves financial performance, leads to reduced cost of oepration, improves commitment by staff, ehance chances of innovation and promote organizational brand (Raub & Blunschi, 2013).

5.1.4 Influence of Environmental Reporting on Sustainability Accounting

Environmental reporting was analyzed in terms of ecological factors and natural capital extraction. These were done in terms of costs incurred and benefits derived from the undertakings of environmental reporting. The subsection then ends by discussing the influence of environmental reporting on sustainability accounting by comparison with previous studies.

The study findings indicated that the tea factory commits funds in undertaking environmental reporting factors that included undertaking forestry activities, protection of wildlife and habitats, maintenance of soil fertility management, use of renewable energy and innovative energy conservation measures. However, the tea factories itself rarely commit funds to use of alien species of tea. The study further reveals that the tea factories derived benefit from undertaking the ecological and energy factors like forestry activities and wildlife management. These findings are congruent to those of (Linda, Jan, Keizer & Goda, 2014) which established that organizations incur costs and derive benefits in ecological factors and energy factors (Ileana & Antohe, 2014). However, in most occasions, environmental costs are allocated as overhead costs which make such costs invisible (Jamil, Rapiah, Muhammad & Amin, 2014).

The study revealed that the tea factories commit funds in undertaking natural capital extraction factors that included land degradation control program, combating of climate change, natural resource efficacy use, water management, agricultural waste control, waste management and control. This is agreement with the study by (Barbie, 2013) that studied how ecological capital is utilized. Further, by undertaking the activities, the tea factories derive financial benefits which benefit their stakeholders too. These findings are consistent

with the study on environmental management accounting and its cost by (Ileana & Antohe, 2014) which found out that environmental costs are those expenses arising from economic firm which are incurred directly or indirectly by way of voluntary practice or due to legal fines. According to Dewi (2014), environmental costs at times are computed by comparing the company's waste generated with the total revenue, this is slightly different with the findings of this study where environmental costs are measured in terms of direct expenditure incurred.

The study established that the tea factories practices ecological and energy factors which included forestry activities, protection of wildlife, soil fertility and salinity management, use of renewable source of energy, and undertaking innovative energy conservation measures. These results are supported with the previously discussed results where the tea factory commit funds to undertake the activities. Hence such activities gauge the organization's efficacy in utilization of environmental resources (Elkins & Tomei, 2010). The study by Dewi (2014) had similar results with these findings in which it is shown that organizations have environmental exposure.

It was revealed that environmental reporting had significance influence on sustainability accounting $\left(Wald's\ test: \chi^2_{(1)} = 20.272, p < \alpha\right)$ at five percent level of significance. Further, the simple binary regression indicated that the sustainability odds ratio of sustainability accounting at 95% confidence level for environmental reporting was 28.659 with confidence interval $(6.651 \leq CI \leq 123.488)$. This means that environmental reporting was 28.659 times more likely to increase sustenance of pursuit for sustainability accounting than when it is not practiced. These findings were consistent with the findings

by (Ferrero, Sanchez, & Beatriz, 2013). In most cases, company's annual reports are the ones used to communicate financial information (Othman & Ameer, 2010) from which some simply communicate positive information on environment in order to remain legitimate (Bouten, Everaert, Van, De & Christiaens, 2011). Stakeholder's require for environmental accounting information in order to make economic decisions is growing (De Villiers & Van Staden, 2010), but they are keen to check at the quantitative information in terms of costs and benefits as established by this study. According to (Gatimbu & Wabwire, 2016) environmental reporting not only influence sustainability accounting but also the practice increases organization's financial performance and improve eco-efficiency (Hossain, Rowe & Mahammad, 2012) in developing countries like Kenya. Despite these merits environmental reporting has been found to be very incomplete and incredible (Bouten et al., 2011; Gillet, 2012) and this gap that this study has filled by establishing the areas of environmental reporting and its influence to sustainability accounting through the merits to stakeholder and the company; which can be of economic importance (Zulkifli, 2012).

5.1.5 Influence of Methods of Reporting, Social Reporting and Environmental Reporting on Sustainability Accounting

The output of the multiple logistic regression showed that when the independent variable are simultaneously entered into the model, methods of reporting statistically significantly influence sustainability accounting $\left(Wald\ \chi^2{}_{(1)} = 6.360, p < \alpha\right)$ at 5% level of significance. The influence had a positive beta hence indicating that as the integration of methods of reporting are intensified, the influence on sustainability increases. The results also showed that there was a statistically significant influence of social reporting on

sustainability accounting $\left(Wald\ \chi^2_{(1)} = 4.526, p < \alpha\right)$ at 5% level of significance. The findings had a positive beta hence showing that increasing strength of social reporting increases sustainability accounting. It was also observed that environmental accounting significantly influence sustainability accounting $\left(Wald\ \chi^2_{(1)} = 8.155, p < \alpha\right)$. The output showed that the association was positive indicating that as environmental reporting increases, sustainability also increases. It was hence deduced that methods of reporting, social reporting and environmental reporting had a significant influence on sustainability accounting. These findings are consistent with research findings by Ali (2013) which also found out that sustainability accounting is highly influenced by the choice of methods of reporting, social reporting and environmental reporting. It hence observed that social elements, environmental elements and financial elements in accounting both impact the organization either internally or externally and on its flows and stock. The flows are manifested in environmental costs and benefits, social costs and benefits and economic costs and benefits.

These methods of reporting have attracted attention of media and other stakeholders on their benefits to the stakeholders themselves hence indicating that they support sustainability accounting (Igwe & Nwadialor, 2015). There are study findings that contradict the outcome of this study in which social reporting and environmental reporting have simply been categorized as symbolic and not actually the tenets supporting sustainability accounting (Buhr, Gray & Milne, 2014). However, the study findings here strongly supported social reporting and environmental reporting as influencing sustainability accounting.

In the past two decades, social reporting and environmental reporting has been manifested in social media and websites. Such reporting media have been found to be delivering very scanty information that is preserve of the organizations and intended for just few stakeholders; are complex, hinder comparability and times very lengthy (Villiers, Rinaldi & Unerman, 2014). This short coming has led to call for integration (Hopwood, Unerman & Fries, 2010) of financial reporting, social reporting and environmental reporting into a single report which this study refers to as integrated reporting which reinforce organization's reports (ICAEW, 2013). Social reporting and environmental reporting is termed as augmenting financial reporting including accounting firms. Reporting for financial, social and environmental elements has been found out by major intermediary firms in the market such as international accounting and auditing firms (KPMG, 2013; Deloitte & Touch, 2011; PWC, 2013) and accounting professional bodies (ACCA, 2012; CIMA, IFAC, & PWC, 2013) and supported by internation sustainability accounting regulatory bodies (IIRC & IFRS, 2013).

