

**COMPETITIVE INTELLIGENCE PRACTICES AND PERFORMANCE OF
FIRMS LISTED ON THE NAIROBI SECURITIES EXCHANGE, KENYA**

BY

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Dedication

This thesis is dedicated to my wife Mercy Wairimu, who has been an inspiration and provided financial and moral support during my studies, and to our children, Faith Wangari, Carolyne Wanjugu and Joash Wamai. My thoughts are also with my father, Christopher Mahinge and my mother Lydia Wangari, now both deceased, for laying a firm foundation in me through which I have been able to face life courageously.

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Operational Definition of Terms

Artificial Intelligence	A computer system that is capable to mimic human intelligence; it can understand natural language and it is capable of solving problems, learning, adapting, recognizing, classifying, self-improvement and reasoning.
Basic Intelligence	Knowledge designed to help managers of firms listed on the NSE make informed decisions and to substantiate recommendations to top management.
Business blind Spots	Conventional wisdom which no longer holds true, but which still continues to guide business strategy.
Competitive Intelligence	The collection, transmission, analysis and dissemination of publicly available, ethically and legally obtained relevant information for the purpose of producing actionable knowledge for the improvement of corporate decision making and action.
Competitive Advantage	A sustained superior performance gained by a firm listed on the NSE through exploiting its unique blend of activities, assets, attributes, market conditions and relationships which differentiate an organization from its competitors.
Corporate Espionage	The gathering of proprietary information between competitors that usually consists of illegal behavior that may include bribery, theft, blackmail and occasionally covert operation such as hidden surveillance, with the objective of sabotaging competitors.

Counter-Intelligence	Activities that are concerned with identifying and counteracting the threats posed by hostile intelligence services or organizations.
Current Intelligence	A perishable product designed to provide users with the first exposure to new developments such as news on an innovation.
Early warning Intelligence	Information that provides inkling of emerging opportunities and threats in advance
Estimated Intelligence	Knowledge that offers likely scenarios based on qualitative views of the business analysts
Firm Performance	The level of efficiency and effectiveness in the utilization of resources towards the achievement of organizational goals. The performance was evaluated in both financial and non-financial measures. Firm profitability indices measures in financial terms were used, while customer satisfaction and goal achievement were the non-financial terms used.
International Intelligence	Collecting and analyzing information on regional trading blocs and firms operates internationally as a way of discovering opportunities and threats from the international arena.
Strategic Decision-Making	A choice between multiple known alternatives that has a long term impact on the firm made by individuals or group.

Strategy Oriented Competitive Intelligence	Knowledge about the organization's environment that has implications for its long-term viability and success, usually extending several years.
Tactics Oriented Competitive Intelligence	Knowledge about the organization's environment that has implications for its short-term viability and success in the immediate future.
Target-Oriented competitive Intelligence	Knowledge about the organization's environment that has implications for its specifically identified competitors in its niche market.
Technology-Oriented Competitive Intelligence	The sub-division of intelligence concerned with translating research findings and other scientific knowledge into devices, materials, products, processes or services.
Technical Intelligence	Designed by engineers and scientists using their special technical skills and backgrounds.

Abbreviations and Acronyms

CIPs	Competitive Intelligence Practices
CIR	Competitive Intelligence Review
CSFs	Critical Success Factors
FM	Frequency Modulated
GCR	Global Competitiveness Ranking
GIA	Global Intelligence Alliance
GLC	Government Link Companies
NSE	Nairobi Securities Exchange
SCIP	Strategic and Competitive Intelligence Professionals
SEWs	Strategic Early Warnings
ROA	Return on Assets
ROE	Return on Equity
R&D	Research and Development
SWOT	Strengths, Weaknesses, Opportunities and Threats
UK	United Kingdom
VIF	Variance Inflation Factor
WEF	World Economic Forum

Abstract

Performance is critical for every listed firm, as it enhances shareholder's value and capability to generate earnings from invested capital. Some of the firms listed on the Nairobi Securities Exchange (NSE) have been performing poorly as indicated by the rising number of firms issuing profit warnings. The competitive business environment is continuously working to drive down the rate of return on invested capital. To counter these competitive forces, firms have resorted to gathering information at their disposal and converting it into competitive intelligence through analysis and human judgment. This study sought to determine the effect of competitive intelligence practices on performance of firms listed on the NSE. The specific objectives of the study were: to determine how strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices affect the performance of firms listed on the NSE. Firm performance was evaluated using both financial and non-financial measures. The non-financial measures used in the study were goal achievement and customer satisfaction, while Return on Assets (ROA) and Return on Equity (ROE) were the financial measures used. Both descriptive and explanatory survey research designs were used in this study, they allow the researcher to capture a population's characteristics and test hypothesis. The study was guided by a positivism research philosophy. The target population was the sixty firms listed on the Nairobi securities exchange. Primary data was collected using a semi-structured questionnaire; while secondary data was obtained from the firm's published annual reports available at the NSE using a document review guide. Quantitative data was analyzed using both descriptive and inferential statistics. In descriptive statistics, data was summarized using percentages, means and standard deviations, while in inferential statistics; multiple regression analysis was done using SPSS. The findings indicate that competitive intelligence practices have a positive and a statistically significant effect on the non-financial performance of firms listed on the Nairobi Securities Exchange. The intelligence practices were found to have a positive but statistically insignificant effect on the financial performance of listed firms. Organizational factors were found to be an explanatory variable in the relationship between the competitive intelligence practices and performance of firms listed on the NSE. Managers of listed firms should raise the utilization level of competitive intelligence practices to enable the firms to make accurate predictions on changes in the business environment, compete better in the marketplace against rivals, improve on innovation and automation, track competitors' activities and improve the competitiveness of their firms by identifying threats and opportunities before they become obvious. The study suggests that future researches should focus on extending knowledge on competitive intelligence practices to non-listed corporate sector firms to support the generalization of the findings to all sectors in the economy.

CHAPTER ONE

INTRODUCTION

This chapter provides the background of the study, the concept of competitive intelligence, performance of firms listed on the Nairobi securities exchange, statement of the problem, objectives of the study, research hypotheses, significance, scope and limitations of the study. The organization of the study is also covered in this chapter.

1.1 Background of the Study

Firms today are experiencing an increasingly competitive environment created by globalization, advances in technology, social and economic changes as well as fast shortening product life cycle that has led to hyper-competition (Muthama & Ngugi, 2012). Increased competition in an industry leads to lower levels of activity in organizations, hence negatively impacting on performance (Assefa, Hermes & Meesters, 2010). While Al-Rfou (2012) established a positive relationship between competition and firm performance, a negative relationship cannot be ruled out in highly competitive industries (Odhiambo, Kibera & Musyoka, 2015). The complexity in the business environment requires that managers adopt strategic management processes that they feel will facilitate the optimal positioning and performance of the firm in its competitive environment.

Strategic management processes make such positioning possible by allowing more accurate anticipation of environmental changes and improved preparedness for reacting to unexpected internal or competitive demands (Hill & Jones, 2010). Strategic management is about making decisions which determine whether a firm

excels, survives or dies. It is a stream of decisions and actions which lead to the development of strategies to help achieve corporate objectives. The role of strategic managers is to make the best use of the firm's resources in a changing environment. The strategies that the company's managers pursue have a major impact on its performance relative to that of its competitors.

The challenge for the management of many organizations today is how to improve performance and deal with the changing competitive landscape. An organization's management's desire is to see tangible results and positive return on their investment in given activities and may complain if they perceive lack of understanding of how a given activity actually contributes to performance (Kaplan & Norton, 1992). There is a need to evaluate performance with the primary objective of providing valid and reliable data on it. Measuring performance is essential to enabling researchers and managers to evaluate the specific actions of firms, and how firms perform over time (Sabina, 2009).

The competitive environment in which the firms operate makes it difficult for them to raise their level of performance and maintain a sustained competitive advantage (Shih, Liu & Hsu, 2010). For firms to compete effectively in today's environment that is in a state of flux, there is need for advanced competencies that support strategic decision-making by providing accurate and timely information on opportunities and threats, competitor assessment that supports strategic planning and implementation, which is, after all, the main objective of competitive intelligence.

1.1.1 Concept of Competitive Intelligence

Competitive intelligence has a strong underpinning in military science and has a rich history dating back more than 5,000 years (Tao & Prescott, 2000). The analogy between the business world and the battlefield is not something beyond comprehension; indeed today it is common to speak of competition in trade as war. Since the end of the Cold War, competitive intelligence once used in the military environment rapidly infiltrated into the business environment (Deng & Luo, 2010). When the Cold War came to an end in 1990, downsizing occurred in the United States of America armed forces and related intelligence activities, which resulted in many qualified intelligence officers seeking to apply their skills in other arenas. One arena where they found a home was in business organizations (CIR, 1999). Hence the widespread use of competitive intelligence in business organizations today.

Majority of business organizations today have some form of competitive intelligence activity taking place, whether performed formally or informally. The firms practising it formally are found to have created a specific unit that carries out intelligence activities. In other firms, employees collect information informally from their contacts outside the firm which is then passed on to managers for integration in the making of strategic decisions. MacMillan (1982) argues that competitive intelligence would always be important to a firm, but also noted that the importance switches over time under different circumstances. Thus, there is need to tailor competitive intelligence to suit the needs of the organization. Teo and Choo (2001) state that competitive intelligence is a set of practices or formalized processes in an organization, aimed at gathering information about competition so as to stay one step ahead in middle- and long-range planning. It allows research and development

of new initiatives. It offers sales people new insights when bidding for contracts, and it affords executives perpetual monitoring of the market place and rivals.

Hannula and Pirttimaki (2003) argue that a competitive edge is gained through the ability to anticipate information, turn it into knowledge, and craft it into intelligence that is relevant to the business environment, and actually using the knowledge. Hannula and Pirttmaki (2003) conclude that all organizations have to make do with imperfect information; however, those who are most efficient in processing and utilizing information gain competitive edge over those who do not. It is clear that what turns information to intelligence is processing it into forecast and utilizing it in future-oriented decisions. Intelligence must be marshaled to create meaningful analysis, provide robust forecasts and the development of winning strategies. The ultimate goal of competitive intelligence practices is to facilitate effective strategic decision-making that leads to strategic actions.

Intelligence is a problem-solving process that involves information gathering and analysis, interpretation, and speculative consideration of future developments, patterns, risks and opportunities through the exercise of human judgment (McDowell, 2009). Competitive analysis forms new communication links, both inside and outside the firm. Intelligence is information that has been analyzed for strategic decision-making. Competitive intelligence can be viewed both as a process and a product. As a process, it is the set of legal and ethical methods for collecting, developing, analyzing and disseminating actionable information pertaining to competitors, suppliers, customers, the organization itself and business environment

that can affect a company's plans, decisions and operations (Yap, Rashid & Sapuan, 2011).

Competitive intelligence as a product is information about the present and future behavior of competitors, suppliers, customers, technologies, government, market and the general business environment (Wright, Eid & Fleisher, 2009). The different products, according to Dugal (1998), are: current intelligence, basic intelligence, technical intelligence, early warning intelligence, estimates intelligence, targeted intelligence, crisis intelligence, foreign or international intelligence and counter-intelligence. Yap and Rashid (2011) indicated that other intelligence products are competitor intelligence, economic intelligence, customer intelligence and regulatory intelligence.

Peyrot, Childs, Van Doren, and Allen (2002) argue that the greater the perceived competitiveness of an organization's environment, the higher the level of competitive intelligence use. Gilad (2008) viewed intelligence as a perspective on facts, not the facts themselves. Uniquely among other corporate functions, competitive intelligence has a specific perspective of external risks and opportunities to the overall performance of the firm, and as such, it is part of an organization's risk management activity, not information activity.

Competitive intelligence professionals emphasize that if the intelligence gathered is not actionable, then it is not intelligence (Calof & Skinner, 1998). Competitive intelligence units assess and track competitors; they support strategic decision-making, planning and implementation and provide early warnings of business

opportunities and threats (Gilad, 2004). Johns and Van Doren (2010) state that the practice of competitive intelligence enables an enterprise to remain competitive by improving its strategic decision-making and therefore performs better than its competitors. The objective of competitive intelligence is not to steal a competitor's trade secrets or other proprietary property—this is known as corporate espionage—but to acquire information legally and ethically.

McDowell (2009) argues that no matter how intelligence is generated or used, conventional wisdom dictates that the practice should be driven by established principles. The practice should hold an integral flexibility that allows modification to suit the environment in which the intelligence is applied. Moreover, there are three categories of competitive intelligence practices: tactical, operational or target and strategic. Other scholars such as McGonagle and Vella (2002) identified four distinct categories of competitive intelligence practices, namely: strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices. The importance of these practices to an organization was found to depend on the contestability of its markets, the organizational culture and the personality and biases of its top decision-makers and the reporting structure of competitive intelligence within the company. This study adopted the practices identified by McGonagle and Vella (2002), since it has widespread use in strategic management literature and has a sufficient level of abstraction to apply across a variety of organizations and industries (Shortell & Zajac, 1990).

Strategy-oriented competitive intelligence provides support for strategic decision-making. It plays the role of providing higher levels of management with information

on the competitive, economic, legal, and political environments in which an organization and its competitors operate now and in the future. It may also involve developing competitive intelligence on candidates for potential mergers and acquisitions as well as for strategic alliances and partnerships. Tactics-oriented competitive intelligence deals with current activities and short-term plans identifiable in the marketplace. It provides managers with information on the market where competitors face off for customers and consumers. It permits organizations to fine-tune marketing efforts, including field-force support to respond faster to changes in the market.

Technology-oriented competitive intelligence permits a firm to respond to threats from competitors as well as to identify and exploit opportunities resulting from technological and scientific changes. It is usually focused on technological trends and scientific breakthroughs and can develop information on opportunities as well as threats for the firm (McGonagle & Vella, 2002). This type of competitive intelligence supports innovation strategies as well as research and development, and has become a growth area within competitive intelligence (Santo & Correia, 2010).

Target-oriented competitive intelligence is about competitors, their capabilities, current activities, plans, and intentions. It is most often used when competitive intelligence efforts are best focused on a small number of competitors that a firm faces in several market niches. It encompasses elements of what was sometimes called business intelligence or competitor intelligence. Figure 1.1 below shows a model that identifies some sub-categories of competitive intelligence practices.

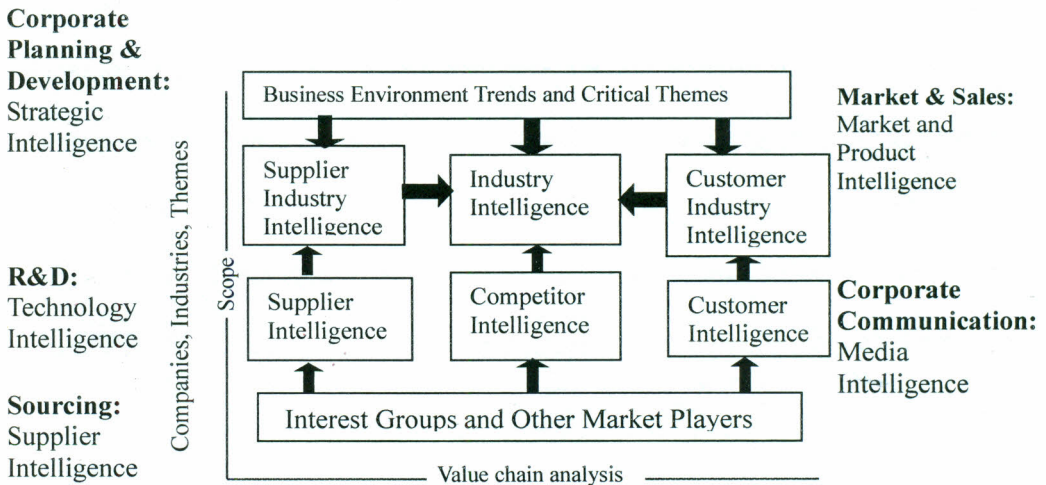


Figure 1.1: The Scope of Intelligence

Source: GIA White Paper 1/2004

The practice of competitive intelligence has been viewed by various practitioners in strategic management as a cycle. Wright, Eid and Fleisher (2009) argue that there are a number of models currently utilized by firms in an effort to organize their competitive intelligence activities. Among these, the process-driven approach, also referred to as the intelligence cycle, is mostly used (Miller, 2007). The typical competitive intelligence cycle is generally considered to be a continuous process consisting of five phases, namely; planning and direction, collection, analysis, dissemination and feedback. McGonagle (2007) argues that the classic competitive intelligence model no longer serve the needs of practitioners, nor pay attention to the dynamics of the rapidly evolving environment within which many of them operate.

In France, Japan, Sweden and the United States of America, competitive intelligence has earned its rightful place as an acknowledged discipline in strategic

management and has become a major technique for achieving competitive advantage (Gatsoris, 2010). These countries are also developed in terms of the role that government plays in supporting competitive intelligence activities. Sweden is often referred to as a leader in competitive intelligence (Viviers, Saayman & Muller, 2005). The small number of significant Swedish international companies all share information to work towards strengthening their overall competitive position.

1.1.2 Competitive Intelligence and Firm Performance

Scholars have long argued that competitive intelligence activities are highly associated with results. Some of the arguments supporting this point suggest that competitive intelligence is a condition for survival (Vezmar, 1996); it is vital for strategy (Gieskes, 2000); it is fundamental for proactive behavior and competitive advantage (Miller, 2000); it is an absolute imperative for business (Kahaner, 1997); an administrative priority (Marceau & Sakwa, 1999); it is important for profitable and sustainable growth (Prescott & Miller, 2001); and it is fundamental for the success of firms (Shaker & Gembicki, 1999; Lackman, Seban & Lanasa, 2000). Rouach and Santi (2001), based on the review of cases where competitive intelligence brought positive impacts on firm performance in different areas, concluded that the advantages of competitive intelligence activities to any firm can hardly be over-rated. Cappel and Boone (1995) established that businesses that emphasized competitive intelligence generally outperformed those that did not. The study found that there was a positive relationship between emphasis on competitive intelligence and successful financial performance.

Competitive intelligence practices can be a source of sustained competitive advantage by enabling a firm to develop, implement and monitor strategies that create as well as protect shareholders' value in the long term (Protiviti, 2011). It is a valuable and performance-enhancing contributor to the process of strategy development, focused on identifying, developing and sustaining resources and capabilities that create competitive advantage. Competitive intelligence practices can make a measurable impact on both the on-going activities and long-term performance of the firm. The practices enable a firm to manage emerging opportunities and risks in a proactive manner to gain competitive advantage and enhance business performance.

The performance construct is probably the most widely used dependent variable in research, yet it remains vague and loosely defined (Chenhall & Langfield-Smith, 2007). Measurement of a business firm's performance is not an easy task, since organizations have multiple objectives of profitability, productivity, employee satisfaction, growth, social responsibility and ability to adapt to the ever-changing environment, among others. Traditionally, performance has been conceptualized in terms of financial measures, but some scholars have proposed broader performance constructs that incorporate non-financial measures, including customer service, market performance, innovation, goal achievement and employee involvement (Stivers, Covin, Hall & Smalt, 2010).

Financial measures are objective, simple and easy to understand and compute, but, in most cases, they suffer from being historical and not readily available in the public domain. At times, they are subject to manipulation and diverse interpretation

(Chong, 2008). The widely accepted indicators of financial performance are financial ratios such as Return on Assets (ROA), Return on Equity (ROE) and growth in sales (Adekunle & Sunday, 2010). Non-financial performance measures, though subjective in nature, serve as complements to the financial measures (Covin & Slevin, 1989). The combination of these two measures help managers to gain a wider perspective on measuring and comparing performance, in particular the extent of effectiveness and efficiency in utilization of resources, competitiveness and readiness to face the growing external pressures, including globalization.

Measuring corporate performance has been a major challenge for both scholars and practitioners. The Sink and Turtle model (1989) proposes that the performance of an organization is a complex interaction among seven criteria: effectiveness, efficiency, quality of products, productivity, quality of work life, innovation and productivity. Kaplan and Norton (1996) balanced score card indicates that corporate performance includes both financial and non-financial measures such as customer satisfaction, improved business processes, innovativeness and employee job satisfaction and wellbeing. The non-financial measures enable management to measure the role of intangible assets towards creating a successful company and making improvement. In this study, performance was evaluated using both financial and non-financial measures.

1.1.3 Organizational Factors

Organizational factors could be viewed as the company's capabilities and processes at coordinating its resources and putting them into productive use. These capabilities reside in the organizations' rules, routines and procedures. More

generally, a company's capabilities are a product of its structure, processes, control and hiring system. They specify how and where within the company decisions are made, the kind of behaviours that the company rewards, and its cultural norms and values (Hill & Jones, 2010). Organizational culture is a critical element in the successful implementation of any corporate strategy. It is about values, beliefs and ideas about what kinds of goals the members of the organization should pursue and about appropriate kind or standard of behavior organizational members should use to achieve these goals (Murphy, 2005). From organizational values develop organizational norms, guidelines or expectations that prescribe the appropriate behaviour of employees in particular situations and control the behavior of organizational members towards one another. Culture shapes and influences the way members behave, and this is crucial for competitive intelligence processes.

Implementing a company's strategies successfully depends on the organizational design, the processes of selecting the right combination of structure, control system and culture. Firms need to monitor and oversee the organizational design process to achieve competitive advantage. Murphy (2005) noted that effective organizational structure enables a firm to economize on costs of collecting, analyzing and disseminating information as well as enhancing the ability of the company's value creation function to achieve superior efficiency, quality, innovativeness and responsiveness to customer needs.

Managers are the linchpins in the strategy-making process. Individual managers must take responsibility for formulating strategies to attain a competitive advantage and for putting those strategies into effect. They must lead the strategy-making

process. Strategic leadership is about how managers can effectively lead the strategy-making process. In most firms, there are three main levels of management: corporate, business, and functional. General managers are found at the first two of these levels, but their strategic roles differ, depending on their spheres of responsibility. At each of these levels, managers as decision makers have the responsibility of integrating competitive intelligence in the decisions taken as they seek competitive advantage for their firms. Managers at each level in organizations conduct and receive intelligence relating to variables in the environment that are continuously shifting (Fielding, 2006). Competitive intelligence activities allow managers to respond quickly to changes in customer preferences, competitor's strategies and technological advancement.

1.1.4 Performance of Firms at the Nairobi Securities Exchange

A stock exchange is a marketplace in which securities, commodities, derivatives and other financial instruments are traded. The core function of an exchange is to ensure fair and orderly trading, as well as efficient dissemination of price information for any securities trading on that exchange (Capasso, 2006). Singh (1997) stated that stock markets are established to be a means of accelerating economic growth through increased domestic savings and improvement of the quantity and quality of investment. Security exchanges give companies, governments and other groups a platform to sell securities to the investing public.

There are 60 companies listed on the Nairobi securities exchange (NSE, 2014). These are grouped into eleven sectors: agricultural sector; automobiles and accessories; banking, commercial and services; construction and allied; energy and petroleum; insurance, investment; manufacturing and allied; telecommunication and technology; and growth and enterprise market segment. The securities' exchange also lists treasury bonds issued by the Government of Kenya (GoK), and occasionally, there are privately issued corporate bonds as well. The level of performance is influenced by various factors, such as corporate governance, regulatory framework and the slow level of economic growth. Performance keeps alternating between bull runs when the prices for most stocks keep rising and bearish season when prices either stagnate or generally decline.

The World Economic Forum (WEF) has been ranking various countries on their level of competitiveness in comparison with others for a number of years. The ranking is based on a long list of criteria, among them ethical behavior of firms, strength of investor protection, integrity of auditing and reporting standards, the protection of minority shareholders, the productivity of the workforce and corporate governance (GCR, 2013). Kenya's competitiveness has been progressively declining among the participating countries (Mugwe, 2013). Kenya's ranking on this index has been low and declining in the last four years. In 2010 it was ranked 99, in 2011 it was ranked 102, in 2012 it was ranked 106 and in 2013 it was ranked 96 out of the 144 countries that participated in the evaluation. Among the key factors taken into consideration while ranking the countries is the performance of the listed firms. Mugwe (2013) stated that boardroom wars and the resulting

negative publicity adversely affect investor perception of the securities exchange and the country.

The practice of competitive intelligence enables listed firms to monitor changes and trends in the business environment so as to formulate appropriate strategies. Porter (1979) noted that the essence of strategy formulation is coping with competition. Competitive intelligence aids listed firms to formulate strategies that enable competitors wrestle for market share and profitability in a number of ways, including price competition, advertising and promotion. In addition to existing competitors, potential competition from new entrants or substitute products are monitored, since such indirect competition could inflict very credible threats to any firm.

1.2 Statement of the Problem

The Nairobi Securities Exchange (NSE) has been performing poorly in recent years and has not managed to make significance contribution towards accelerating the economic growth of the country (Ngugi, Amanja & Amaana, 2009). In the recent past, there has been an increase in the number of listed firms that have been issuing profit warning. In 2011, only two out of sixty firms operating at the NSE issued a profit warning. In the financial year 2012, the number rose to ten. In the financial year 2013, thirteen companies issued profit warnings (Juma, 2014). The rising number of listed firms issuing profit warnings is an indicator of the fact that the firms are unable to sustain competitive advantage.

Issuing profit warning results in significant decline of stock prices, thereby eroding investors' value, leading to heavy losses (Kiminda, Githinji & Riro, (2014); Nyabundi, (2013). Asudi (2012) noted that there are significant negative market reactions to profit warning announcements because market participants would presumably interpret it as bad news. The performance of the listed firms is among the factors considered while ranking the competitiveness of a country (GCR, 2013). Therefore, the poor performance of listed the firms has contributed to the low and declining ranking of the country's overall competitiveness internationally. This has forced management to consider using new initiatives with the objective of demolishing the competitors' advantage (Devers, 2003). One such initiative is the adoption of competitive intelligence practices (Yap, Rashid & Sapuan 2013).

Wright, Fleisher and Madden (2008) used the four competitive intelligence practices that are used in this study and found that the state of competitive intelligence practices in the pharmaceutical industry in the United Kingdom was both fragmented and embryonic. The views of both senior management and other departmental heads on the contribution of competitive intelligence practices to the firm's overall performance of firms in the industry were mixed and inconclusive, indicating the need for further research.

In Kenya, studies on competitive intelligence are generally limited. These studies are, however, descriptive and case-based in nature, were done on specific firms or industries and used profitability as the measure of performance, leaving out non-financial measures. Mugo, Wanjau and Ayodo (2012) found that product intelligence was employed to assist in aligning products to customer needs, whereas technology

intelligence practice used by Equity bank was found to have an impact on profitability. A case study was used in the research and that makes it hard to generalize the findings to firms in different contexts. Muthama and Ngugi (2012) established that competitive intelligence practices play a vital role in the overall profitability of mobile telecommunication companies in Kenya. Technology intelligence was the most utilized by the firms.

While these studies focused on product, market and technology intelligence according to Mugo et al., (2012); Ngugi & Muthama, (2012); and Ngugi, Gakure & Mugo (2012), the current study focused on strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices, since these practices have a wider scope and are applicable to a variety of industries. Concerning the contextual gap among NSE listed companies and the limited empirical review, the study aimed to establish the effects of competitive intelligence practices on firms listed at the Nairobi securities exchange and relate it to the firms' performance, measured in both financial and non-financial terms.

1.3 Objectives of the Study

1.3.1 General Objective

The objective of this study was to determine the effect of competitive intelligence practices on the performance of firms listed on the Nairobi securities exchange.

1.3.2 Specific Objectives

The specific objectives of this study were:

- (i) To determine the effect of strategy-oriented competitive intelligence practice on

the performance of firms listed on the Nairobi Securities Exchange.

- (ii) To establish the effect of tactics-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange.
- (iii) To assess the effect of technology-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange.
- (iv) To determine the effect of target-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange.
- (v) To determine the moderation effect of organizational factors on the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange.

1.3.3 Research Hypotheses

To examine how each of the independent variables affects the response variable, this study tested the following null hypotheses:

- H₀₁: Strategy-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange.
- H₀₂: Tactics-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange.
- H₀₃: Technology-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange.
- H₀₄: Target-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange.
- H₀₅: Organizational factors have no moderating effect on the relationship between

competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange.

1.4 Significance of the Study

The findings of this study will be of importance to the following:

1.4.1 Theoretical Implications

Since empirical studies in the field are limited but growing, this study adds to the existing body of knowledge and contributes to the empirical research in competitive intelligence. It provides present and future researchers with a basis and insights into the level of competitiveness in the business environment in the country. The study identified the need to carry out a research on the effect of competitive intelligence practices on non-listed firms, and further research on it has been recommended.

1.4.2 Practical Implications

Management of firms listed at the Nairobi Securities Exchange limited will gain an understanding of the extent to which competitors are utilizing competitive intelligence practices in their operations. The management of the listed firms should consider raising the current levels of competitive intelligence activities which were found to be too low to enable firms reap the benefits. The management of the listed firms should increase the amount of resources devoted to competitive intelligence activities as they were found to be low. The firms without a functional unit dedicated to competitive intelligence activities should create one to enable them cope with the changing business environment. Management of listed firms should raise utilization level of competitive intelligence practices to enable firms make more accurate prediction of environmental changes, track competitor's activities,

innovate and automate process and generally improve competitiveness of listed firms.

1.4.3 Policy Implications

The findings of this study will enable the firms' management to appreciate the role played by competitive intelligence practices, especially in a globalized economy. Capital Markets Authority (CMA), the regulator of the listed firms, should formulate policies that ensure effective utilization of competitive intelligence to improve competitiveness among listed firms.

1.5 Scope of the Study

This study was conducted on all the eleven sectors with the sixty firms that are listed on the Nairobi securities exchange making the population of the study. The target population for this study was the directors or managers in-charge of strategy or planning in the firms listed on the Nairobi Securities Exchange; hence, they were the unit of observation. The study variables were: strategy-oriented competitive intelligence practice, tactics-oriented competitive intelligence practice, technology-oriented competitive intelligence practice, and target-oriented competitive intelligence practice. The study also had organizational factors moderating the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange. Data collection was carried out between January and April 2015.

1.6 Limitations of the Study

Nairobi Securities Exchange has only a small number of listed firms, making the size of the study population rather small. Data for the study was collected from

members of senior management in the firms who are very busy, making the task of getting them to complete the questionnaires a challenge. This challenge was circumvented by booking appointments well in advance to enable them have ample time to re-organize their schedules. There are limited empirical studies in this discipline done locally, and to overcome this limitation, the researcher reviewed studies from other parts of the world.

1.7 Organization of the Study

The research report is organized in five chapters. Chapter One provides an introduction and background of the study, the statement of the problem, objectives and hypothesis of the study, significance and scope of the study. Chapter Two is an extensive literature review on the major research variables, namely, strategy-oriented competitive intelligence practice, tactics-oriented competitive intelligence practice, technology-oriented competitive intelligence practice, target-oriented competitive intelligence practice and firm performance. It culminates with conceptual framework depicting hypothesized relationships between the variables. Chapter Three discusses the research methodology that was used in the study. Chapter Four presents and discusses the findings of the study. Chapter Five outlines the summary, conclusions and recommendations, based on the study and suggestions for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature that is relevant to this study. The review focused on major themes that emerged repeatedly in literature. Specifically, it covers the theories on which the study is based and empirical literature, summary of literature and research gaps and the conceptual framework.

2.2 Theoretical Review

This study was underpinned by the following theories: Dynamic Capabilities Theory, Diffusions of Innovations Theory, Porter's Five Forces Model, the Resource-Based Theory, and the Grand Unified Theory of the Firm.

2.2.1 Dynamics Capability-Based Theory

Dynamics Capability-Based Theory advocates for competing on capabilities or competencies rather than making traditional resources investments as a more appropriate method for achieving competitive advantage. Day and Nedungadi (1994) argue that a company should be viewed as a bundle of competencies or capabilities as well as resources. In a broad sense, capabilities refer to the organizational processes by which available resources are developed, combined, and transformed into values offered in the market. Teece, Pisano and Shuen (1997) conceptualized dynamic capabilities as idiosyncratic factors which give rise to sustainable competitive advantage.

In order to achieve competitive advantage and superior performance in the marketplace, especially where the competitive landscape is shifting, companies should identify, seek, develop, and enhance dynamic capabilities. Dynamic capabilities transform resources into new sources of competitive advantage, as they are processes that enable companies to obtain new resource configurations and generate new and innovative forms of competitive advantage. They also embrace collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple stream of technologies. Eisenhardt and Martin (2000) perceive dynamic capabilities as the organizational and strategic routines by which companies achieve new resources configurations as markets emerge, collide, split, evolve and die.