The GRI guidelines advocates that integrated reporting should demonstrate a holistic comprehension of sustainable development that indicated how the organization's strategy to utilize both financial and non-financial resources in embracing the diverse needs of all the stakeholders and hence isolated financial, social and environmental reports fall short of sustainability accounting (GRI, 2013). This study improved the advocated tenets of sustainability reporting by outlining the areas that an organization need to incur costs on and from which stakeholders derive benefits from financially, socially or environmental wise. The integration of the reporting have been demonstrated to have positive (Nnamani,

Onyekwelu & Ugwu, 2017) and significant association with an organization's financial performance (Olayinka & Temitope, 2011) as well as the study of this finding.

Some studies have however stated that the pursuit of social repoting and environmental reporting drive away the managerial accountant's attention of concentrating in financial reporting (Gond, 2012). According to Jones (2011) social reporting and environmental reporting has suppassed the labelling of being a mere management impression. The mixed results accrue to studies that have solely looked at isolated systems rather than broder management accounting control system that involve different dimensions of reporting that befit all stakeholders and improve the value chain of the company. Benefits that the users of the accounting information derive such social reporting and environmental reporting leading to sustainability accounting include but are not limited to people's well-being, poverty reduction, human capital development among others (Adegbite, 2015). In order to achieve these social reporting and environmental reporting dimensions incoporated into financial reporting then businesses need to include it in their internal controls which Mihaela and Iulian (2012) describes as approved management policies and procedures utilized in effective control of the organization. This growth in accounting practice is in the interest of stakeholders of improving their informed economic judgement for efficient resource allocations which this study has established as either financial, social or environmental (Owen, 2013).

5.1.6 Moderating Influence of Stakeholder Knowledge on the Relationship between Methods of Reporting, Social Reporting, Environmental Reporting and Sustainability Accounting

The study results showed that stakeholder knowledge does not moderate the relationship between methods of reporting and sustainability accounting. There was also no significant moderating influence of stakeholder knowledge on the relationship between social reporting and sustainability accounting. Similarly there was no significant moderating influence of stakeholder knowledge on the relationship between stakeholder knowledge and sustainability accounting. The overall model indicated that there was no significant moderating influence of stakeholder knowledge on the relationship between methods of reporting, social reporting, environmental reporting and sustainability accounting. This shows that sustainability accounting can only be achieved from an integrated system method of social, environmental and financial techniques (Gray, 2010). The trible bottom line (Stenzel, 2010) hence need to be achieved in order to realize a sustainable sustainability accounting (Giovannoni & Fabietti, 2013). This require social dimension, environmental dimension and financial dimension which should be practised simultaneously.

Therefore, the dominant financial reporting alone is not enough, it integration with social reporting, environmental reporting and play a mojor roll in supporting sustainability accounting (Busco, Frigo, Quantrrone & Riccaboni, 2013). It is noted that little research has been done to address the moderating influence of stakeholder knowledge on the relationship between methods of reporting, social reporting and environmental reporting

and sustainability accounting. This study hence filled this gap and established there is no statistical influence of staakeholder knowledge in such a relationship.

5.2 Conclusion

The tea industries are incurring costs to undertake aspects of social reporting and envirnmental reporting. The undertakings bear benefits both to the factory and to the stakeholders. The aspects of social reporting, environmental reporting and financial reporting has been established by the study to produce three categories of capital which include social capital, environmental capital and financial capital. Financial capital encompass all elements that are included in the traditional accounting system which is the predominat in reporting system of accounting. There are also social liabilities and environmental liabilities which are costs due to be incurred by the organization as owed to the society and the environment respectively. The study explored reporting beyond financial that led to the establishment social capital and environmental capital. Social capital included factors of human capital and community outreach while environmental capital entailed factors of ecology and energy and natural capital. This is one of the originality of this research that is a contribution to the accounting academic knowledge.

The study established sustainability accounting is significantly influenced by methods of reporting which entail reporting for social elements, environmental elements and financial elements of the organization. It was found out that financial reporting remains the most predominant reporting method of communicating the organization's economic activities to the intended users. However, financial reporting has been found to be insufficient in supporting sustainability accounting and hence the study found out that integration of the three methods support sustainability accounting.

Sustainability accounting was found to be significantly influenced by social reporting. The social reporting entailled practising social elements of accounting by allocating costs and deriving of benefits by the stakeholders. The study also established that environmental reporting significantly influence sustainability accounting. Environmental reporting was manifested in terms of ecological and energy factors and natural capital extraction. However the study rejected the hypothesis that stakeholder knowledge moderates the relationship between methods of reporting, social reporting and environmental reporting.

5.3 Recommendations

This study established that there is a significant inflence of methods of reporting, social reporting and environmental reporting on sustainability accounting. Sustainability accounting has immence benefits on the stakeholders as it is the long term benefits to the organization. These findings hence lead to recommend that:

a) Social reporting and environmental elements be practiced by the tea factories in Mount Kenya region and other organizations. This involves allocating of funds to undertake the social and environmental activities;
b) Social reporting and environmental reporting be integrated in the financial reports of tea factories in order to have integrated reporting system that shall communicate comprehensive financial, social and environmental information to all stakeholders;
c) Organizations to include in their annual budgets the social and environmental activities;
d) International accounting bodies to come up with guidelines that shall see the integrated reporting practice possible;

e) Government to come up with legal structures that will guide the practice of social reporting and environmental reporting;

f) Accounting curriculums are designed in such a way that social accounting, social reporting, environmental accounting and environmental reporting are incorporated in order to instill that knowledge to the accounting trainees.

5.4 Suggestions for Further Research

The study recommends further research in involving all other stakeholders by seeking the information they require practiced and reported under social and environmental reporting. The study also recommends a further research on social reporting and environmental reporting standardization internationally for ease of comparability of integrated information for one organization to the other. This study focused on sustainability accounting on small holder tea factories, it hence recommended a further research on multinational organizations dealing in tea trade so that the results are compared to the findings from this study.

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Appendix 1: QUESTIONNAIRE FOR FACTORY UNIT MANAGERS AND ACCOUNTATS

Introduction

This questionnaire seeks to gather information on relationship between methods of reporting, social reporting and environmental reporting on Sustainability Accounting as moderated by stakeholder knowledge; in the Tea sector of Mount Kenya Region. The targeted respondents here are the Factory Unit Managers (FUMs), or Accountants or Accounts Clerks. The researcher is a student at Karatina University pursuing Masters in Business Management (Accounting & Finance Option). It is a requirement that one conducts research in order to graduate hence gathering these information are mainly for academic purposes, further it is key to strategists and policy makers in the tea sector. The respondents are assured that information provided will be treated with great confidentiality, therefore do not include your name or contacts unless you voluntarily deem it fit.