Dynamic capabilities enable an organization to integrate, reconfigure, gain and release resources to match and even create market change (Wang & Pervaiz, 2007). These dynamic capabilities could be functional capabilities, to do with focusing on the increases of functional knowledge and routines, such as performing distribution logistics and advertising campaigns more efficiently than competitors; and integrative capabilities, to do with combining different functional capabilities together with external resources and using them effectively. Some authors suggest that organizational learning, innovation and adaptation to the environment play an important role in the evolution of companies and industries (Barnett & Burgelman, 1996).

The study is anchored on this theory since both human and organization capabilities are necessary in the process of collecting information and converting into actionable

intelligence. Competitive intelligence practices enhance a firm's ability in developing actionable foresight regarding competitive dynamics and non-market factors that can be used to enhance competitive advantage. Competitive dynamics refers to the evolution of a firm's industry, and the moves and countermoves of the competitors, suppliers, customers, alliance partners, and potential competitors. Competitive intelligence practices enables firms collect information on these players in its environment and formulate strategies to cope with them. Dynamics capability allows a firm to remain cognizant of competitor's intentions and anticipated market developments by carefully monitoring critical events in the environment. This could occur through talking to customers, suppliers, industry experts and other knowledgeable parties.

2.2.2 The Diffusion of Innovations Theory

The Diffusion of Innovations Theory explains the importance of technology intelligence in the process of identifying and exploiting scientific and technological opportunities, exerting a significant influence on the ability to innovate and is viewed as a major source of competitive advantage. The theory is normally applied to the dispersion of technical innovation over a period of time by members of a social system. Karshenas and Stoneman (1995) indicate that the three main elements of the diffusion model are: identification of stages of diffusion, characteristics of innovation that impact upon the rate of diffusion, and the adopter's strategy. The innovation decision process is a process that occurs while individuals participate in a series of actions related to decisions.

In the current competitive environment, innovation is generally considered a firm's core value creation capacity and one of the most important competitive weapons (Sandvik & Sandvik, 2003). Product innovation represents the provision of solutions to market threats and opportunities, creating the basis for survival and success of the firm well into the future (Hult, 2004). The positive effect of innovation on the firm's performance has been explained by the fact that through innovation, the company faces up to the changes in the environment (Agarwal, 2003). Furthermore, innovation has a positive effect on sales growth and the occupation of the firm's manufacturing capacity (Sandvik & Sandvik, 2003).

Technology-oriented competitive intelligence practice focuses on the potential for exploitation of opportunities resulting from scientific and technological changes to production processes and delivery methods. It is highly relevant where research and development and technological innovation are key industry drivers and the main sources of competitive advantage. Technology-oriented competitive intelligence in some sectors, such the pharmaceutical sector, is key to delivering high returns from an efficient and effective research and development (R&D) effort.

Canongia, Antunes, Nazare, and Pereira (2004) argued that competitive intelligence if implemented and used correctly can lead to technological foresight, which is likely to be a key consideration to any industry which is driven by innovation and technological advancement in pursuit of competitive advantage. The argument takes into account a number of attributes associated with technological innovations and which are believed to influence the rate of adoption of the innovations. This theory is applicable to the study because innovations generated through research and

development would need to be integrated with other business processes to create a competitive advantage for the business.

Technology intelligence assists in identifying opportunities that competitors do not see, as well as assessing the cost/benefit of potential and existing technologies and forecast future developments. Managers, as the users of technology competitive intelligence, should pay attention to the firm's capability to innovate, which should be understood, both in terms of technical features of the innovations and the corporate values, past experiences and the needs of the firm.

2.2.3 Porter's Five Forces Model

Porter's (1980) work on the analysis of competitive forces affecting firms, which focused on tracking specific competitor behavior and linking competitor analysis to competitive strategy, created the background for the development of competitive intelligence as a business discipline (Peyrot, Childs, Van Doren, & Allen, 2002). Porter took a perspective of scanning the external environment to gather intelligence on competitors. He (Porter) then developed the Five Forces Model to explain the forces that shape competition in an industry. This well-defined analytical framework helps strategic managers to link remote factors and their effects on a firm's operating environment. Porter (1980) identified customers, suppliers, potential entrants, current competitors and substitute products as competitors that may be more or less prominent or active, depending on the industry.

Thompson and Strickland (2003) argued that the collective strength of these forces determines the ultimate profit potential of an industry. Whatever their collective

different bundles of resources in some way unique to themselves and imperfectly mobile implies that to varying degrees, they cannot be easily and readily copied, bought, or sold in the marketplace. Therefore, to achieve competitive advantage and, thereby, high performance, companies should seek resources that are valuable, rare, inimitable and non-substitutable. In essence, this theory suggests superior performance through enhanced competitive advantage gained by the use of unique, high value and rare organizational resources.

Resources can be classified as physical, human and organizational. Wilk and Fensterseifer (2003) categorize them under tangibles, which can be observed and evaluated with clarity, such as physical resources; and intangible resources, which cannot be directly observed and evaluated, such as reputation of the firm. Resources can also be categorized as tangible resources, which include financial and physical assets; and intangible resources, that is, assets like reputational and intellectual assets, and skills, which include capabilities. Itami (1987) introduced invisible assets, which are necessary for competitive advantage. These include information-based resources, such as technology, customer trust, brand image, control of distribution, corporate culture, and managerial skills.

From a firm's perspective, competitive intelligence can help in understanding how and where to find unique resources and capabilities that can help it compete effectively. Thus, this theory is applicable to the study, since every firm require resources to enable it acquire, process, analyze, disseminate and implement competitive intelligence. Competitive intelligence units can help a firm to understand how a rival has developed their own unique capabilities and asset

caches, assess a rival's ability to imitate strategy or assist a company to assess how to uniquely bundle resources to create value for customers. This theory is applicable in this study since the amount and scope of competitive intelligence needed by a firm largely depends on its strategic orientation (Zinkhan & Gelb, 1985). This is due to the fact that without the correct insights, it is impossible to draw correct useful conclusions on the requirements for key assets and competences (Powell & Bradford, 2000).

2.2.5 Grand Unified Theory of the Firm

The Grand Unified Theory of the Firm was postulated by Park and Shin (2004). The theory offers the firm a framework for understanding the nature of the firm, making it essential for developing corporate strategies and building corporate competitiveness, which encompasses all elements of the firm. The Grand Unified Theory of the Firm offers a comprehensive view to the firm and provides better insights on corporate strategies and performance. As Porter (1990) indicated, the reason why firms succeed or fail is the central question in strategy, and any effort to understand success must rest on an underlying theory of the firm and an associated theory of strategy.

The theory enables firms to improve their performance and competitiveness by applying this theory to their costs-and-benefits drivers. Firm success is manifested in attaining a competitive position or a series of competitive positions that lead to superior or sustainable financial and non-financial performance (Porter 1990). Chandler (1990) concluded that one of the most important attributes of modern enterprises in the United States of America was the ability to exploit economies of

scale and scope. Competitive intelligence practices play a critical part in gathering information about a competitor's production systems to enable a firm take cost advantage of its economies of scale. This information is important for firms pursuing cost-leadership business level strategies, as it enables the firm to make and sell goods or services at lower prices than its competitors (Hill & Jones, 2010). In essence, economies of scale allow a firm to gain competitive advantage in its operating performance and earn above-average returns.

The economies of scope stem from the synergy effects of related businesses, where competitive intelligence permits a firm to evaluate potential candidates for merger, acquisition or strategic partnerships and alliances. This is especially useful to industrial organization of large groups with interests in multiple sectors and organized inter-penetration of business. Diversification enables a firm to enter into new industries, distinct from the firm's core or original industry, to make new kinds of products that are sold profitably to customers in these new industries (Hill & Jones, 2012). Diversification aims to find ways to use a firm's existing strategies and distinct competencies to make products or offer services that are highly valued by customers in the new industry that it enters, thereby imparting positively on its performance.

2.3 Empirical Literature

2.3.1 Strategy Orientation Competitive Intelligence Practice

Strategy-oriented competitive intelligence practices focuses on the longer-term issues affecting the companies' competitiveness over several years. The actual time horizon for this type of intelligence ultimately depends on the particular industry

and how quickly it is changing. This type of intelligence work involves, among other things, the identification of weak signals and application of methodology in a process called Strategic Early Warning (SEW). Strategy-oriented intelligence analysts identify macro trends within the external environment. McDowell (2009) states that strategy-oriented competitive intelligence can be a source of sustained competitive advantage by enabling a firm to develop, create as well as protect shareholder value over the longer term.

In a study on the use of competitive intelligence practices by South African firms, Viviers, Saayman, Muller & Calof (2002) found that South African firms were very poor in the formal organization and processing intelligence. In most companies, the marketing department was responsible for the competitive intelligence function and firms were found to recognize the importance of getting information from people in and outside the firms. Most employees were found to have regularly reported competitive information to appropriate managers, although the information was rarely validated. The study found that the responding South African firms had the right attitude towards competitive intelligence. Most respondents agreed that competitive intelligence could be used to create competitive advantage for their companies and that senior management supported intelligence activities. However, respondents indicated that employees did not understand what competitive intelligence was and only marginally agreed that senior managers use competitive intelligence regularly in planning and strategic decision-making.

Wright, Pickton and Callow (2002) examined competitive intelligence in UK firms. The study found firms with integrated procedures in which competitors are

distinguished by satisfaction of customer needs, intelligence gathered through conducting primary research, information gathered and translated to strategic action, and there was an intelligence unit charged with the specific mandate and located where it would have the greatest impact. Using the findings, the researchers developed best-practice typology for effective competitive intelligence practices in an organization. The model developed in that study has been used in a number of studies, such as the study by Viviers, Saayman & Muller (2005); the one by Wright, Eid & Fleisher (2009); and that of Santos & Correia, (2010).

In an investigation on the acquisition and strategic use of competitive intelligence in Malaysian listed firms, Yap & Rashid (2011) found out that more than half of the surveyed firms had formal competitive intelligence units. The units were found to be located within the marketing or market research or corporate planning departments. It was found that on average, the units employed between two to five full-time employees and that the top source of competitive intelligence for managers were newspapers and periodicals, the internet, extranets and customers. The intelligence acquired was mostly used for making strategic decisions. The study applied the best practice model developed by Wright et al., (2002). However, concerning the identification of the top source of information, the study contradicted the findings of Wright et al., (2002), where respondents stated that the sources were determined by the type of intelligence required.

In a study that examined perceived environmental uncertainty and competitive intelligence practices, Yap, Rashid & Sapuan (2013) found that where managers had a higher perception of environmental uncertainty, there existed a higher need for

information processing. The study's findings indicated that when the business environmental sector was perceived to be variable and complex, managers tended to acquire and process information about that sector to reduce its uncertainty when making strategic decisions. The study also found that when the environmental sector was perceived to be of strategic importance and uncertain, then a greater amount of competitive intelligence was acquired and the greater the extent of the intelligence was used in strategic decision-making. The findings of this study support Zinkan & Gelb (1985) who found that the use of competitive intelligence in firms largely depended on the number of competitors in the firm's external environment.

In a study examining the effect of competitive intelligence practices and firm's performance in the emerging market of India, Adidam, Shikla & Banerjee (2012) found that Indian firms that exhibit higher levels of competitive intelligence activities achieved better financial performance and that the level of competitive intelligence activities were at a moderate level, thereby suggesting an opportunity for implementing and using more sophisticated techniques. The findings of the study support the finding of previous studies by Wee & Leow (1994) and Hughes (2006) who found that competitive intelligence impacts positively on firm performance.

2.3.2 Tactics Oriented Competitive Intelligence Practice

Tactics-Oriented Competitive Intelligence Practice is about generating information and analysis about competitors that can support the daily operations of a firm. Its purpose is to use a team's understanding of competitor operations, from product development, supply chain to sales tactics in order to advance specific operational

objectives. Tactics-Oriented Competitive Intelligence Practice provides decision makers with the necessary information to monitor changes in the company's current environment to help them discover new opportunities. This type of intelligence deals with real time, offering analysis on current competitive conditions within a particular industry or marketplace (Gilad, 2003).

Tactics-oriented competitive intelligence practice focuses on providing information to improve short-term decisions, mostly related with the intent of growing market share or revenues. With the right kind of information, organizations can avoid unpleasant surprises by anticipating competitor moves and decreasing response time. It could be used in comparing and contrasting the characteristics of a rival's products to a firm's own products to help inform the sales team of limitations and constraints in the rival's products and where the next generation of products might be like.

Pelsmacker, Muller, Viviers, Saayman, Cuyvers and Jegers (2005) in a study on the use of competitive intelligence practices by South African and Belgian exporters found out that to a certain extent competitive intelligence practices in the two countries were highly comparable. In both countries, there were no separate departments devoted to the competitive intelligence activities and where they existed, the activities were mostly done by marketing and sales departments. Although there were some differences, on average, managers from both countries were found to consider similar types of information important to their firms, and they relied on similar sources of information. South African companies were found to have, on average, a longer tradition of organized competitive intelligence activities and had more full-time and part-time staff involved in it. South African

companies were found to devote more time to collecting information but less time to evaluating the results. In both countries, it was also found out that there was a high level of awareness of competitive intelligence and what it could do for the exporter in terms of enhancing competitiveness.

In a study to determine the effect of organizational strategy and competitive intelligence practices in Malaysian public listed companies, Yap, Zabid, & Sapuran (2012) established that a link existed between organizational strategy and competitive intelligence practices in which a higher level of competitive intelligence acquisition in technological and economic sectors and a greater use of competitive intelligence in strategic decision-making was common among analyzers. The response rate for this study was rather low (at 10.3%), which made the generalizability of the findings hard to assume that they apply in other firms. Noor, Waheed and Jamil (2013) examined the role of competitive intelligence in multinational companies and found out that the use of competitive intelligence had higher impact on growth and lesser on quality and organizational performance.

2.3.3 Technology-Oriented Competitive Intelligence Practice

Technology-oriented competitive intelligence practices exert a significant influence on a firm's ability to innovate and is viewed both as a major source of competitive advantage and new product innovation (Gunasekaran et al., 1996). Innovation is known to be a critical factor for companies to create value and sustain competitive advantage in today's highly complex and dynamic environment (Rajit, 2004). Technology intelligence is the capturing and delivery of technological information as part of the process through which an organization develops an awareness of technological threats and opportunities (Kerr, Mortara, Phaal, & Probert, 2006).

Kim and Mauborgne (1999) argue that organizations which can combine customer value innovation with technology intelligence have an increased chance of enjoying sustainable growth and profit.

In a study to determine the influence of competitive intelligence practices in Essar Telcom (YU) K Limited, Mutua (2010) noted that to cope with the level of competition, firms adopted strategic actions which enabled market penetration; specifically, they adopted the differentiation and innovation of products. The study found out that the players in the market had introduced cheaper but quality handsets that met the needs of the lower end of the segmented market. The firm was found to have used various competitive intelligence practices to gain understanding of the competitor's future moves, analysis of competitor's strategies, and analysis of industry players' capability.

Nemutanzhela and Iyamu (2011) in a study to determine the impact of competitive intelligence on products and services innovation in organizations established that when cultural values were compromised, customers lost confidence in the organization's ability to deliver. Though knowledge-sharing could improve and sustain competitive intelligence on products and services, it was found that some factors existed that inhibited this. Among the factors found to be of impact included the employees' fear of losing their jobs if they shared the knowledge and skills they possessed.

The study further found that firms which depended on their international partners for innovation hindered themselves from exploiting competitive intelligence tools.

Failing to conduct environmental scanning was found to limit the organization's ability to understand the external forces of change so that they could develop effective responses to secure or improve the firm's position in the future. The organizations were found to be laying less emphasis on educating their staff about the information and processes, particularly on the implementation of competitive intelligence. This was found to have a negative impact on innovation in such organizations. The findings of the study support Muller (2007) in his assertion that the growth of competitive intelligence in organizations depends on creating an awareness of its benefits to employees.

Muthama and Ngugi (2012) established that competitive intelligence practices played a vital role in overall profitability of mobile telecommunication companies in Kenya. The researchers found that technology intelligence was the one most utilized by these firms. The findings support April and Bessa (2006) who assert that technology is an enabler in the competitive intelligence process. The study equates competitive strategies formulated by firms to competitive intelligence practices.

Samtani and Capatina (2012) found that almost all the Romanian companies surveyed were very optimistic about the prospects for the software services industry in the future and that all seemed focused on innovation and creation of differentiated experiences for the clients. Increasing the client's efficiency and reduction of costs for doing business was found to be a top priority. Most Indian firms found that the uncertainty in the environment was affecting business growth, and innovation also featured as a way of improving efficiency and reducing costs. Most of these

companies were found to have adopted aggressive strategies to make the best use of opportunities being presented by the changing environment. The big players were found to have focused on moving up the value chain while the others preferred to focus on their niche area of expertise.

Santos and Correia (2010) in an exploratory study of the Portuguese biotechnology industry examined competitive intelligence as a source of competitive advantage. The study found that probably because of their scientific-technical background that employed less use of management skills, the firms lacked specific infrastructure and personnel dedicated to performing competitive intelligence activities. It was found that competitive intelligence activities were carried out in an informal way, mostly by the decision-makers themselves. Differences were also found in the level of informality in the competitive intelligence activities between the two organizations. The larger and older organization tended to be more formal in approach to competitive intelligence activities, whereas the smaller younger organization was found to use a more informal approach. The findings support Yap, Rashid, and Sapuan (2011), who observed that a majority of the firms practice competitive intelligence either formally or informally.

Wright, Fleisher and Madden (2008) examined the characteristics of competitive intelligence practices in R&D-driven firms in the United Kingdom pharmaceutical industry. The study found that the state of competitive intelligence practice in the industry was both fragmented and embryonic. The background of those practising competitive intelligence were found to have come largely from marketing, information and technology, and R&D. The sources and analytical tools mostly used

by practitioners were customers, suppliers and distributors. The study found that the views of both senior management and other departmental heads on the contribution of competitive intelligence to the overall performance of the firms in the industry were mixed or inconclusive. This lack of a conclusive view on the overall contribution of the competitive intelligence practice to the overall performance of firms indicated that further investigation was necessary.

2.3.4 Target-Oriented Competitive Intelligence Practice

Target-oriented competitive intelligence practice typically concentrates on a named set of competitors, assesses their competencies, current and future activities, their commitment to the market segment, tracks patent applications and expiries, and engages in Game Theory and scenarios planning. Freeman (1984) suggested that the monitoring could include any group or individual who can affect or be affected by the achievement of the organization's objectives. A firm that fails to do this would be slow in reacting to substitute products or services, which are alternative ways to reach and satisfy the needs of consumers that are not being met by the industry as a whole.

Target-oriented competitive intelligence practices aid a firm in making accurate prediction of the competitor's next moves and countermoves, facilitate war games and, in general, provide much higher value-added information, not just disseminating volumes of raw market data (Gilad, 2011). Ball (1987) stated that gaining competitive advantage not only deduces the movement of opponent's hand but also watches the way he plays, trying to understand his thinking and gauging how he would react to a challenge or an opportunity. McCubbrey (2009) avers that

a firm that has planned for most common threats would be better prepared to faster in the face of a threat. Preparedness allows a firm to move past its less-prepared competitors, as they devote valuable time and other resources reacting to threats. While competitors are reacting, the firm can move to increase its competitive advantage over them.

Kipkorir (2001) examined competitive intelligence practices by FM radio stations operating in Kenya. The study found that employees and majority of industry players were aware of and used competitive intelligence in trying to attain competitive advantage. To a large extent, the FM radio stations were found to use the 12P's of competitive intelligence. These stations were found to have put in place adequate training on ethical and legal guidelines for the purpose of collecting and using competitive intelligence. This study introduced a new concept of the 12 P's of competitive intelligence which seems quite rare in strategic management literature.

Wright, Eid and Fleisher (2009) studied competitive intelligence in practice in the UK retail banking sector. The study applied the Best Practice Model developed by Wright *et al.*, (2002). The findings indicate that banks in the United Kingdom had a common understanding of intelligence despite the fact that they described it in a variety of different ways. It was found that intelligence had been in use for a long time in the various businesses within the banking sector and that it seemed an integral part of banking practice, although it was not immediately clear how varied in use and standardized the practice was within each bank. The primary reasons for using competitive intelligence was understanding customers, market trends and tracking changes in products through R&D. The study also found that the banks in

the United Kingdom tended to rely heavily on information for their day-to-day business activities and relied on a combination of information sources, depending on the information need for the moment rather than a specific source.

Gathumbi (2010) investigated the competitive intelligence practices adopted by commercial banks in Kenya. The study found that the competitive intelligence function in most banks was developed through planned action, and most employees were not extensively involved in the process. The study also found that the function was developed through project teams consisting of both employees and external consultants. This study picked on the processes of the competitive intelligence cycle and assumed them to be the competitive intelligence practices. The different variables make it hard to compare the study with a similar one by Wright *et. al.*, (2009) on the banking industry in the United Kingdom.

Mugo, Wanjau and Ayondo (2012) found that Equity Bank employed new market intelligence, concentrating on the 4Ps of the marketing mix. Product intelligence was used to assist in aligning products to customer needs. The technology intelligence practices used by the bank were found to have an impact on profitability. The strategic alliance intelligence was found to be useful to the bank while evaluating candidates for mergers and acquisitions.

In a similar study Ngugi, Gakure & Mugo (2012) found that market intelligence enabled the banks to better understand the attractiveness of the market, customer orientation and identification of new opportunities. Product intelligence was found to assist the firms to align the products and services to the needs of the customers,

introduction of new products based on customer needs, re-launching and reviewing existing products to make them more competitive. The study found that technology intelligence had increased the chance for the firms to enjoy sustainable growth and profit. The strategic alliance was found to be useful while banks were making decisions on mergers and acquisitions.

While examining the competitive intelligence practices adopted by Safaricom, Wahome (2012) found that the firm employs new market intelligence as a competitive intelligence practice. This study found that the product differentiation strategies adopted by Safaricom helped to increase profitability. Other strategies included involvement of customers in product development through focused group discussions, aligning products with customer needs and the environment in which they are being offered to ensure that customers identified themselves with the firm.

While studying enabler and inhibitor factors influencing competitive intelligence practices in the higher education sector, Montserrat, Ortoll & Josep (2013) found that the employees' exposure to information was mainly through participating in professional networks and meeting with social agents to discuss subjects related to on-going projects. A climate of information was found to facilitate information-related activities and thus increasing competitive intelligence practices in universities. The outwardness was found to have given the universities knowledge about the environmental needs as well as the societal and labour market needs that enabled them revamp existing degrees or design new degree programs. Environmental pressure and uncertainty was found to act as enabler factor. This was a unique study since it was applying the competitive intelligence cycle in the higher

education sector which was contextually different from the business organizations where it is normally applied.

2.3.5 Role of Organizational Factors

Research indicates that performance can be improved when the variables are correctly aligned (Norman & Slevin, 1993). This is the basic premise of Contingency Theory which suggests that congruence is necessary among variables just as industrial conditions and organizational processes are critical in obtaining optimal performance (Lawrence & Lucsch, 1967). Contingency Theory holds that the relationship between two variables depends on the level of a third variable. Introducing moderators into vicariate relationships helps reduce the potential for misleading influences and permits a more precise and specific understanding of the contingency relationship (Rosenberg, 1968).

A company's competitive performance and capability depends on a number of internal factors (Murphy, 2005). In this study, organizational internal factors were considered to be the variable that moderates the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange. The internal factors considered in this study are organizational culture, structure and senior management's attitude towards competitive intelligence. For competitive intelligence to flourish, be implemented and be used optimally, there needs to be an appropriate culture of competitiveness (Viviers, Saayman & Muller, 2005). It is important to create the right environment for competitive intelligence. This requires continuous staff training, and emphasizing the importance of competitive intelligence. Although decision makers are the drivers and primary

users of competitive intelligence, Kahaner (1997) intimates that information gathering should be on everyone's mind. Without proper awareness and attitudes that favour both intelligence and information sharing, it is difficult to develop intelligence within an organization.

Competitive intelligence requires appropriate policies, procedures and an infrastructure so that employees can contribute effectively to the competitive intelligence system as well as gain the benefits from the process. There is much support for a formal structure and a systematic approach to competitive intelligence (Ghoshal & Kim, 1986). Such a formal structure would involve dedicating a particular manager or champion to competitive intelligence and assign them to coordinating the collection, storage, analysis and dissemination of intelligence. The intelligence process depends on the people gathering the information, availing resources from a range of internal units and encouraging employees to contribute to, use and participate in the competitive intelligence activities.

The senior management as the users of competitive intelligence are responsible for communicating the type of intelligence needed to the competitive intelligence team (Fuld, 2001). Lack of clear direction and focus from the senior management leads to fragmentation of the team's effort since different senior managers has different requirements. Senior management are also responsible for performing the critical role of incorporating the intelligence into the decision-making process so as to make better and more informed decisions (Gilad, 2004). This may not be performed successfully if senior managers appear uncertain of what to do with the intelligence delivered to them. While they may understand the value of competitive intelligence,

they might not treat it as a vital component of their decision making (Kuprowicz, 1999). Callow *et al.*,(2002) state that in some organizations, the adoption of competitive intelligence is dependent on the senior management's commitment and alignment to strategy, as they are the ones to provide direction and guidance to the organization's employees. The influence of the moderating factors was measured using a 5-point Likert-like scale.

2.3.6 Business Firm's Performance

Business performance has been a source of influence to the actions taken by firms and the degree to which an organization realizes its goals as well as the stated objectives through the strategies and policies of the organization (Folen & Browne, 2005). The concept of business performance has its basis on the premise that a combination of productive assets, made up of human, physical and capital resources, aids an organization in fulfilling its mission or accomplishing a shared purpose (Carton & Hofer, 2006). Business performance is viewed as the measure of how a manager utilizes the resources of an organization effectively and efficiently to accomplish the goals of the organization as well as satisfy all stakeholders (Jones & George, 2009). Richard, Devinney, George and Johnson (2009) describe business performance as the real output measured against intended or expected output. The researchers presented 'business performance' as being made up of three major areas of firm performance: financial and product, market performance, and shareholders returns.

Kast and Rosenzweig (1985) argued that performance is a function of ability, effort and opportunity. Ability is dependent upon knowledge and skills and technological

capabilities that provide an indication of the range of possible performance. Effort is the function of needs, goal-expectations and rewards, and it depends on the degree to which individuals or groups are motivated to exert effort. Opportunity must be provided by managers for individual ability and effort to be used in ways that would result in the achievement of goals. Business performance can be summarized as the approach used in assessing the progress made toward goals, identifying and adjusting factors that limit progress of the firm in a competitive environment.

Many authors believe strongly that the practice of competitive intelligence has a positive effect on the company's financial performance (Tan *et al.*, 2007). Business performance evaluation is the process that helps management in decision-making regarding an organization's performance by selecting indicators, collecting and analyzing data, assessing information against performance criteria, reporting and communicating and periodically reviewing and improving the process. The use of competitive intelligence has grown and become more institutionalized in the corporate environment; there has been increasing effort to quantify the importance of these activities and to assess the impact on the performance of firms adopting competitive intelligence practices. Zinkhan and Gelb (1985) found that the use of competitive intelligence in firms depend, to a large extent, on the number of competitors in a company's external environment. Peyrot *et al.*, (2002) also found that the use of competitive intelligence was positively related to the level of competition. In addition, organizational factors, such as size, managerial perceptions, availability of competitive intelligence and the level of organizational resources devoted to competitive intelligence, were all positively associated with greater use of it.

2.4 Summary of Literature and Research Gap

Despite the fact that it is widely accepted that competitive intelligence provides management with valuable items of information to improve the quality of decisions and has a positive effect on a firm's competitiveness, studies in the field are limited. The empirical studies conducted specifically on competitive intelligence are mostly descriptive in nature and focused mainly on the practice of competitive intelligence in business organizations across different countries. The variables investigated include existence of competitive intelligence unit, the source and frequency of intelligence collection, the awareness among top management about competitive intelligence and the competitive intelligence dissemination vehicles, among others. There is little empirical work linking the impact of a firm's competitive intelligence practices to its performance (Hughes, 2005). Most literature addressing this issue has been either anecdotal or case-based research in the context of the developed markets of United States of America and Europe (Pirttimarki, 2007).

Viviers, Saayman, Muller and Calof (2002) carried out a descriptive study and used the phases of the intelligence cycle as the variables of the study. The current study used different variables and sought to relate competitive intelligence practices to the performance of firms listed on the Nairobi Securities Exchange. Pelsmacker, Muller, Viviers, Saaymand, Cuyvers and Jegers (2005) carried out a study that concentrated on firms that only did export business. The researchers used different variables. The current study included firms that manufacture products or provide services, both locally and internationally.

Wright, Fleisher and Madden (2008) in their study of competitive intelligence practices in the pharmaceutical industry in the United Kingdom found that the views of both senior management and other departmental heads on the contribution of competitive intelligence to the overall performance of the industry were mixed. The mixed or inconclusive findings on the overall contribution of competitive intelligence to the performance of the industry by senior management indicated the need for further research. Hence, this study sought to establish the effect of the competitive intelligence practices and relate it to the firms' performance, measured in both financial and non-financial terms. It focused on all eleven sectors represented on the Nairobi Securities Exchange.

Eid, Fleisher and Wright (2009) in a study on competitive intelligence activities in the banking industry in the United Kingdom used top management attitude, information gathering strategies, level of usage and location of intelligence unit as the variables, and the study was descriptive. The current study employed a different set of variables, was done in a different country, and targeted all the eleven sectors represented on the Nairobi Securities Exchange. However, one of the variables in that study—top management attitude towards competitive intelligence—was used as an indicator of organizational factors in the current study.

Gathumbi (2010) on the study of the competitive intelligence practices adopted by commercial banks in Kenya used the phases of intelligence cycle as the variables of the study. The study was confined to the banking industry. The current study focused on different variables and on all the eleven sectors represented on the Nairobi Securities Exchange, which include the banking industry. Adidam, Banejee,

and Shukla, (2012) in a study on the effect of competitive intelligence practices on firm performance on the emerging market of India used staff dedication, frequency of requests for competitive intelligence, information sources and analytical tools used as the variables of the study. The current study used a different set of variables and was done in Kenya, a contextually different location.

Mugo, Wanjau and Ayodo (2012) carried out a case study on Equity Bank, seeking to establish the impact of competitive intelligence practices on the profitability of the bank, whereas Muthama and Ngugi (2012) sought to determine the influence of competitive intelligence on the profitability of firms in the telecommunication industry. The two studies sought to determine the effect of competitive intelligence practices on financial performance and on single business entities in different industries; hence, they did not take into account the non-financial aspects of performance as was done in the current study. Wahab and Othman (2012) on a study on the government-linked companies in Malaysia focused on the use of information in decision-making and strategy formulation as variables. The current study focused on different variables and was done in Kenya, which is contextually different from Malaysia.

Ngugi, Gakure and Mugo (2013) did a study on the competitive intelligence practices and their effects on profitability of firms in the Kenyan banking industry. The study used similar variables with the study by Mugo Wanjau and Ayodo (2012) but focused on the banking industry, not a specific bank. It used the financial measure to measure firm performance. The current study focused all the eleven sectors represented on the Nairobi Securities Exchange and included non-financial

measure to assess firm performance. Monserrat, Ortoll and Josep (2013) in a study on the enabler and inhibitor factors influencing competitive intelligence practices focused on information consciousness, exposure to information, climate of information, outwardness and pressure and perceived uncertainty as the variables of the study. This study was done on the university education sector in Europe. The current study focused on a different set of variables and on commercial businesses in Kenya.