Section A: Background Information

Instructions: Please tick in the boxes or fill the blanks as appropriate

1. Gender: Male ☐ Female ☐
2. Age bracket: 18-24 ☐ 24-30 ☐ 30-36 ☐ 36-42 ☐ 42-48 ☐
   48-54 ☐ 54-60 ☐ 60 and above ☐
3. Highest education qualification attained:
   Secondary Education and below ☐ Diploma ☐ Undergraduate ☐
   Masters ☐ Doctorate ☐
4. Professional body membership:
   - Association of Chartered Certified Accountants (ACCA) ☐
   - Association of International Accountants (AIT) ☐
   - Institute of Certified Public Accountants of Kenya (ICPAK) ☐
   - International Federation of Accountants (IFAC) ☐
   - Pan African Federation of Accountants (PAFA) ☐
   - Certified Information System Auditing (CISA) ☐
5. Cadre:
   FUM ☐ Accountant ☐ Accounts Clerk ☐
6. Job experience (in years):
   1-5 ☐ 5-10 ☐ 10-15 ☐ 15-20 ☐ Over 20 ☐

Section B: Sustainability Accounting

This section contains sustainability accounting as measured in terms of **Accounting Standards**. Rate the extent to which you agree with the following accounting standards

support on sustainability accounting using a five scale Likert scale of 1 – Strongly Disagree, 2- Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

SN.	Accounting Standards	Rating				
		1	2	3	4	5
1.	IAS1: Presentations of financial reports supports sustainability accounting in the Tea Sector					
2.	IAS8: Accounting policies, changes in accounting estimates and errors supports sustainability accounting in the Tea Sector					
3.	IAS16: Property, plant and equipment supports sustainability accounting in the Tea Sector					
4.	IAS36: Impairment of assets supports sustainability accounting in the Tea Sector					
5.	IAS37: Provisions, contingent liability and contingent supports sustainability accounting in the Tea Sector					

Profitability of the company

This section contains sustainability accounting as measured in terms of **Profitability**. Rate the extent to which agree the profitability of the organization has supported sustainability accounting in the Tea Sector by using a five scale Likert scale of 1 – Strongly Disagree, 2- Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

N.	Profitability	Rating				
		1	2	3	4	5
1.	Social reporting has greatly improved the profits of the tea industries					
2.	Environmental reporting has led to improved tea industry profits					
3.	In comparison, tea factory companies practicing social and environmental reporting realize more profits than those that do not					
4.	Tea industry sales get higher during periods of heightened social					
5.	Social accounting and reporting entails high costs of operations by the tea industry					
6.	Environmental accounting and reporting entails high costs of operations by the tea industry					

Social Legitimacy

This section contains the Sustainability Accounting as measured in terms of **Social Legitimacy** by the stakeholders of accounting in the tea sector. Using five Likert scale of 1-5, show the extent to which you agree with the annual reports on social and environmental accounting. Where 1 – Strongly Disagree, 2 - Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

		Extent of Agreement				
SN.	**Social Legitimacy Aspects**	**1**	**2**	**3**	**4**	**5**
1.	Tea factory enter into contracts with the community					
2.	Sustainability accounting is healthy for the tea factory's stakeholders					
3.	Social and environmental accounting rights are forfeitable by tea factory's stakeholders					
4.	Tea factory stakeholders determine areas of sustainability accounting					
5.	Sustainability accounting influence decisions by tea factory					
6.	Sustainability accounting enable tea factory to decide areas to invest					
7.	Tea accounting disclosures meet the needs of the surrounding society					

Section C: Methods Reporting

This section contains Methods of Reporting in. Indicate whether. Using a 1-5 Likert scale show the degree of agreement of tea factory's utilization of the methods of reporting: 1 – Strongly Disagree, 2- Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

		Extent of Agreement				
SN.	**Social Legitimacy Aspects**	**1**	**2**	**3**	**4**	**5**
1.	Social reporting is used by the tea factory to report accounting information					
2.	Environmental reporting is utilized by the tea factory in reporting					
3.	Financial reporting is used by the tea factory in reporting accounting information					

Section D: Social Reporting

This section contains Social Reporting in accounting as measured in terms of human capital and community outreach by the tea factory. Indicate whether costs are incurred when they are undertaken, and if they are of financial value (benefits) when carried out. Using a 1-5 Likert scale show the degree of agreement of tea factory's practice of the social reporting elements: 1 – Strongly Disagree, 2- Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

SN.	Tea Factory Human Capital	Financial implication to the tea factory				Degree of agreement on practice of social reporting elements				
		Are costs incurred?		Do you derive any benefit?		1	2	3	4	5
		Yes	No	Yes	No					
1.	Tea factory supports youth and youth affairs									
2.	Tea factory create wealth to the community									
3.	Tea factory creates and expand employment opportunities									
4.	Tea factory facilitate training and development for its employees									
5.	Tea factory generates businesses									
6.	Tea factory protects intellectual property									
	Tea Factory Community Outreach									
1.	Tea factory offer education sponsorship									
2.	Tea factory have gender balance programs									
3.	Tea factory has put in place health facilities and									
4.	Tea factory has put up community based projects									
5.	Tea factory has constructed recreational facilities									
6.	Tea factory has put campaigns on gender									
7.	Tea factory ensures air quality is maintained									
8.	Tea factory has created central services and facilities for the community									
9.	Tea factory continuously develop and improve infrastructure									

Section E: Environmental Reporting

This section contains environmental reporting as measured in terms of in ecological factors and natural capital extraction in the tea sector. Indicate whether costs are incurred when they are undertaken, and if they are of financial value (benefits) when carried out. . Using a 1-5 Likert scale show the degree of agreement of tea factory's practice of the environmental reporting elements: 1 – Strongly Disagree, 2- Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree:

S N.	**Ecological Factors and Energy**	**Financial implication**				Degree of agreement on practice of environmental reporting elements				
		Are costs incurred?		**Do you derive any benefit?**		**1**	**2**	**3**	**4**	**5**
		Ye	No	Yes	No					
1.	Tea factory undertakes forestry activities									
2.	Tea factory protects wildlife resources and habitats									
3.	Tea factory ensures maintained soil fertility, depletion control and salinity management									
4.	Tea factory use alien species of tea									
5.	Tea factory utilizes renewable energy									
6.	Tea factory undertake innovative energy conservation methods									
	Natural Capital Extraction									
1.	Tea factory controls land degradation									
2.	Tea factory has mechanisms of combating climate change									
3.	Tea factory ensures efficient use of natural resources									
4.	Tea factory manages water freshness and the catchment areas									
5.	Tea factory controls and manages agricultural wastes									
6.	Tea factory ensures quality air to the surrounding									
7.	Tea factory valuates and records natural capital									
8.	Pollution control, discharge and fines to the tea factory									

F: Stakeholder Knowledge

This section contains the stakeholder knowledge as measured in terms of **level of awareness** by the stakeholders of accounting in the tea sector. Using five Likert scale of 1-5, show the extent to which you agree with the annual reports on social and environmental accounting. Where 1 – Strongly Disagree, 2 - Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree

		Extent of Agreement				
SN	**Stakeholder knowledge**	**1**	**2**	**3**	**4**	**5**
1.	Stakeholders of the tea factory raise questions on social and environmental activities of the company during annual meetings					
2.	The tea factory creates awareness of social reporting to the stakeholders					
3.	Tea factory creates awareness of environmental reporting to stakeholders					
4.	Stakeholders write to the tea factory concerning its social activities					
5.	Stakeholders write to the tea factory concerning its environmental activities					
6.	The tea factory stakeholders create forums to discuss company's environmental and social reporting					
7.	Stakeholders raise concerns through lobby groups about the tea factory's social and environmental reporting					

Appendix 2: INTERVIEW SCHEDULE FOR ACCOUNTANTS AND FUMs

Introduction

This interview schedule seeks to gather information on relationship between methods of reporting, social reporting and environmental reporting on Sustainability Accounting as moderated by stakeholder knowledge; in the Tea sector of Mount Kenya Region. The targeted respondents here are the Factory Unit Managers (FUMs). The researcher is a student at Karatina University pursuing Masters in Business Management (Accounting Option).

1. Do your factory has social and environmental policies?
2. What are some of the social policies your factory has put in place?
3. What are some of the environmental policies that are in place for your factory?
4. Do you factor social and environmental items in your annual budgets?
5. Do you incur legal fee for any social and environmental issues faced?
6. Are costs incurred in social activities and environmental activities?
7. What are some of the benefits that accrue to your company from social undertakings that your incur costs?
8. What are some of the benefits that accrue to your company from social undertakings that your incur costs?
9. Are social reporting and environmental reporting benefitting your stakeholders?

Appendix 3: BUDGET

ACTIVITIES	COST UNIT	QUANTITY	UNIT COST (Ksh)	TOTAL COST (Ksh)
PROPOSAL WRITING				
Literature Review	Internet bundles	12G.B	250	3000.00
	Pens	10	50	500.00
	Spring files	2	50	100.00
	Transport (visit experts)	2 trips	500	1000.00
	Printing (core papers to review)	6	100	600.00
Proposal document	Rims of printing papers	5	500	2500.00
	Printing	1	600	600.00
	Photocopying	8	120	960.00
	Binding	9	50	450.00
PILOT STUDY	Printing questionnaire	1	50	50.00
	Photocopying questionnaires	50	15	750.00
	Transport (researcher)	3 trips	500	1500.00
	Research Assistants	3	3000	9000.00
	Training Research Assistants	6	-	20000.00
DATA COLLECTION	Printing questionnaire	1	50	50.00
	Photocopying questionnaires	250	15	3750.00
	Rims of printing papers	3	500	1500.00
	Research Assistants	6	170000	102000.00
ALLOWANCES	Researchers	3	10000	30000
DATA ANALYSIS	Analysis System (SPSS)	-	-	50000.00
	Data coding	-	-	1500.00
	Data entry	250	20	500.00
	Data analysis	-	-	3000.00
DATA PRESENTATIONS	Printing	10	800	8000.00
	Photocopying thesis	20	200	4000.00
	Binding	20	100	2000.00
PUBLICATION COST	Publication	2	20000	40000.00
CONFERENCE FEE	Conferences	2	20000	40000.00
TOTAL				324460.00

Appendix 4: WORK PLAN

	FEB 2016	MAR 2016	APR 2016	MAY 2016	JUN 2016	JUL 2016	AUG 2016	SEP 2016	OCT 2016	NOV 2016	JAN 2017	MAR 2017	MAY 2017	AUG 2017
Activity														
Concept Paper														
Problem Statement														
Literature Review														
Thesis Proposal														
Proposal Defense														
Seminar Defense														
Data Collection														
Data Analysis														
Report writing														
Conclusion & Recommendation														
Harmonization														
Publication														
Thesis Defense														

Appendix 5: LETTER OF TRANSMITTAL

Factory Unit Manager
Tea Factory Unit Manager

Thru'
Dean School of Business, Karatina University

RE: PERMISSION TO CONDUCT RESEARCH

I am Student pursuing Masters in Business Management (Finance and Accounting Option) at Karatina University. Masters programme in the university mandates one to have conducted research before graduating. My research is endeavored to establish the influence of stakeholder interests in social and environmental accounting and disclosures on sustainability accounting.
This letter therefore serves to seek for your authority to allow me conduct research in your catchment area by collecting data from the stakeholders (tea farmers, community members, government officers, factory employees) as well as from the key informants: the accountant or accounts clerks or the factory unit manager. This being an academic work, assurance is vowed that information obtained from respondents will be treated with utmost confidentiality.
Your consideration for my request is highly regarded.

Kind regards

Sylvester Onyango
MBM –Accounting Student
Karatina University

Appendix 6: KARATINA UNIVERSITY INTRODUCTION LETTER

KARATINA UNIVERSITY

SCHOOL OF BUSINESS

Email: deansob@karu.ac.ke/sobbps@karu.ac.ke

Tel. +254-(0) 0729721200

P.O. BOX 1957 0 10101
KARATINA
KENYA

23RD JANUARY, 2017

TO WHOM IT MAY CONCERN

RE: SYLVESTER ONYANGO – B302/1988P/14

This is to confirm that the above is a bonafide student at Karatina University School of Business pursuing a Master in Business Management (MBM) course leading to the award of Masters in Business Management (Accounting Option)

The student has defended his proposal (***influence of Non-Conventional Reporting on Sustainability Accounting in the Tea Sector in Mount Kenya Region***) and passed is expected to proceed to data collection.