Table 2.1: Summary of literature and research gaps

Author	Title of study	Variables	Methodology	Findings	Research gaps	Focus of the proposed study
Viviers, Saayman, Muller & Calof, (2002)	Competitive intelligence practices : A case of South Africa	-Planning & focus -Collection -Analysis -communication -Process -Organization's awareness (Six steps in the intelligence cycle)	Sample drawn from 3 data-bases Used a close-ended questionnaire	South African firms were not well equipped to conduct good intelligence. Majority of the managers were found to believe that competitive intelligence can create competitive advantage for a firm	The study focused on the application of the competitive intelligence cycle. It did not consider specific practices.	This study focused on specific competitive intelligence practices and not on the intelligence cycle Used semi-structured questionnaire
Pelsmacker, Muller, Viviers, Saayman,	Competitive intelligence practices of South	-How competitive intelligence is conducted -Number of employee devoted to competitive	A mail survey was carried out on exporting	Competitive intelligence practices were highly comparable in both	The study focused on firms in the export business only leaving	This study focused on a different set of variables. Focus

Cuyvers & Jegers (2005)	African and Belgian exporters'	intelligence activities -Location of competitive intelligence unit in organization -Sources of information -Awareness and attitude towards competitive intelligence	companies in two different countries, South Africa and Belgium	countries Managers from both countries were found to consider similar types of information important and they relied on similar sources of information	out those not in the export business.	was on firms listed at the NSE that do business locally while others are in the export business. The study included inferential analysis to identify relationships between variables
Wright, Fleischer & Madden (2008)	Characteristics for competitive intelligence practices in R&D driven firms: evidence from the UK pharmaceutical industry	-Strategy-oriented competitive intelligence practices, tactics-oriented competitive intelligence practices, technology-oriented competitive intelligence	A survey was carried out on large pharmaceutical firms	Competitive intelligence practice in the industry was both fragmented and embryonic. Views of senior managers and departmental heads on the contribution of competitive intelligence towards overall performance was mixed, hence	The study considered the competitive intelligence practices It was a descriptive study and did not seek to establish effect of competitive	The current study focused on the same variables but in a different location and context. This study sought to determine the

		practices, Target-oriented competitive Intelligence practices		inconclusive	intelligence practices on performance	effect of competitive intelligence practices on firm performance
Eid, Fleisher & Wright(2009)	Competitive intelligence in practice: empirical evidence from the UK retail banking sector	-Top management attitude -Gathering strategies -Use of strategies -Location of intelligence unit	Data was collected from selected large retail banks using interview and document analysis.	Banks in the UK were found to have used a diversity of sources and a wide range of multiple tools for competitive intelligence purposes No specific mechanisms were used to evaluate competitive intelligence information	The study examined a different set of variables	Current study examined a different set of variables namely: Strategy oriented, tactics oriented, technology and target oriented competitive intelligence practices in a different context.

Gathumbi (2010)	Competitive intelligence practices adopted by commercial banks in Kenya	<ul style="list-style-type: none"> -Type of information needed -Gathering and processing information -information analysis -Dissemination 	A survey design was used on all the 44 commercial banks.	Competitive intelligence function in most banks was developed through planned action and most employees were not involved in the process.	Focused on the intelligence cycle but did not focus on practices	This study focused on specific practices and sought to link competitive intelligence to performance
Adidam, Banejee & Shukla, (2012).	Competitive intelligence and firm's performance in emerging markets: an exploratory study of India.	<ul style="list-style-type: none"> -Dedication of competitive intelligence staff -Frequency of requests for competitive intelligence -Number of information sources -Analytical tools used 	<p>Sample selected through stratified sampling</p> <p>-Cross-sectional survey</p> <p>Questionnaires mailed to respondents</p>	<p>Indian firms that exhibit higher levels of competitive intelligence activities indeed achieve better financial performance</p> <p>Competitive intelligence could direct managers to untapped opportunities and potential that competitive intelligence can offer in a highly volatile and changing market scenario</p>	<p>The study concentrated on the drivers of competitive intelligence practices.</p> <p>It did not consider specific practices.</p> <p>Performance was measured in financial terms</p>	<p>This study considered various competitive intelligence practices.</p> <p>In this study performance was measured in both financial and non-financial terms and was done on a</p>

						contextually different location.
Ngugi, Gakure & Mugo(2012)	Competitive intelligence practices and their effect on profitability of firms in the Kenyan banking industry	-Market intelligence -Product intelligence -Technology intelligence -Strategic Alliance intelligence	A case-study was used to obtain in-depth information	Market intelligence enabled the banks to understand better the attractiveness of the market, market and customer orientation and identification of new opportunities	The study focused on the banking industry only and used profitability as measure of performance -It left out other measures of performance.	This study focused on all the eleven sectors of firms listed on the NSE both financial and non-financial measures of performance
Wahab & Othman(2012)	Competitive intelligence practices by government links companies (GLCs) in Malaysia	-This study is based on a preliminary or pilot survey on selected GLCs -Use of information in decision-making and strategy formulation	Sample selected from firms listed on the Malaysian securities exchange Questionnaires sent by mail.	GLCs in Malaysia were found to be practising competitive intelligence principles. Most of the companies practised competitive intelligence strategies for decision-making and marketing.	The study focused on practices based on strategic typologies of prospectors, analyzers and defenders	This study focused on specific practices based on the categories identified by McGonagle and Vella (2002)

Mugo, Wanjau, & Ayodo (2012).	An investigation into competitive intelligence practices and their effect on profitability of firms in the banking industry: A case study of Equity Bank	<ul style="list-style-type: none"> -Market intelligence -Product intelligence -Technology intelligence -Strategic Alliance intelligence 	A case study was used to get in-depth information on the effect of competitive intelligence practices on bank profitability.	<p>The study found that Equity Bank employs new market intelligence as a competitive intelligence practice.</p> <p>All the strategic intelligence practices were found to lead to greater profitability and reduction of costs.</p>	The study focused on one firm in the banking sector and focused on financial measures of profitability	This study focused on all the eleven sectors represented on the Nairobi Securities Exchange Ltd. Current study focused on both financial and non-financial measures of performance
Muthama & Ngugi (2012)	The influence of competitive intelligence on profitability of mobile telecommunication companies in Kenya	<ul style="list-style-type: none"> -Product intelligence -New market intelligence -Technology intelligence -Strategic alliance intelligence 	Descriptive research design	<p>The study established that competitive intelligence practices play a vital role in overall profitability of mobile telecommunication companies in Kenya.</p> <p>The researchers found that</p>	The study focused only on the telecommunication industry leaving out the others. It focused on profitability only	The current study focused on all the sectors represented on the NSE and evaluated different intelligence practices and used

				technology intelligence was the one most utilized by these firms.	leaving out other measures of performance	both financial and non-financial measures of performance
Montserrat, Ortoll and Josep (2013)	Enabler and inhibitor factors influencing competitive intelligence practices	<ul style="list-style-type: none"> -Information consciousness -Exposure to information -Climate of information -Outwardness and pressure -Perceived uncertainty 	The research was designed in two sequential phases: one based on mixed methods; the other one on predominantly qualitative methods.	Environmental pressure and uncertainty were found to act as enabler factors influencing competitive intelligence practice. Outwardness was found to have given the universities knowledge that enabled them revamp existing degrees or develop new degree programs.	The study was carried out in the higher education sector. It did not consider other sectors.	This study focused on different variables and in several sectors that are represented at the Nairobi securities exchange.

2.5 Conceptual Framework

The independent variables in this study are the competitive intelligence practices, specifically strategy oriented, tactics oriented, technology oriented and target oriented.

The dependent variable is firm performance and the moderating variable is organizational factors.

Independent Variable

Dependent Variable

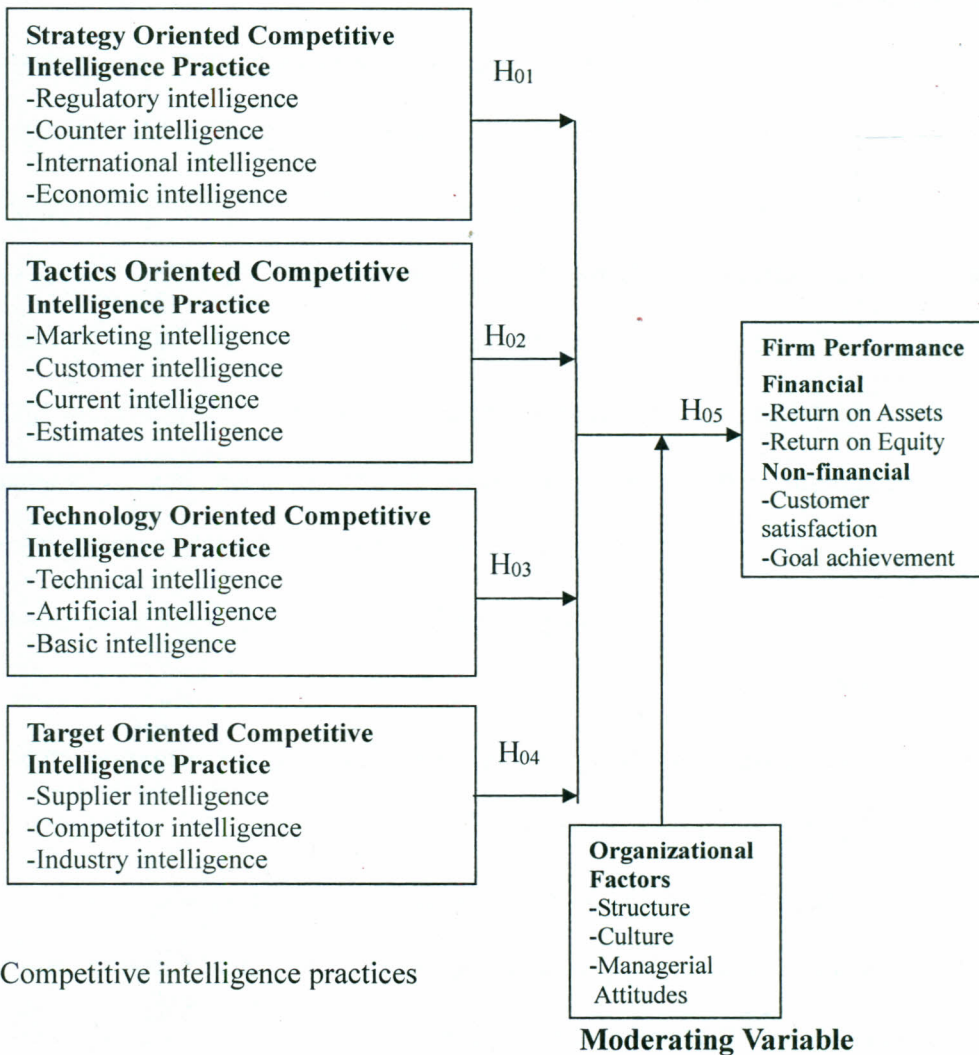


Figure 2.1: Conceptual Framework
Source: Researcher (2014).

Figure 2.1 on conceptual framework presents the relationship between the variables of this study. The independent variable is the competitive intelligence practices that are grouped into specific sub-categories, based on the widespread use of strategic management literature. The schematic diagram presents linkages between sets of variables and their effect on firm performance

Firm internal factors are considered to moderate the effect of competitive intelligence practices and firm performance. Among those factors identified in literature are organizational culture, organizational structure and managerial attitude towards competitive intelligence. Organizational culture influences attitudes related to several competitive intelligence activities. It is concerned with values, beliefs, behavioral patterns, rules and the specific type of structure adopted. The infrastructure implemented refers to the processes, technologies, people employed in information acquisition and handling the resources allocated to the intelligence function. Managerial attitudes towards competitive intelligence refer to the senior management's perception of the intelligence process.

For the current study, the firm performance construct is the dependent variable and it is considered as having two dimensions: financial and non-financial. Financial performance was evaluated using the firm's profit before tax, Return on Assets (ROA) and Return on Equity (ROE). The non-financial performance was evaluated on two parameters of customer satisfaction and goal achievement. These variables have been identified and described in the literature review, highlighting the relationship among them as depicted in the conceptual framework. The arrows marked H_{01} to H_{06} indicate the research null hypotheses that the study tested.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used in order to attain the objectives of the study. In particular, the section discusses the research philosophy, the design, population of the study, sampling techniques, data collecting, validity and reliability of the instrument and data analysis.

3.2 Research Philosophy

This research adopted positivism philosophy, since the literature upon which the study is based was characterized by testing hypotheses from existing theories through the measurement of observable social realities using data originally collected (Thornhill, 2007). Positivist perspective tends to lean on quantitative methods of analysis and its foundation is based on real facts, objectivity, neutrality, measurement and validity of results (Saunders, Lewis & Thornhill, 2007). Under this paradigm, knowledge is valid only if it is based on values of reason and facts gathered through direct observation and experience measured empirically using quantitative methods and statistical analysis. Positivism philosophy views knowledge as based on facts where no subjective status of individual is considered. Positivism thus derives a quantitative perspective which holds that there is objective reality that can be expressed numerically with explanatory and predictive power (Furrer, Thomas & Goussevkaia, 2008).

3.3 Research Design

The study adopted a design of both descriptive and explanatory survey research. According to Sekaran and Bougie (2009), a researcher should use more than one design to enhance the study; hence, these two designs were used to achieve the optimal results as recommended by Saunders, Lewis & Thornhill (2009). Using two methods can elicit insights that may be overlooked by a mono-method and can produce more complete knowledge contributions to theory and practice (Niglas, 2008). Descriptive design allows a researcher to consider many different aspects of a problem, thus helping the researcher gain new insights and ideas about a problem (Kothari, 2003). Explanatory studies look for explanations on the nature of certain relationships. This design afforded the researcher an opportunity to capture the population's characteristics and test the hypothesis. Zikmund (2003) noted that surveys provide quick and accurate means of assessing information, if properly conducted. A survey attempts to quantify social phenomena on particular issues, conditions or problems that are prevalent in the society. It assists the researcher to establish whether significant associations exist among variables at one point in time, depending on the resources available and the target population.

3.4 Empirical Model

An empirical model was used to test the statistical significance of the relationship involving the six key variables, namely, strategy-oriented competitive intelligence practice, tactics-oriented competitive intelligence service, technology-oriented competitive intelligence service, and target-oriented competitive intelligence practice, organizational factors and performance of firms listed on the Nairobi Securities

Exchange. The study was guided by the Multiple Regression Model that involved moderation.

Performance of firms listed at the NSE

$$P = \beta_0 + \beta_1\text{STR} + \beta_2\text{TAC} + \beta_3\text{TEC} + \beta_4\text{TAR} + \varepsilon_i \dots\dots\dots 3.1$$

Where,

P (for performance of firms listed on the NSE) is the dependent variable and is a linear function of STR+TAC+TEC+TAR + ε_i

β_0 is the intercept

β_{1-5} are the Beta coefficients

STR represents strategy-oriented competitive intelligence practice

TAC represents tactics-oriented competitive intelligence practice

TEC represents technology-oriented competitive intelligence practice

TAR represents target-oriented competitive intelligence practice

M represents the moderating variable of organizational factors

ε_i is a random variable, the error term that accounts for the variability in P that cannot be explained by the linear effect of the predictor variables.

The Models 3.2 and 3.3 below were used to determine the effect of competitive intelligence practices on the financial performance of firms listed on the Nairobi Securities Exchange:

$$\text{ROA} = \beta_0 + \beta_1\text{STR} + \beta_2\text{TAC} + \beta_3\text{TEC} + \beta_4\text{TAR} + \varepsilon_i \dots\dots\dots 3.2$$

$$\text{ROE} = \beta_0 + \beta_1\text{STR} + \beta_2\text{TAC} + \beta_3\text{TEC} + \beta_4\text{TAR} + \varepsilon_i \dots\dots\dots 3.3$$

To test the effect of the moderating variable, the model was improved as below.

Table 3.1 Decision-Making Criterion for Moderation

Model 3.5	Model 3.6	Total Effect	Conclusion
β_1 is not significant ($p, < 0.05$)	-	-	No overall effect to moderate
β_1 is significant ($p, < 0.05$)	β_1 is not significant ($p, > 0.05$)	-	Moderating variable is an explanatory variable
β_1 is significant ($p, > 0.05$)	β_1 is significant ($p, > 0.05$)		Moderator variable has moderating effect.

Source: Aiken and West (1991)

In case moderation is indicated, the coefficient of the interaction effect (CIP*ORGF) in Model 3.6 would give the strength and direction of the moderation.

3.5 Target Population

The target population for the current study were all the companies listed on the Nairobi Securities Exchange. There are 60 companies listed on the Nairobi Securities Exchange (NSE, 2014). These are grouped into eleven sectors: agricultural; automobiles and accessories; banking; commercial and services; construction and allied; energy and petroleum; insurance; investment; manufacturing and allied; telecommunication and technology; and the growth and market enterprise segment. Hence, the unit of analysis in this study was the listed firm.

A census study of all 60 firms listed on the Nairobi Securities Exchange was done. The study targeted the manager or director in-charge of planning /strategy in each firm as the unit for observation. Those are the experts in the subject matter within the firm and are believed to be responsible for competitive intelligence activities carried out in their firm; therefore they were best positioned to provide information for this study.

3.6 Data Collection Instruments

Both the primary and secondary data were collected for this study. The primary data was collected from the director/manager in-charge of planning or strategy in each firm listed on the Nairobi Securities Exchange. The self-administered, semi-structured questionnaires (Appendix I) were distributed through the drop-and-pick method. The questionnaire was used to explore the respondent's observations, views and opinions on the variables of the study. The semi-structured questionnaire included items measuring variables identified in the conceptual framework and had a number of both open- and closed-ended questions which were used to collect data from the respondents. Both positively and negatively worded items were used in the scale to control for acquiescence bias (Nunnally, 1978). Generally, structured questions with randomly ordered 5point Likert-type statements, ranging from 'strongly agree' to 'strongly disagree' were used. Participation was voluntary, and all respondents were assured of confidentiality and anonymity.

Secondary data was obtained from firms' published annual reports for the years 2011 to 2013, which are available at the Nairobi Securities Exchange. These are the years when the number of firms issuing profit warnings rose drastically. The information collected included Profit Before Tax, Return on Assets (ROA), Return on Equity (ROE), Where the values were not given, they were obtained through calculation. The collection of secondary data was facilitated by a document review guide (see Appendix III).

3.7 Operationalization and Measurement of Variables

Table 3.1 presents the operationalization of key variables. It specifies the variable, type, its operationalization and measurement scale.

Table 3:2 Operationalization and Measurement of Variables

Variable	Type	Operationalization of Variables	Measurement in questionnaire
Strategy-oriented competitive intelligence practice	Independent	The variable was operationalized through regulatory intelligence, counter-intelligence, international intelligence and economic intelligence	5 Point Likert type Scale Questionnaire Part II
Tactics-oriented competitive intelligence practice	Independent	The variable was operationalized through marketing intelligence, customer intelligence, current intelligence and estimates intelligence	5 Point Likert type Scale Questionnaire Part III
Technology-oriented competitive intelligence practice	Independent	The variable was operationalized through technical intelligence, artificial intelligence and basic intelligence	5 Point Likert type Scale Questionnaire Part IV
Target-oriented competitive intelligence practice	Independent	The variable was operationalized through supplier intelligence, competitor intelligence and industry intelligence	5 Point Likert type Scale Questionnaire Part V
Organizational factors	Moderating	The variable was operationalized through organizational culture, structure and managerial attitudes	5 Point Likert type Scale Questionnaire

		towards competitive intelligence practices	Part VI
Performance of firms listed on the Nairobi Securities Exchange	Dependent (Financial) And Non-financial	The variable was operationalized through profit before tax, Return on Assets (ROA) and Return on Equity (ROE) $ROA = \frac{\text{Net Income}}{\text{Average Assets}}$ $ROE = \frac{\text{Net Profit (Profit after Tax)}}{\text{Equity}}$ A composite index was calculated for the non-financial factors of customer satisfaction and goal achievement.	Direct measure. Actual figures from financial statements from NSE 5-Point Likert type scale questionnaire Part VII

Source: Survey data (2015)

3.7.1 Validity of the Research Instrument

Validity can be described as the extent to which the instrument measures what it purports to measure (Jankowicz, 2005). Validity concerns the accuracy and meaningfulness of inferences, which are based on the research results (Bryman & Cramer, 2005). The three kinds of validity that were considered in this research are: face validity, content validity and construct validity.

Face validity was subjectively evaluated by the researcher, which is the extent to which the researcher believes the instrument was appropriate. The study relied on instruments developed in other related studies as well as concepts generated from a broad range of related literature. Content validity provides for adequate coverage of the investigation questions guiding the study

(Cooper & Schindler, 2003). The research instrument was reviewed by three experts in the field, two of whom are the supervisors who individually examined the questionnaire and provided feedback to the researcher. The feedback was used to revise the instrument. Construct validity was assessed through convergent validity tests. Convergent validity refers to the degree to which the scale correlates in the same direction with other measures of the same construct.

3.7.2 Reliability of the Research Instrument

Reliability is the extent to which the measurement of a test remains consistent over repeated tests of the same subject under identical conditions. An experiment is reliable if it yields consistent results of the same measure. That is, the stability or consistency of scores over time or across raters (Malhotara, 2004). Two methods of testing reliability were used in this study: test for equivalence, and internal consistency test. Test for equivalence was ensured through questionnaire pretesting with a sample of technical equivalent respondents who did not participate in the actual study. Internal consistency of the research instrument was measured using Cronbach's alpha. Cronbach's alpha is a reliability coefficient that indicates how well the items in a set are positively correlated to one another (Sekaran, 2003). As rule of the thumb, reliability value of 0.7 and above is recommended for most studies to denote the research instrument as reliable (Robert, 2006). The results are shown in Table 3.2. This study used a cut off coefficient point of 0.7 and above as a strong measure of coefficient.

Table 3:3 Test of Reliability of the Instrument

Questionnaire Context	Number of Items	Reliability (Cronbach Alpha Score)	Comment
Strategy-oriented competitive intelligence practice	14	0.8579	Accepted
Tactics-oriented competitive intelligence practice	12	0.7511	Accepted
Technology-oriented competitive intelligence practice	11	0.6994	Accepted
Target-oriented competitive intelligence practice	12	0.7602	Accepted
Organizational factors	11	0.7128	Accepted
Firm performance	10	0.8187	Accepted
Overall reliability	70	0.7600	Accepted

Source: Survey data, 2015

3.8 Data Analysis and Presentation

Descriptive statistics such as mean scores, standard deviations, percentages, and frequency distribution were computed to describe the characteristics of the variables of interest in the study. Qualitative response was categorized, coded and grouped into themes that emerged and then triangulated with quantitative data of the study. As suggested by Muthen and Muthen (2007), inferential statistics such as correlation and regression analysis were used to establish the nature and magnitude of the relationships between the variables and to test the hypothesized relationships.

Once the strength of the predictors was determined, the variables that best determine the model were used in a step-by-step method to run multiple regressions to determine

the predictors that best predicted the dependent variable. The research hypotheses were also tested at 95% level of confidence in order to provide for drawing of conclusions. If the p-value is less than 5%, the null hypothesis failed to be accepted and the alternate hypothesis failed to be rejected. If the p-value was greater than 5 percent, the null hypothesis failed to be rejected and the alternate hypothesis failed to be accepted. Pearson's product moment correlation (r) was derived to show the nature and strength of the relationship. Coefficient of determination (R^2) was used to measure the amount of variation in the dependent variable explained by the independent variables. Dancey and Reidy's (2004) strength of Pearson's correlation coefficient categorization shown in Table 3.4 was used to assess the strength of the relationship between the variables.

To derive composite indices for the study variables, the harmonic mean formula was used (Gupta, 2008).

$$C_i = \frac{\sum f_i w_i}{\sum f_i} \dots \dots \dots 3.7$$

Where,

C_i = composite index for variable i. The variables whose indices were computed are competitive intelligence practices, organizational factors and organizational non-financial performance.

f = total number of respondents who responded to the particulars section of the questionnaire.

W_i = Relative weight given by each component to a particular variable

i = total number of components that made up the specific variable

Table 3.4 Dancey and Reidy's Strength of Pearson's Correlation Coefficient Categorization

Value of the Coefficient	Strength of Correlation
1	Perfect
0.7-0.9	Strong
0.4-0.6	Moderate
0.1-0.3	Weak
0	Zero

Source: Dancey and Reidy's (2004)

3.8.1 Diagnostic Tests

Greene (2002) points out that the relationship between the dependent variable and the independent variable should satisfy the assumption of normality, linearity and multicollinearity. To check for normality, the study used skewness and kurtosis statistic to check the distribution of the variables and, as recommended by Myoung (2008), the researcher used the rule of thumb that a variable is reasonably close to normal if its skewness and kurtosis have values between -1.0 and + 1.0. Linearity of variables was tested using correlation coefficients as suggested by Cohen, West & Aiken (2003). Multicollinearity in the study was tested using Variance Inflation Factor (VIF) calculated using SPSS regression procedure as well as examination of correlation coefficient among variables. A VIF for all the independent and dependent variables less than 3 ($VIF \leq 3$) indicate no multicollinearity, whereas a VIF of more than 10 ($VIF \geq 10$) indicates a problem of multicollinearity.

Table 3.5: Summary of Data Analysis Techniques

Research Objectives	Hypothesis	Statistical Model	Interpretation of Results
To determine effect of strategy-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange	Strategy_oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange.	$P = \beta_1 STR + \varepsilon$ <p>Where, P is composite index for performance β_0 is intercept β_1 is regression coefficient X_1 is Strategy-oriented competitive intelligence</p>	$\beta_1 STR + \varepsilon$ <p>Reject H_0 if $p < 0.05$, Otherwise fail to reject the H_0 $-1 \leq r \leq 1$ Where; Positive or negative 1 Perfect 0.7 to 0.9 Strong 0.4 to 0.6 Moderate 0.1 to 0.3 Weak 0 Zero</p>
To assess the effect of tactics-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange	Tactics oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi securities exchange	$P = \beta_0 + \beta_2 TAC + \varepsilon$ <p>Where: P is composite index for performance β_0 is intercept β_2 is regression coefficient X_2 is Tactics-oriented competitive intelligence ε_i is a random error term</p>	$\beta_1 TAC + \varepsilon$ <p>Reject H_0 if $p < 0.05$, Otherwise fail to reject the H_0 $-1 \leq r \leq 1$ Where; Positive or negative 1 Perfect 0.7 to 0.9 Strong 0.4 to 0.6 Moderate 0.1 to 0.3 Weak 0 Zero</p>

<p>To assess the effect of technology-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange</p>	<p>Technology-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange</p>	<p>$P = \beta_0 + \beta_3 TEC + \epsilon_i$</p> <p>Where: P is composite index for performance β_0 is intercept β_3 is regression coefficient X_3 is Technology-oriented competitive intelligence ϵ_i is a random error term</p>	<p>$\beta_1 TEC + \epsilon$</p> <p>Reject H_0 if $p < 0.05$, Otherwise fail to reject the H_0 $-1 \leq r \leq 1$</p> <p>Where; Positive or negative 1 Perfect 0.7 to 0.9 Strong 0.4 to 0.6 Moderate 0.1 to 0.3 Weak 0 Zero</p>
<p>To determine the effect of target-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange</p>	<p>Target-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange</p>	<p>$P = \beta_0 + \beta_4 TAR + \epsilon_i$</p> <p>Where: P is composite index for performance β_0 is intercept β_4 is regression coefficient X_4 is Target-oriented competitive intelligence ϵ_i is a random error term</p>	<p>$\beta_1 TAR + \epsilon$</p> <p>Reject H_0 if $p < 0.05$, Otherwise fail to reject the H_0 $-1 \leq r \leq 1$</p> <p>Where Positive or negative 1 Perfect 0.7 to 0.9 Strong 0.4 to 0.6 Moderate 0.1 to 0.3 Weak 0 Zero</p>

To determine the moderation effect of organizational factors on the relationship between competitive intelligence practices and the performance of firms listed on the Nairobi Securities Exchange	Organizational factors have no moderating effect on the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange.	$P = \beta_0 + \beta_1 STR + \beta_2 TAC + \beta_3 TEC + \beta_4 TAR + \beta_5 M + \epsilon_i$ β_0 is intercept $\beta_1 - \beta_5$ are regression coefficients $X_1 - X_5$ are competitive intelligence-oriented practices M is organizational factors ϵ_i is a random error term	$\beta_0 + \beta_1 STR + \beta_2 TAC + \beta_3 TEC + \beta_4 TAR + \beta_5 M + \epsilon_i$ Reject H_0 if $p < 0.05$, Otherwise fail to reject the H_0 $-1 \leq r \leq 1$ Positive or negative 1 Perfect 0.7 to 0.9 Strong 0.4 to 0.6 Moderate 0.1 to 0.3 Weak 0 Zero
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Source: Survey data,(2015)

3.9 Ethical issues

The researcher sought authorization from the National Council of Science and Technology through an introductory letter from the Kenyatta University Graduate School before proceeding to the field to collect data. During the study, respondents were informed about the nature and purpose of the research. All respondents' information and identity were kept confidential and the information gathered was only used for the intended purpose. Research was conducted with the consent of the respondents.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents data analysis and the discussions of the study findings. The main objective of the study was to determine the effect of competitive intelligence practices on the performance of firms listed on the Nairobi Securities Exchange. The chapter is organized into five sections. The first section presents questionnaires response rate, the second section the respondents' biographical information, the third section the descriptive statistics, the fourth section the diagnostic tests, and the last section the tests of hypotheses.

4.2 Questionnaire Response Rate

The study sample comprised 60 directors/ managers in charge of strategy or planning in the firms listed on the Nairobi Securities Exchange. The study had targeted 60 respondents, and 50 questionnaires were received from the field. One questionnaire was rejected because it was incomplete. The questionnaires that were accepted as correctly filled were 49, which translates to a response rate of 81.6 percent. This is quite high compared to response rates of other studies on competitive intelligence practices done in other countries. Adidam *et al.* (2012) got a response rate of 29% in a study conducted among firms in the emerging market of India. This response rate is considered satisfactory to make conclusions for the study. Mugenda and Mugenda (2003) observed that a response rate of 50% was adequate, 60% good, while 70% was very good. Based on this assertion, the response rate in this study is therefore very good.

4.3. Respondents' Biographic Information

This section presents the respondents' gender, academic qualifications, position held in the firm and their experience in the current position. The importance of capturing this data was to provide an understanding of the study respondents and also create a good foundation for detailed discussion of the results, based on the specific objectives of the study and research hypotheses. Table 4.1 illustrates demographic characteristics of the study respondents.

Results presented in Table 4.1 show that out of the 49 respondents, 29 (59.2%) were male, while 20 (40.8%) were female. This indicates that the proportion of male respondents was higher compared to that of the female respondents. The finding indicates a lack of gender balance at this managerial level in the listed firms. This could be attributed to the fact that traditionally, the Kenyan economy has been patriarchal in nature and women have not been provided with adequate opportunities to catch up with their male counterparts.

Table 4.1 indicates the academic qualifications of the respondents. 10.2% of the respondents had attained higher diploma level of education, 38.8% had attained first degree qualification, 38.8% had a master's degree, whereas 12.2% had a Ph.D. This indicates that majority of the respondents had either attained first degree or a master's degree qualification. The respondents possessed the necessary understanding on the competitive intelligence activities that their firms had been conducting and were capable of evaluating the effects of these activities on the performance of the firms.

The study sought to determine the positions held by respondents in their organizations. The results shown in Table 4.1 indicated that 14.3% were directors in charge of strategy, 26.5% were directors in charge of planning, 28.6% were strategy managers, another 28.6% were planning managers, while the remaining 1 (2.0%) was a manager in the customer care department. The respondents were well versed with the competitive intelligence activities, since they were the people charged with the responsibility of overseeing the processes in their firms and could very well evaluate the effect of these activities on performance. The results support the findings of Wright *et al.*, (2002) that when senior management had instigated competitive intelligence activities, then they would be better placed in guiding the strategic decision-making.

Table 4.1 indicates that about a third of the respondents (34.7%) had worked in their current positions for a duration of 1 to 5 years. A further 32.7% of the respondents had job tenure of between 6 to 10 years. The remaining 32.6% had been in the organization for over 11 years. Most of these managers had been in these key positions for a relatively long time while making contribution to the performance of the firms and carrying out various competitive intelligence activities.

Table 4.1: Respondents' Demographic Characteristics

Gender	Frequency	Percent
Male	29	59.2
Female	20	40.8
Total	49	100.0
Academic qualifications		
Higher diploma	5	10.2
Degree	19	38.8
Masters	19	38.8
PhD	6	12.2
Total	49	100.0
Position		
Director strategy	7	14.3
Director planning	13	26.5
Strategy manager	14	28.6
Manager planning	14	28.6
Customer care manager	1	2.0
Total	49	100.0
Experience in the current position		
1-5 yrs	17	34.7
6-10yrs	16	32.7
11-15 yrs	8	16.3
Over 15yrs	8	16.3
Total	49	100.0

Source: Survey data (2015)

4.3.1 Characteristics of the Sampled Firms

The study sought to find out various characteristics of the sampled firms. The results of this analysis are presented in Table 4.2. Most of the responding firms (22.4%) were categorized under banking industry, followed by those categorized under commercial services (12.2%), insurance (12.2%), and construction and allied (6.1%). The least responses (2%) were from firms in the growth and enterprise market segment. There was response from every sector represented at the Nairobi Securities Exchange except telecommunication and technology. The sector with least responses had only one firm listed at the time of the study. The fact that there were responses from each sector of

the firms listed on the Nairobi Securities Exchange means that the results of the study could be generalized to all the listed firms.