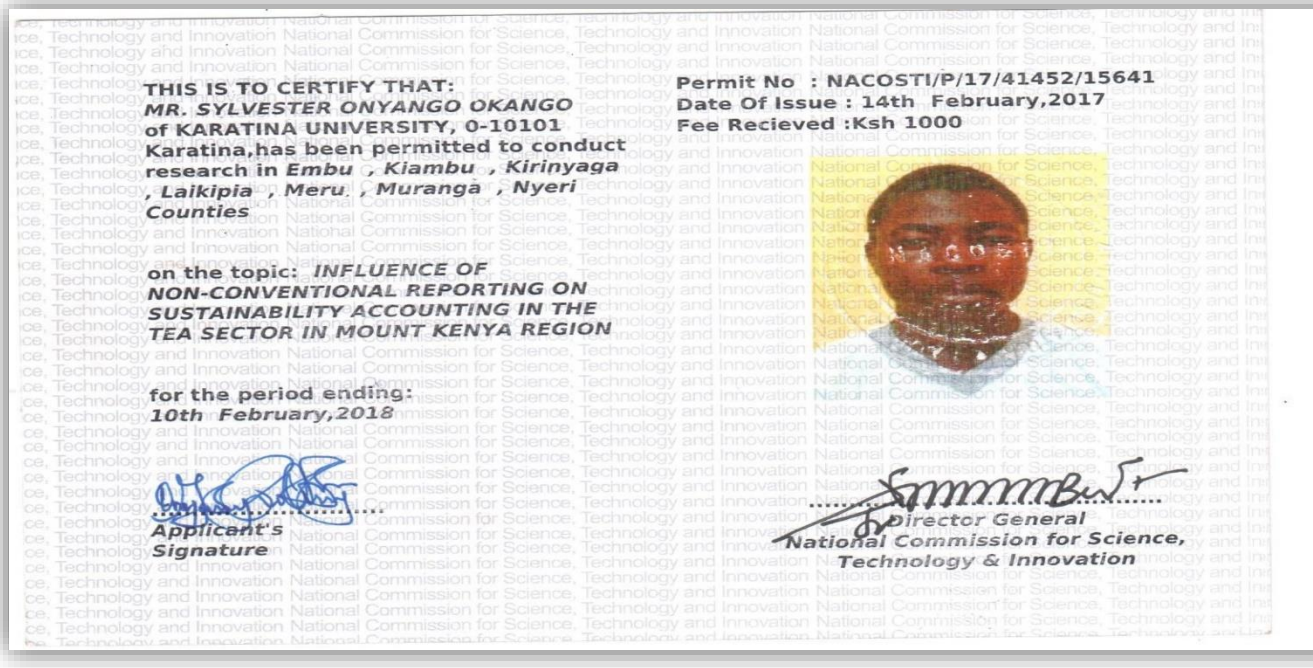
Any assistance accorded to him will be highly appreciated.

Dr. David Gichuhi

DEAN, SCHOOL OF BUSINESS

DEAN,
SCHOOL OF BUSINESS
2 3 JAN 2017
KARATINA UNIVERSITY
P. O. Box 1957-10101, KARATINA.

Appendix 7: NACOSTI Research Clearance Permit



THIS IS TO CERTIFY THAT:
MR. SYLVESTER ONYANGO OKANGO
of KARATINA UNIVERSITY, 0-10101
Karatina,has been permitted to conduct research in *Embu , Kiambu , Kirinyaga , Laikipia , Meru , Muranga , Nyeri Counties*

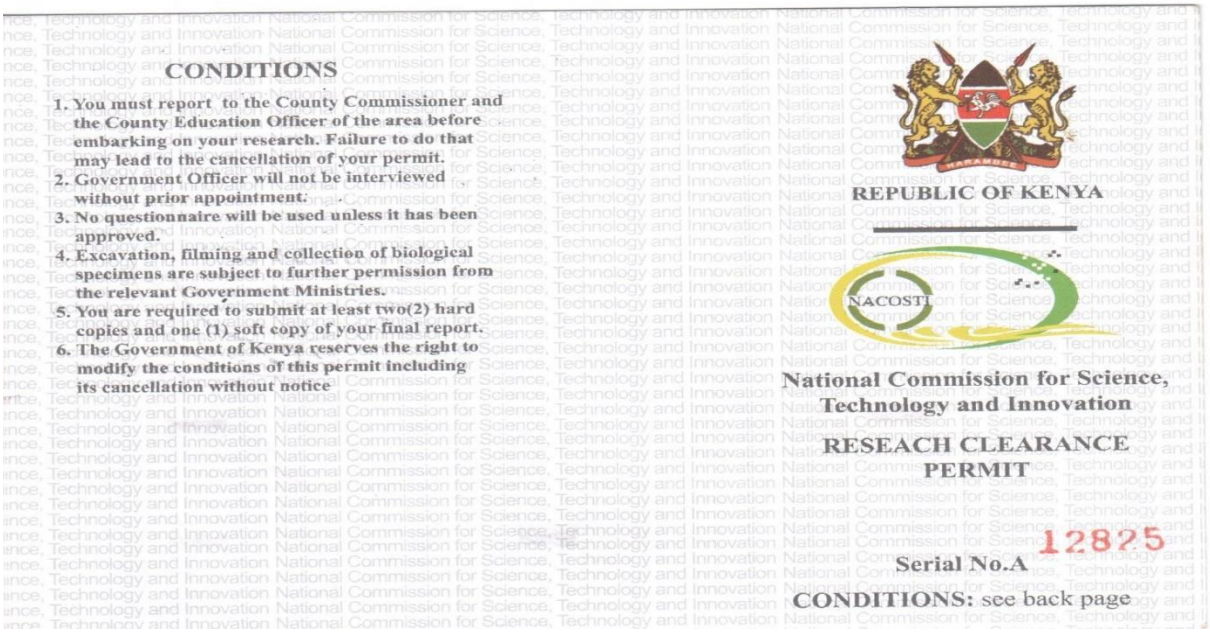
on the topic: *INFLUENCE OF NON-CONVENTIONAL REPORTING ON SUSTAINABILITY ACCOUNTING IN THE TEA SECTOR IN MOUNT KENYA REGION*

for the period ending:
10th February,2018

.....
Applicant's Signature

Permit No : NACOSTI/P/17/41452/15641
Date Of Issue : 14th February,2017
Fee Recieved :Ksh 1000