In many studies, the age of an organization has been used as a measure of the organization's maturity or level of structure stability. This study too sought to establish how long the firms had been in existence. As indicated in Table 4.2, most of these firms (51.0%) were in operation for more than 20 years, 32.7% had been in operations for over 16 years, 8.2% had operated for over 11 years, 2 % over six years, while the remaining 6.1% had operated for less than 5 years. This indicates that most of the responding firms had been in existence for many years and were relatively well established and carrying out competitive intelligence activities and evaluating its effect on performance. Therefore, they were ripe for an empirical study in this field.

The study further sought to establish the number of employees in the firm. Table 4.2 indicates the 24.5% of the firms had below 100 employees, while 22.4% had between 101 and 200 employees. About a quarter of the firm's (26.5%) had between 201 and 300 employees, 20.4% had between 301 and 400 employees, and only 6.1% had over 400 employees. The results indicate that listed firms have a relatively large workforce and are therefore able to carry out many functions, including competitive intelligence activities, and evaluate their impact on performance. This supports Yap, Rashid and Sapuan (2011) who observed that large companies have a higher possibility of having formal competitive intelligence units and tend to be the listed on the securities exchange. The findings also support the observation of Leting (2007) that certain organizational functions are only possible with adequate workforce.

The results in Table 4.2 further revealed that most of these firms (55.1%) budget less than 1 million Kenya shillings annually for the purpose of competitive intelligence activities, 34.7% of the firms budget between 1 and 5 million, while 10.2% of them budget between 5 and 10 million. It could be that the size of the firm or financial constraint contributes to the majority of the firms spending less than 1 million shillings on competitive intelligence activities. The results contradict Wright *et al.*, 2008 observation that firms in the United Kingdom spend millions of Euros annually for intelligence purposes. Yap *et al.*, (2013) observed that business managers have begun to realize the importance of formalized competitive intelligence practices but are still unsure how their organizations could benefit from them, hence the low levels of investment by the Kenyan firms. Wright *et al.*, (2002) state that competitive intelligence requires considerable investment of both human and financial resources.

Since the business environment is becoming more competitive by the day, the need for intelligence has become more urgent; it is therefore incomprehensible why listed firms are investing such a small amount of resources on competitive intelligence activities. The researcher imagines that this could be the reason why some firms have been slow or unable to respond to the complex and dynamic market environment, thereby losing competitive advantage that leads to decline in profits and hence needing to issue profit warning.

Concerning the quality of competitive intelligence information availed to the management and presented on Table 4.2, 38.8% of the respondents rated the information as 'average', 22.4% rated it as 'good', while 30.6% rated it as 'excellent'. The findings support Kelly (1987) who found that the degree of success achieved by

any unit in accomplishing its mission would be directly affected by the quality of intelligence which it had developed and put to use. Evaluating information is therefore critical. Armed with high quality intelligence, the managers are in a better position to deal with forces in the firm's competitive environment by utilizing the intelligence to improve the firm's performance.

Table 4:2: Characteristics of the Firms

Industry type	Frequency	Percent
Banking	11	22.4
Commercial Services	6	12.2
Insurance	6	12.2
Investment	5	10.2
Manufacturing and Allied	5	10.2
Agriculture	4	8.2
Automobiles and Accessories	4	8.2
Energy and Petroleum	4	8.2
Construction and Allied	3	6.1
Telecommunication and Technology	0	0
Growth and Enterprise Market Segment	1	2.0
Total	49	100.0
Years in operation		
0-5 yrs	3	6.1
6-10 yrs	1	2.0
11-15 yrs	4	8.2
16-20 yrs	16	32.7
Over 20 yrs	25	51.0
Total	49	100.0
No. of employees		
0-100 employees	12	24.5
101-200 employees	11	22.4
201-300 employees	13	26.5
301-400 employees	10	20.4
401-500 employees	2	4.1
Over 500 employees	1	2.0
Total	49	100.0
Firm budget annually		
Less than 1 million shillings	27	55.1
Between 1 and 5 million shillings	17	34.7
Between 5 and 10 million shillings	5	10.2
Total	49	100.0
Quality of information		
Very poor	2	4.1
Poor	2	4.1
Average	19	38.8
Good	11	22.4
Excellent	15	30.6
Total	49	100.0

Source: Survey data, 2015

4.4 Descriptive Statistics

The information captured in this section presents descriptive statistics on the six variables of the study. These variables are strategy-oriented competitive intelligence

practice, tactics-oriented competitive intelligence practice, technology-oriented competitive intelligence practice, target-oriented competitive intelligence practice, organizational factors and firm performance. The results of this analysis are presented below.

The respondents were required to rank four statements on the methods used to collect information for competitive intelligence purposes. The first method indicated the most frequently used, and the fourth one the least frequently used. The results shown in Table 4.3 show an aggregate $M=2.49$; $SD=1.111$. The moderate mean indicate existence of agreement among the respondents about methods used in collecting information for competitive intelligence, but the large standard deviation is an indication that the views of the respondents were varied.

Results presented in Table 4.3 show that most of the respondents indicated that the most frequently used method of collecting information for competitive intelligence ($M=2.22$; $SD=1.141$) was the use of incentives to encourage employees to report competitive observations and information. This supports the observation by Marin & Poulter (2004) that at times the best intelligence is gathered through informal human contacts, including using information within the firm's own supply chain, competition and other industry players. The findings also support Zinkhan and Gelb (1985) who noted that much competitive intelligence was generated by employees going about their usual business and social activities. The next in rank was that the firm had employed competitive intelligence professionals ($M=2.57$; $SD= 1.208$), and the other that most employees in the firm were trained on collecting intelligence, with $M=2.57$; $SD=1.137$.

The findings support Yap *et al.*, (2013) that employee training enables employees to recognize that they are the best source of information. The least used method was that of the firm hiring other organizations to collect information on its behalf ($M=2.59$; $SD=.956$). The findings differ with those of Adidam *et al.*, (2011) who found that 45% of the firms in the emerging market of India obtained information from industry experts or consultants. The need to systematically acquire information for intelligence purposes from both internal and external business environment is seen as a critical element in making effective business decisions.

Table 4:3: Methods Used in Collecting Information for Competitive Intelligence

Statement	Mean	Standard Deviation
The firm has employed competitive intelligence professionals	2.57	1.208
The firm hires other organizations to collect info on its behalf	2.59	.956
The firm has incentives that encourage employees to report	2.22	1.141
Most of the employees in the firm are trained on collecting intelligence	2.57	1.137
Aggregate	2.49	1.111

Source: Survey data (2015)

In order to determine the firms' main sources of information for competitive intelligence, respondents were required to rank information from seven sources, by the order of its importance to the firm. The source ranked Number One indicated the most important, while Number Seven was the least important source of information to the firm. The results in Table 4.4 indicate the aggregate $M= 4.00$; and $SD= 1.866$. The moderate mean indicates existence of agreement with the sources of information, but the large standard deviation is an indication that the views of the respondents were varied.

Internet was ranked as the most used, with $M= 3.00$ and $SD= 1.99$, the second was electronic media, with $M= 3.82$ and $SD=1.1629$. Debriefing former employees of competitors ranked last, with $M = 4.86$ and $SD= 1.893$. This supports the observations of Chen *et al.*, (2002) that technological changes and increased penetration and reliance on Internet have made it a major source of information for intelligence purposes. The Internet is viewed as a tool to enhance competitive intelligence and is deemed essential for a firm's long-term competitive stance by large as well as small- and medium-sized firms (Singh *et al.*, 2007). The results contradict Yap and Rashid (2012) who found that Malaysian firms ranked newspapers and periodicals as the most frequent source of information, followed by customers, while the internet ranked third. However, the findings support the observation of most researchers in the field of competitive intelligence that most of the information required to gain competitive insights is available publicly (Calof & Wright, 2008).

Table 4.4: Main Source of Information for Competitive Intelligence

Statement	Mean	Std. Deviation
Suppliers	3.86	2.255
Review articles in trade press	3.88	2.128
Internet	3.00	1.990
Electronic media	3.82	1.1629
Attend trade fairs	4.43	1.555
Debrief former employees of competitors	4.86	1.893
Analysis of financial reports	4.16	2.075
Aggregate scores	4.00	1.8656

Source: Survey data (2015)

The study sought to determine the methods used to disseminate competitive intelligence to the users, and respondents were required to rank from a list of seven

methods used to disseminate competitive intelligence, according to the order from 'most' to 'the least commonly used'. The results shown on Table 4.5 indicate an aggregate of $M = 3.98$ and $SD = 1.930$. The moderate mean indicates the existence of agreement among the respondents on the methods used to disseminate competitive intelligence to the users. However, the large standard deviation is an indicator that the views of the respondents were divergent.

The respondents indicated that the most preferred method was email, with $M = 3.10$ and $SD = 1.928$. This was followed by face-to-face method, with $M = 3.20$ and $SD = 1.708$. Presentations were ranked third, with $M = 4.10$ and $SD = 1.674$. Employee briefing, with $M = 4.14$ and $SD = 2.208$, was next. User's conference was the least preferred method, with $M = 4.49$ and $SD = 2.161$. The results contradicted the findings of Adidam *et al.*, (2009) who, in his study on firms in the emerging markets of India, found memos to be the most preferred, at 81%; followed by formal written reports, at 67%; oral briefings, at 59%; regular scheduled presentation, at 52% and, lastly, email, at 44%. The results also contradict Wright *et al.*, (2009) findings that the most frequently used method for sharing intelligence within the banking sector in United Kingdom was employee briefing, followed by face-to-face meetings.

To fully capitalize on their competitive intelligence effort, firms must realize that intelligence is as good as the speed at which it is transmitted to the users. Competitive intelligence professionals must ensure that information reaches the user in the shortest time and through the most convenient communication method. Dissemination is an extremely significant part of the competitive intelligence system, as the purpose of the entire function may be eroded if the intelligence product is delivered late (GIA, 2004).

Table 4:5: Methods the Firm Uses to Disseminate Competitive Intelligence

Statement	Mean	Std. Deviation
Employee briefing	4.14	2.208
Users conference	4.49	2.161
Face-to-face meeting	3.20	1.708
Email	3.10	1.928
Presentations	4.10	1.674
Written reports	4.47	1.838
Newsletters	4.33	1.994
Aggregate	3.98	1.930

Source: Survey data (2015)

The respondents' opinion was sought on whether they thought carrying out competitive intelligence activities positively impacted on the firm's performance. The results indicate that 57.1% of the respondents agreed that carrying out competitive intelligence activities had a positive impact on the firm's performance, while the remaining 42.9% were of the contrary view. The findings support Adidam *et al.*, (2012) who found that Indian firms with higher levels of competitive intelligence activities achieve better financial performance.

To enable the study determine the techniques used to analyze information in the process of converting it into intelligence, respondents were required to rank, from a list of four techniques used, starting with the most to the least frequently used in their firm. Analysis of the information collected is one of the most critical tasks for the competitive intelligence professionals, as it generates the right kind of intelligence for the firm. Therefore, the quality of the analysis is very important for effective decision-making at the firm level, and the more sophisticated the analytical technique, the better the intelligence output (Dishman & Calof, 2008).

The results shown on Table 4.6 indicate an aggregate $M=2.5$ and $SD= 1.091$. The moderate mean indicates the existence of agreement among the respondents about the techniques used to analyze information in the process of converting it into intelligence, but the large standard deviation is an indication that the views of the respondents were varied. 'SWOT analysis' was ranked first, with $M= 2.10$ and $SD= 1.104$; 'the analysis of financial statements' was next, with $M= 2.39$ and $SD= .909$; in the third position was 'environmental analysis', with $M= 2.65$ and $SD= 1.091$; and 'competitor profiling' was ranked last, with $M= 2.86$ and $SD= 1.258$.

The results support Wright *et al.*, 2008 who found that SWOT analysis dominated information analysis among pharmaceutical firms in the United Kingdom, followed closely by analysis of Critical Success Factors (CSFs). Competitor profiling ranked third, and in the fourth position was financial analysis. The results contradict the findings of (Adidam *et al.*, 2010) that a majority of firms in the emerging market of India (58%) used critical success factor (CSFs) analysis, while 46% used SWOT analysis. Some Indian firms that used more sophisticated analytical techniques were found to benefit more from their competitive intelligence activities. Wright *et al.*, (2009) found that firms in the banking industry in the United Kingdom regarded data analysis as one of the factors underpinning business operations to make them competitive.

Table 4:6: Techniques Used by Firms to Analyze Information for Competitive Intelligence

Statement	Mean	Std. Deviation
SWOT analysis	2.10	1.104
Financial statement analysis	2.39	.909
Environmental analysis	2.65	1.091
Competitor profiling	2.86	1.258
Aggregate	2.5	1.091

Source: Survey data (2015)

4.4.1 Strategy-Oriented Competitive Intelligence

Strategy-oriented competitive intelligence practice is meant to provide higher levels of management with information on the competitive, economic, legal, and political environment in which an organization and its competitors operate, now and in the future. It may involve developing intelligence on candidates for potential mergers and acquisitions as well as for strategic alliances and partnerships.

To find out the respondents' views in relation to various statements on strategy-oriented competitive intelligence practice, the study used a five-point Likert scale. The scale ranged from 1 to 5, with 1 denoting 'strongly disagree', 2 representing 'disagree', 3 'not sure', 4 'agree' and 5 'strongly agree'. Table 4.7 indicates that respondents obtained mean scores, ranging from 3.10 to 4.16, on various aspects on strategy-oriented competitive intelligence practice. The aggregate was $M=3.94$ and $S D=.707$. The high mean shows that the respondents agreed with the statements, and a low standard deviation indicated high clustering around the mean of the distribution. This implied that there was close agreement among the respondents on the effect of strategy-oriented competitive intelligence on the performance of firms listed on the Nairobi Securities Exchange.

The statements with the high means were 'Intelligence is a crucial function in today's economy', with a mean of $M=4.16$ and $SD=0.645$; 'Monitoring regulators is critical to the firm's performance', with a mean of $M=4.14$ and $SD=.77$ and 'Competitive intelligence aids the firm to uncover threats', with a mean of $M=4.04$ and $SD=.735$. This agrees with Nwokah and Ondukwu (2009) who found that competitive intelligence was positively correlated with marketing effectiveness through revealing competitor threats in corporate organizations in Nigeria. The findings indicate that respondents agree that strategy-oriented competitive intelligence is utilized by firms in their operations.

Respondents agree, with a high $M= 4.04$ and $SD= .611$, that the firms devote considerable resources for competitive intelligence operations, but this is a contradiction, since, as earlier observed, more than half of these firms spend less than one million shillings annually on competitive intelligence activities. However, this supports the findings of Wright *et al.*, (2008) that pharmaceutical firms in the United Kingdom spend large amount of their financial resources in carrying out intelligence activities. The respondents also agree, with $M= 4.00$ and $SD= .611$, that the firm is continuously scanning the environment to detect changes before they become obvious. This supports Analoui and Karami's (2002) findings that high performing firms put more emphasis on environmental scanning.

The respondents, however, disagree, with $M=3.10$ and $SD=1.517$, that resource is a constraint for the firm to establish a competitive intelligence unit, since 40.8% of these firms were found not to have a functional unit dealing with competitive intelligence activities. The findings contradicts Adidam *et al.*, (2008) who noted that

competitive intelligence can help a firm in numerous ways, such as providing intelligence estimates, environmental assessment, briefings and foresights about markets, competitors and the firm's own actions.

Kahaner (1996) also observed that those organizations that devote their intelligence effort to detect adjustments in the business environment will be least surprised and negatively affected when industry changes. Yap *et al.*, (2013) state that competitive intelligence is an integral part of any business, and it plays various roles. These roles include supporting strategic decisions, identifying early warnings and blind spots of threats and opportunities, benchmarking, supporting strategic planning and implementation, improving speed to market and supporting rapid globalization and assessing candidates for mergers and acquisition.