.....
Director General
National Commission for Science, Technology & Innovation



CONDITIONS

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

REPUBLIC OF KENYA

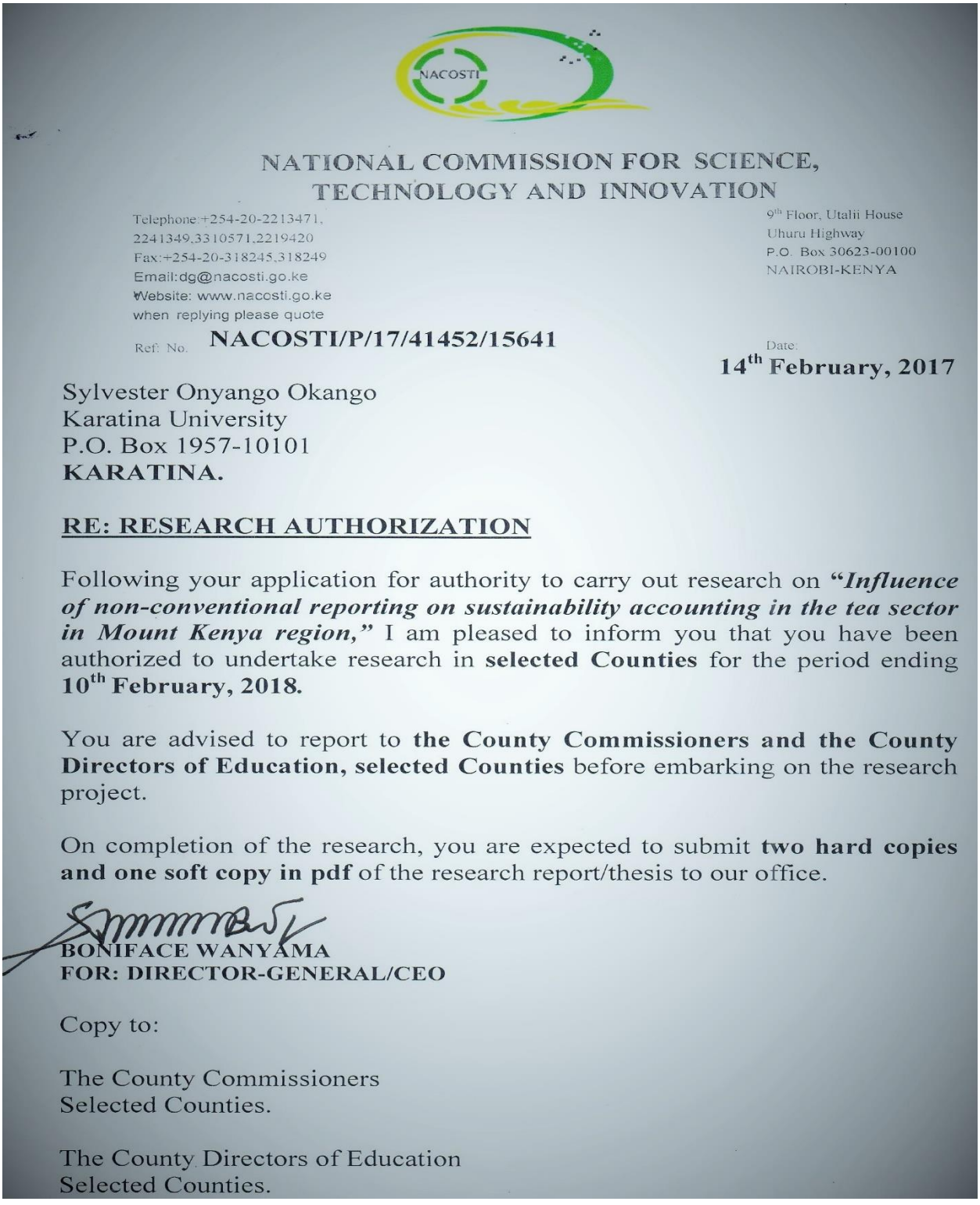
National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

Serial No.A 12825

CONDITIONS: see back page

Appendix 8: NACOSTI Research Authorization Letter



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471, 2241349,3310571,2219420
Fax:+254-20-318245,318249
Email:dg@nacosti.go.ke
Website: www.nacosti.go.ke
when replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/17/41452/15641**

Date: **14th February, 2017**

Sylvester Onyango Okango
Karatina University
P.O. Box 1957-10101
KARATINA.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region,"*** I am pleased to inform you that you have been authorized to undertake research in **selected Counties** for the period ending **10th February, 2018.**

You are advised to report to **the County Commissioners and the County Directors of Education, selected Counties** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioners
Selected Counties.

The County Directors of Education
Selected Counties.

Appendix 9: NYERI County Research Authorization Letters

9.1 Research Authorization Letter by Nyeri County Commissioner

THE PRESIDENCY

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT

Telephone: 061 2030619/20
Fax: 061 2032089
E-mail: nyericountycommissioner@yahoo.com
When replying please quote

COUNTY COMMISSIONER
NYERI COUNTY
P.O. Box 33-10100
NYERI

REF: NYC/ADM I/57 VOL. V/61 **23rd February, 2017**

Silvester Onyango
Karatina University
P.O. Box 1957-10101
KARATINA

RE: RESEARCH AUTHORIZATION

Reference is made to your letter dated 23rd February, 2017 on the above subject.

Approval is hereby granted to carry out a research on ***"Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region"*** in Nyeri County.

The period of study ends on 10th February, 2018.

G. K. Ngunju
For: County Commissioner
NYERI COUNTY

9.2 Research Authorization Letter by Nyeri County Director of Education

MINISTRY OF EDUCATION SCIENCE & TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

E-Mail –centralpde@gmail.com
Telephone: Nyeri (061) 2030619
When replying please quote

OFFICE OF THE COUNTY
DIRECTOR OF EDUCATION
P.O. Box 80 - 10100,
NYERI

CDE/NYI/GEN/23/VOL.II/128

23rd February, 2017

Sylvester Onyango Okango
Karatina University
P.O. Box 1957-10101
KARATINA

RESEARCH AUTHORIZATION

Reference is made to Secretary National Commission for Science, Technology and Innovation letter Ref. NACOSTI/P/17/41452/15641 of 14th February, 2017 on the above subject.

Kindly note that you have been authorized to carry out research on ***"Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region"*** in Nyeri County for a period ending 10th February 2018.

KABORA I. M.
For: COUNTY DIRECTOR OF EDUCATION
NYERI COUNTY

CC

National Commission for Science
Technology and Innovation
P. O. Box 30623 – 00100
NAIROBI

Appendix 10: KIAMBU County Research Authorization Letter

10.1 Research Authorization Letter by Kiambu County Commissioner

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT
COUNTY COMMISSIONER, KIAMBU

Telephone: 066-2022709
Fax: 066-2022644
E-mail: countycommkiambu@yahoo.com
When replying please quote

County Commissioner
Kiambu County
P.O. Box 32-00900
KIAMBU

Ref.No: **ED.12/1/VOL.IV/229**

27th February, 2017

Sylvester Onyango Okango
Karatina University
P. O. Box 1957 – 10101
KARATINA

RE: RESEARCH AUTHORIZATION

Reference is made to National Commission for Science, Technology and Innovation letter Ref No. **NACOSTI/P/17/41452/15641** of **14th February, 2017**.

You have been authorized to conduct research on ***"Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya Region in Kiambu County, Kenya".*** The data collection will be carried out in ***Kiambu County*** *for a period ending* ***18th February, 2018.***

You are requested to share your findings with the County Education Office upon completion of your research.

S. N. MUTISYA
FOR: COUNTY COMMISSIONER
KIAMBU COUNTY

Cc County Director of Education
KIAMBU COUNTY

National Commission for Science, Technology and Innovation
P.O. Box 30623-00100
NAIROBI

All Deputy County Commissioner's (***For information and record purposes***)
KIAMBU COUNTY

"Our Youth our Future. Join us for a Drug and Substance free County".

10.2 Research Authorization Letter by Kiambu County Director of Education

MINISTRY OF EDUCATION
State Department of Education

Telephone: Kiambu (office) 020-2044686
FAX NO. 020-2090948
Email:directoreducationkiambu@yahoo.com

COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
P. O. Box 2300
KIAMBU

When replying please quote
REF: KBU/CDE/HR/4/VOL.II/ 1(230)

27TH FEBRUARY, 2017

SYLVESTER ONYANGO OKANGO
KARATINA UNIVERSITY
P.O. BOX 1957-10101
KARATINA

RE: RESEARCH AUTHORIZATION

Reference is made to the National Commission for Science Technology and Innovation letter Ref. No NACOSTI/P/17/41452/15641 and dated 14th February, 2017.

The above named has been authorized to carry out research on "***Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region in Kiambu County, Kenya***" for a period ending **10th February, 2018**.

Please accord him the necessary assistance.

COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
P O BOX 2300-00900 KBU.
TEL 020-2044686
FAX:020-2090948

EMILY NYAGA
FOR: COUNTY DIRECTOR OF EDUCATION
KIAMBU

Appendix 11: MURANG'A County Research Authorization Letter

11.1 Research Authorization Letter by Murang'a County Commissioner

REPUBLIC OF KENYA

THE PRESIDENCY

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT

Telephone: 060-2030467
Email: ccmuranga@gmail.com

When replying please quote

COUNTY COMMISSIONER
MURANG'A COUNTY
P. O. BOX 7-10200
MURANG'A

REF.NO.PUB.24/11/VOL.II/186 *1st March, 2017*

Sylvester Onyango Okango
Karatina University
P.O. Box 1957-10101
KARATINA.

RE: RESEARCH AUTHORIZATION.

In reference to a letter NACOSTI/P/17/41452/15641 dated 14th February, 2017 from the National Commission for Science, Technology and Innovation regarding the above subject, You are hereby authorized to carry out research on ***" Influence of non-conventional reporting on sustainability accounting in the tea sector in Murang'a County"*** *for a period ending 10th February, 2018.*

FELIX O.CHESSA
For: **COUNTY COMMISSIONER**
MURANG'A COUNTY.

11.2 Research Authorization Letter by Murang'a County Director of Education

MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Email: cdemuranga@gmail.com
Telephone: 060 2030227
When replying please quote

COUNTY DIRECTOR OF EDUCATION
P.O BOX 118 – 10200
MURANG'A

REF: MGA/CTY/GEN./64/VOL.I I/204 **1ST March , 2017**

Sylvester Onyango Okango
Karatina University
P.O.Box 1957-10101
KARATINA

RE: RESEARCH AUTHORIZATION

The County Education office is in receipt of your request and authority letter from the National Commission for Science, Technology and Innovation, reference No. NACOSTI/P/17/41452/15641 dated 14th February, 2017 to carry research on "Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region."

Authority is hereby granted to carry out research in **Murang'a County** for a period ending **10th February, 2018.**

Charles Khayira
County Director of Education
MURANG'A

COUNTY DIRECTOR OF EDUCATION
MURANG'A
1 MAR 2017
P. O. Box 118-10200, MURANG'A

Appendix 12: KIRINYAGA County Research Authorization Letter

12.1 Research Authorization Letter by Kirinyaga County Commissioner

THE PRESIDENCY
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams "*COMMISSIONER*" Kerugoya
Telephone. 21053 Kerugoya

countycommissionerkirinyaga@gmail.com

COUNTY COMMISSIONER
KIRINYAGA COUNTY
P.O. BOX 1
KERUGOYA

ADM 1/23 VOL.I/189

3RD MARCH 2017

Sylvester Onyango Okango
Karatina University
P.O. Box 1957-10101
KARATINA

RE: RESEARCH AUTHORIZATION

You have been authorized to conduct research on ***"Influence on non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region"*** for a period ending 10th February 2018.

By a copy of this letter the Deputy County Commissioners, Kirinyaga County and County Director of Education are requested to accord you the necessary assistance.

LINET B. OBWOGE
FOR: COUNTY COMMISSIONER
KIRINYAGA COUNTY

c.c.

All Deputy County Commissioners
Kirinyaga County

County Director of Education
Kirinyaga County

12.2 Research Authorization Letter by Kirinyaga County Director of Education

MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Telephone: 060-21835/0202641217
Email kirinyagacde1@gmail.com
When replying please quote
Ref. No. and date

COUNTY DIRECTOR OF EDUCATION
KIRINYAGA COUNTY
P. O. BOX 96
KERUGOYA

REF.NO.MOE/CDE/KRG/GEN/09/85/142

3rd March, 2017

SYLVESTER ONYANGO OKANNGO

KARATINA UNIVERSITY

P O BOX 1957-10101

KARATINA

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on, ***"Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region".***

I am pleased to inform you that you have been authorized to undertake research in Kirinyaga County for a period ending **10th February, 2018.**

S. K. GICHONI

FOR: COUNTY DIRECTOR OF EDUCATION

KIRINYAGA

CC: COUNTY COMMISSIONER

KIRINYAGA

Vision: To have a globally competitive quality Education, Training and Research for Kenyans sustainable development.

Appendix 13: EMBU County Research Authorization Letter

13.1 Research Authorization Letter by Embu County Commissioner

REPUBLIC OF KENYA

THE PRESIDENCY

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT

Telephone: Embu 0202310839
FAX 30040
Email: ccembu@gmail.com
When replying please quote

COUNTY COMMISSIONER
EMBU COUNTY
P.O.BOX 3-60100
EMBU

Ref: EBU.CC/ADM/3/37/VOL.11/ (40)

7th March, 2017

Deputy County Commissioner
EMBU NORTH SUB COUNTY

Deputy County Commissioner
EMBU EAST SUB COUNTY

RE: RESEARCH AUTHORIZATION

Please be informed that **Sylvester Onyango Okango, Research Permit No. NACOSTI/P/17/41452/15641** of **Karatina University Karatina** has been authorized to carry out research in your Sub Counties for a period ending **10th February, 2018.**

His research is based on **"Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region"** in your Sub Counties.

Kindly accord him the necessary assistance.

Thank you.

AMBROSE K. NJERU
FOR: COUNTY COMMISSIONER
EMBU COUNTY

Copy to.
Sylvester Onyango Okango

13.2 Research Authorization Letter by Embu County Director of Education

MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

Telegrams: "Provedu". Embu
Telephone: Embu 31711
Fax: 30956
E-mail: cde.embu@yahoo.com
When replying please quote:

OFFICE OF THE
COUNTY DIRECTOR OF EDUCATION
EMBU COUNTY
P. O. BOX 123-60100
EMBU

Ref. No: EBC/GA/32/VOL.II/183

7th March, 2017

Sylvester Onyango Okango
Karatina University
P. O. Box 1957-10101
KARATINA

RE: RESEARCH AUTHORIZATION

Reference is made to NACOSTI/P/17/41452/15641 dated 14th February 2017.

This office acknowledges receipt of your research authorization to carry out research on "**Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region,**" for a period ending **10th February, 2018.**

This office has no objection and therefore wishes you success in this undertaking and requests prospective participants/respondents to accord you cooperation or support you may require.

LUCY K. MBAE
For: COUNTY DIRECTOR OF EDUCATION
EMBU COUNTY

COUNTY DIRECTOR OF EDUCATION • EMBU COUNTY
P. O. Box 123 - 60100, EMBU

Copy to: The Director Quality Assurance & Standards – MOEST, NAIROBI

The Secretary/CEO, NACOSTI – NAIROBI

The County Coordinator of Health, EMBU COUNTY

The Sub-County Directors of Education, EMBU COUNTY

Appendix 14: MERU County Research Authorization Letter

14.1 Research Authorization Letter by Meru County Commissioner

THE PRESIDENCY
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams:
Telephone:
Email: ccmeru@yahoo.com
Fax:

COUNTY COMMISSIONER
MERU COUNTY
P.O. BOX 703-60200
MERU.

When replying please quote
Ref: *ED.12/3 VOL.II/34*

Date: 8th March 2017

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – SYLVESTER ONYANGO OKANGO

This is to inform you that **Sylvester Onyango Okango** of **Karatina University** has reported to this office as directed by Commission for Science, Technology and Innovation and will be carrying out Research on "**Influence of non-conventional reporting on sustainability accounting in the tea sector in Mount Kenya region)".**

Since authority has been granted by the said Commission, and the above named student has reported to this office, he can embark on his research project for the period ending **10th February, 2018**.

Kindly accord him any necessary assistance he may require.

COUNTY COMMISSIONER
MERU COUNTY
P. O. Box 703 -60200, MERU

Maina George
For: County Commissioner
MERU

14.2 Research Authorization Letter by Meru County Director of Education

REPUBLIC OF KENYA

MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Telegrams: " ELIMU " Meru
EMAIL: cdemerucounty@gmail.com
When Replying please quote

COUNTY DIRECTOR OF EDUCATION OFFICE
MERU COUNTY
P.O. BOX 61
MERU

Ref: MRU/C/EDU/11/1/

Wednesday, March 08, 2017

TO WHOM IT MAY CONCERN

RE: RESERCH AUTHORIZATON - SYLVESTER ONYANGO OKANGO

Reference is made to letter Ref:NACOSTI/17/41452/15641 dated 14th February, 2017.

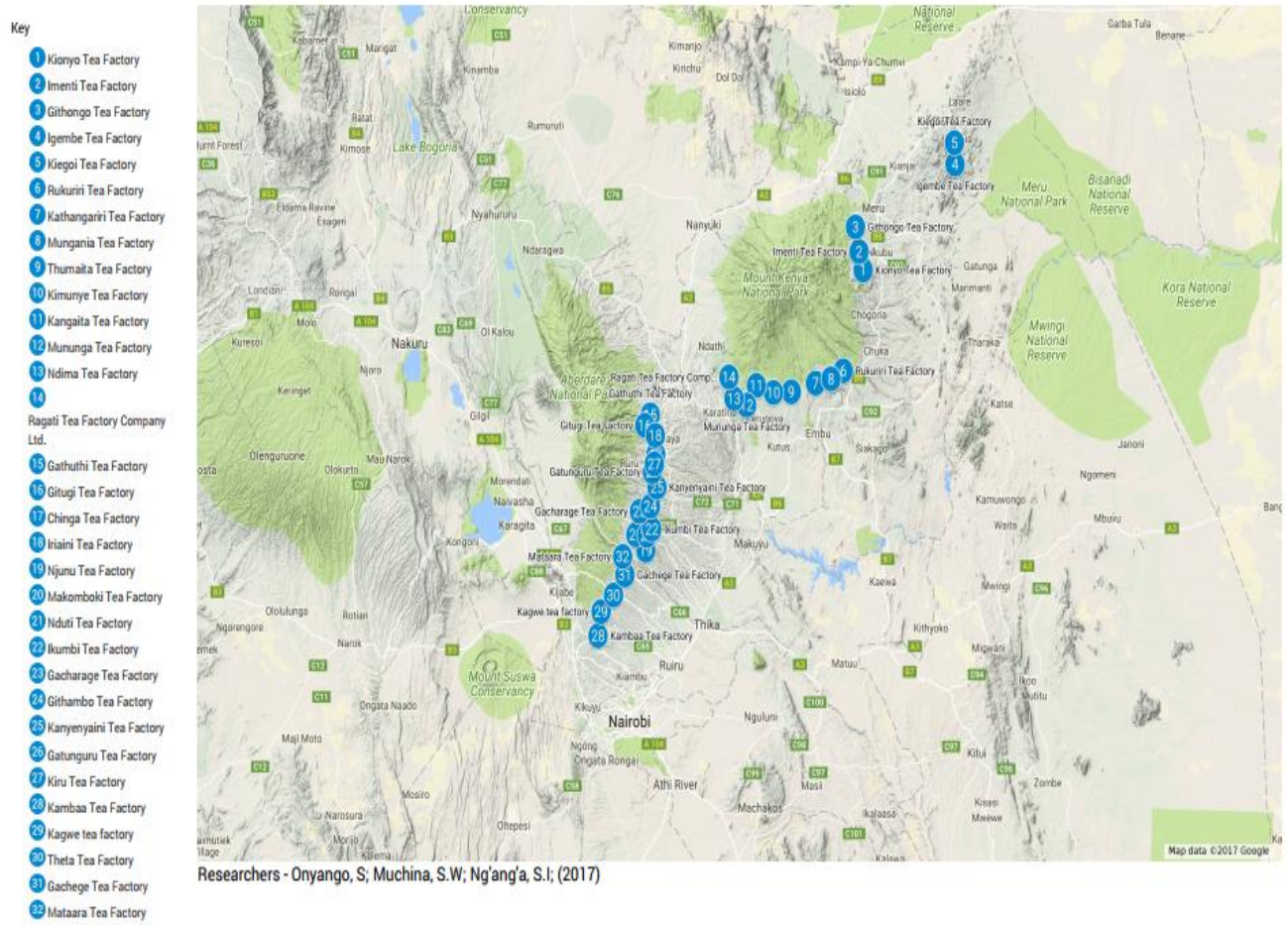
Authority is hereby granted to Sylvester Onyango Okango to carry out research on " **Influence of non –conventional reporting on sustainability accounting in the tea sector in Mount Kenya Region,"** in **selected Counties** for a period ending 10th February, 2018.

The authorities concerned are also requested to accord him the necessary assistance.

For: COUNTY DIRECTOR OF EDUCATION
MERU COUNTY
P.O. Box 61 - 60200
Tel: 064 - 32372, MERU

NKONGE J.E.
For: COUNTY DIRECTOR OF EDUCATION
MERU

Appendix 15: MAP OF STUDY AREA



Source (Map Data Google, 2017)