Table 4.7: Strategy-Oriented Competitive Intelligence Practice

Statements	SA	A	NS	D	SD	Mean	Std. Dev.
Intelligence enables our firm to be aware of international issues before they become obvious.	16.3	63.3	18.4	2.0	-	3.94	.659
Competitive intelligence aids the firm to uncover opportunities	14.3	61.2	20.4	4.1	-	3.86	.707
Our firm carries out counterintelligence activities against competitors	22.4	55.1	22.4	-	-	4.00	.677
The firm monitors international economic occurrences through competitive intelligence	12.2	73.5	14.3	-	-	3.98	.520
The firm evaluates the reliability and accuracy of the information received	14.3	65.3	20.4	-	-	3.94	.592
Competitive intelligence informs the firm on international occurrences that can affect its performance	22.4	59.2	18.4	-	-	4.04	.644
Competitive intelligence aids the firm to uncover threats	26.5	53.1	18.4	2.0	-	4.04	.735
As a senior management staff member, I use competitive intelligence in decision making	12.2	65.3	20.4	2.0	-	3.88	.634
The firm is continuously scanning the environment to detect changes before they become obvious	18.4	63.3	18.4	-	-	4.00	.612
The firm collects intelligence on market regulators	22.4	53.1	24.5	-	-	3.98	.692
The firm devotes considerable resources to competitive intelligence operations.	20.4	63.3	16.3	-	-	4.04	.611
The firm provides intelligence training to all employees	20.4	59.2	20.4	-	-	4.00	.645
Competitive intelligence is a crucial function in today's economy	30.6	55.1	14.3	-	-	4.16	.657
Monitoring regulators is critical to the firm's performance	32.7	49.0	18.4	-	-	4.14	.707
Resources are a constraint to the firm's ability to establish an effective competitive intelligence unit	26.5	20.4	8.2	26.5	18.4	3.10	1.517
Aggregate scores						3.94	0.707

Source: Survey data (2015)

4.4.2 Tactics-Oriented Competitive Intelligence

Tactics-oriented competitive intelligence practice is developed for current activities and near-term plans identifiable in the marketplace. It encompasses much of what has previously been called "market" or 'marketing' intelligence. Firms are increasingly tracking what is going on in the trenches, that is, where competitors face off for customers and consumers with tactics-oriented competitive intelligence. In turn, according to (CIR, 1999), this type of competitive intelligence permits organizations to fine-tune marketing efforts, including giving field-force support, to respond faster to changes in customer preferences and demands.

To establish the respondents' views in relation to various statements based on tactics-oriented competitive intelligence practice, the study used a five-point Likert scale. The scale ranged from 1 to 5, with 1 denoting 'strongly disagree', 2 representing 'disagree', 3 'not sure', 4 'agree' and 5 'strongly agree'. Table 4.8 indicates that the aggregate score obtained by the respondents in all the statements was $M=4.15$ and $S D=.551$. The high mean shows that the respondents agreed with the statements, and a low standard deviation indicated high clustering around the mean of the distribution. This implied that there was close agreement among the respondents on the effect of tactics-oriented competitive intelligence on the performance of firms listed on the Nairobi Securities Exchange.

Respondents agree, with a high $M= 4.33$ and $SD= .555$, that competitive intelligence helps the firms to anticipate changes in the business environment; competitive intelligence assists the firm to keep abreast with market information, with $M=4.29$ and $S D=.500$; competitive intelligence helps the firm to track changes in consumer

preferences, with $M=4.24$ and $SD=.662$; and competitive intelligence helps reduce response time to customer needs, with $M=4.24$ and $SD=.480$. These results support the observation by Culver (2006) that tactics-oriented competitive intelligence practice can help managers improve a company's day-to-day operations to advance specific operational objectives. Overall, the statements had mean above 4.0, indicating high agreement by the respondents on the role played by tactics-oriented competitive intelligence in firms. The results support Blenkhorn and Fleisher (2005) who found that tactics-oriented competitive intelligence practice is developed in organizations to deal with current activities and near-term plans identifiable in the marker-place.

Table 4.8: Tactics-Oriented Competitive Intelligence Practice

Statements	SA	A	NS	D	SD	Mean	Std. Dev.
Investing in a competitive intelligence system improves the firm's performance	18.4	65.3	16.3	-	-	4.02	.595
The firm obtains information from people who do business with competitors	18.4	69.4	12.2	-	-	4.06	.556
Bench-marking activities help to track what's going on in the industry	16.3	71.4	12.2	-	-	4.04	.438
The firm uses competitive intelligence to determine customer needs	24.5	69.4	6.1	-	-	4.18	.527
The industry has several suppliers who are almost equal in capacity	20.4	65.3	8.2	6.1	-	4.00	.736
Competitive intelligence enables the firm improve current market position	24.5	69.4	2	4.1	-	4.14	.646
Competitive intelligence helps track changes in consumer preferences	34.7	57.1	6.1	2	-	4.24	.662
Competitive intelligence helps the firm to anticipate changes in the business environment	36.7	59.2	4.1	-	-	4.33	.555
Competitive intelligence helps reduce response time to customer needs	26.5	71.5	2	-	-	4.24	.480
Competitive intelligence assists the firm to keep abreast with market information	30.6	76.3	2	-	-	4.29	.500
Competitive intelligence enables the firm to keep an up-to-date profile of competitors	8.2	87.8	4.1	-	-	4.04	.351
Competitive intelligence helps the firm to track competitors' products	24.5	71.4	2	2	-	4.18	.565
Aggregate scores						4.15	0.551

Source: Survey data (2015)

4.4.3 Technology-Oriented Competitive Intelligence

Technology-oriented competitive intelligence practice permits a firm to respond to threats from, as well as to identify and exploit opportunities resulting from, technical and scientific change. Technology-oriented CI supporting technology strategies as well as research and development has become a growth area within competitive intelligence.

To find out the respondents' views in relation to various statements based on technology-oriented competitive intelligence practice, the study used a five-point Likert scale. The scale ranged from 1 to 5, with 1 denoting 'strongly disagree', 2 representing 'disagree', 3 'not sure', 4 'agree' and 5 'strongly agree'. Table 4.9 shows that the mean scores obtained by the respondents ranged from 3.61 to 4.06, with an aggregate score of $M = 3.83$ and $S D = 0.915$. The mean values represent points of convergence of different respondent's opinions regarding parameters on technology-oriented competitive intelligence practice. The measures inform the research where most of the opinion tended to cluster. This implied that there was close agreement among the respondents on the effect of technology-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange.

The highly ranked statements were that innovations keeps the firm abreast with changing customer preferences, with $M=4.06$ and $SD=1.029$; that developing new technology was too expensive and the firms opted to imitate others, with $M=4.00$ and $SD=.866$. Other statements with high scores include 'technology assists the firm to improve quality of products', with $M=3.94$ and $SD=.659$; and that the firm encourages knowledge sharing among employees about their operations, products and service, with $M=3.90$ and $SD=.823$.

The lowest ranked statements were that the firm is continually innovating to stay ahead of competitors, with $M=3.67$ and $SD=.922$ and 'the firm has adopted robotics and other innovations in its operations to gain competitive advantage', with $M=3.61$ and $SD=1.22$. The results contradict the findings of Mugo *et al.*, (2012) who found that technology-intelligence led to a high level of automation, cost reduction

and efficiency in Equity Bank. The findings also contradict Samtani and Capatina (2012) who observed that information provided by competitive intelligence tools contribute to the design of strategic options, such as entering new markets or launching new products. Mutua and Ngugi (2012) found that technology-oriented competitive intelligence practice contributes immensely to creating competitive advantage for firms in the mobile telecommunication industry.

Table 4.9: Technology-Oriented Competitive Intelligence Practice

Statements	SA	A	NS	D	S D	Mea n	Std. Dev.
Technology intelligence assists the firm to improve quality of products	10. 2	79. 6	6.1	2.0	2.0	3.94	.659
Innovation keeps the firm abreast with changing customer preferences	38. 8	42. 9	6.1	10. 2	2.0	4.06	1.029
The firm prepares employees on what information to look for while attending trade fairs and exhibitions	10. 2	69. 4	14. 3	4.1	2.0	3.82	.755
The firm systematically monitors changes in technology globally to determine new substitutes are emerging	22. 4	59. 2	4.1	10. 2	4.1	3.86	1.021
The firm encourages knowledge sharing among employees about our operations, products and services	18. 4	63. 3	8.2	10. 2	-	3.90	.823
The firm produces intelligence report and assessment on emerging technologies it believes are most vital	18. 4	59. 2	14. 3	8.2	-	3.88	.807
The firm uses technology intelligence to identify opportunities	10. 2	61. 2	16. 3	10. 2	2.0	3.67	.875
Technology enables the firm to use electronics sources for competitive intelligence purposes	18. 4	53. 1	12. 2	14. 3	2.0	3.71	1.000
The firm is continually innovating to stay ahead of competition.	16. 3	49. 0	20. 4	14. 3	-	3.67	.922
Developing new technology is too expensive and the firm opts to imitate others	26. 5	57. 1	6.1	10. 2	-	4.00	.866
The firm has adopted robotics and other innovations in its operations to gain competitive advantage	26. 5	36. 7	14. 3	16. 3	6.1	3.61	1.222
Aggregate scores						3.83	0.915

Source: Survey data (2015)

4.4.4 Target Oriented Competitive Intelligence

Target-oriented competitive intelligence practice is about competitors, their capabilities, current activities, plans, and intentions. It is most often used when competitive intelligence efforts are best focused on a small number of competitors that a firm faces in several market niches. It assists firms to track registration and expiries of competitor's patents.

To establish the respondents' views in relation to various statements based on target-oriented competitive intelligence practice, the study used a five-point Likert scale. The scale ranged from 1 to 5, with 1 denoting 'strongly disagree', 2 representing 'disagree', 3 'not sure', 4 'agree' and 5 'strongly agree'. Results presented in Table 4.10 indicate the aggregate mean score obtained by respondent in all statements was $M=3.81$ and $SD=.911$. The mean values represent points of convergence of different respondent's opinions regarding parameters on target-oriented competitive intelligence practice. The measures inform the researcher where most of the opinion tended to cluster.

Majority of respondents agreed with the statement that competitive intelligence assists in making accurate prediction of competitor's moves, with $M=4.04$ and $SD=.789$. A large number indicated that suppliers are a rich source of information on competitors, with $M=3.92$ and $SD=.838$. The results support McGonagle and Vella's (2002) findings that target-oriented competitive intelligence enable a firm to assess competitors, their capabilities, current activities, plans and intentions. The lowest scored statement was that 'monitoring the competitors helps improve the firm's decision-making' with $M=3.57$ and $SD=1.041$. The results contradict with Fleisher and Blenkhorn (2001) who noted that target-oriented competitive intelligence practice

is about competitors, their capabilities, and current activities, such as tracking patent registration and expiries. The authors further argued that it is most often used when competitive intelligence efforts are best focused on a small number of competitors that a firm faces in several market niches.

Table 4.10: Target-Oriented Competitive Intelligence Practice

Statements	SA	A	NS	D	SD	Me an	Std. Dev.
The firm uses intelligence to track trends in the industry	16.3	61.2	10.2	4.1	8.2	3.73	1.056
Competitive intelligence aids the firm in evaluating suppliers' capability and reliability	-	30.6	42.9	20.4	6.1	3.98	.878
The firm is competitive relative to other Kenyan firms in the market	30.5	49.2	20.4	6.1	-	3.98	.661
The industry has many competitors with different capabilities	18.4	53.1	18.4	6.1	4.1	3.76	.969
The industry in which the firm operates is very competitive	18.4	51.1	18.4	12.2	-	3.76	.902
Competitive intelligence assists in making accurate prediction of competitors' moves	28.6	51.0	16.3	4.1	-	4.04	.789
Monitoring the competitors helps improve the firm's decision making.	12.2	57.1	10.2	16.3	4.1	3.57	1.041
Suppliers are a rich source of information on competitors	20.4	61.2	8.2	10.2	-	3.92	.838
The firm regularly prepares profiles of competitors	18.4	42.9	34.7	4.1	-	3.76	.804
Competitive intelligence assists in positioning the firm in its competitive environment	18.4	57.1	20.4	2.0	2.0	3.88	.807
The firm analyzes competitors' plans and strategies to predict and anticipate their actions	24.5	49.0	12.2	12.2	2.0	3.82	1.014
Employees are involved in the competitive intelligence process	18.4	49.0	14.3	18.4	-	3.67	.987
The firm tracks the number of patents competitors register	20.4	51.0	12.2	10.2	6.1	3.69	1.103
Aggregate scores						3.81	0.911

Source: Survey data (2015)

4.4.5 Organizational Factors

There was need to establish the respondents' views in relation to various statements, based on the role of organizational factors, namely organizational structure, culture and managerial attitudes towards competitive intelligence in moderating the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange. The study used a fivepoint Likert scale. The scale ranged from 1 to 5, with 1 denoting 'strongly disagree', 2 representing 'disagree', 3 'not sure', 4 'agree' and 5 'strongly agree'.

Results presented in Table 4.11 indicate that on organizational culture, the respondents obtained an aggregate mean of $M=4.35$ and $S D= .649$. The high aggregate mean shows that the respondents agreed with the statements, and a low standard deviation indicated high clustering around the mean of the distribution. This implied that there was close agreement among the respondents' view of organizational factors in implementing competitive intelligence practices in firms listed on the Nairobi Securities Exchange. The highest scored statement was that competitiveness was strongly emphasized in the firm, with $M=4.55$ and $SD=.580$. The results contradict Wright *et al.*, (2002) who noted that the analysis of the competitive environment seems to be often subordinated, as greater emphasis is placed on understanding customers and consumers. This finding agrees with Calof and Dishman (2002) who stated that appropriate organizational awareness of competitive intelligence and a supportive culture were essential if a firm was to utilize its competitive intelligence information effectively.

On matters concerning organizational structure, respondents obtained a mean of $M=4.51$ and $SD= .618$. The statement rated highest was that policies exist for recognizing employee contribution to intelligence gathering, with a mean of $M=4.57$ and $SD=0.500$. There was a surprise finding (at 40.8), a mean of $M=4.53$ and $SD=.649$ that the firms listed on the Nairobi securities exchange do not have a functional competitive intelligence unit. The results contradicts those of Wright, Callow and Pickton (1998) who found that 65% of United Kingdom's responding firms had units devoted to competitive intelligence activities.

While respondents scored an aggregate mean of $M=4.44$ and $SD=0.665$ in respect to senior management's attitude towards competitive intelligence, the statement that scored highest was that top management supported competitive intelligence activities, with a mean of $M=4.55$ and $SD=0.659$. The results support Wright *et al.*, (2003) in a study of competitive intelligence practices in the United Kingdom, which found that managerial attitudes toward business had a direct influence on competitive intelligence activities. They also supported Nasri (2012) who reported that evidence from his research suggested that the overriding influence on successful competitive intelligence activity is the existence of management support, culture and structure, which encouraged trust, facilitated communication and encouraged the easy flow of information.

Table 4.11: Impact of Organizational Factors

Statements	SA	A	NS	D	SD	Mean	Std. Dev.
Organizational culture							
The firm conducts training of employees to enhance intelligence processing skills.	28.6	63.3	4.1	2.0	2.0	4.14	.764
Competitiveness is strongly emphasized in the firm	59.2	36.7	4.1	-	-	4.55	.580
The firm has a forum where employees freely make suggestions	42.9	51.0	6.1	-	-	4.37	.602
Aggregate scores						4.35	0.649
Organizational structure							
The firm has a functional competitive intelligence unit	59.2	-	-	-	40.8	4.53	.649
The firm has a well-laid-out structure for receiving information from employees	49.0	49.0	-	-	2.0	4.43	.707
The firm has a well-laid-out structure for intelligence gathering	55.1	38.2	6.1	-	-	4.49	.617
Policies exist for recognizing employees' contribution to intelligence gathering	57.1	42.9	-	-	-	4.57	.500
Aggregate scores						4.51	0.618
Senior management attitude towards competitive intelligence							
Top management supports competitive intelligence activities	63.3	30.6	4.1	2.0	-	4.55	.679
The firm's competitive intelligence capability is considered a strategic management tool	49.0	49.0	2.0	-	-	4.47	.544
The firm evaluates implementation of competitive intelligence	57.1	36.7	4.1	2.0	-	4.47	.767
Management regularly informs employees of happenings in the industry	38.8	49.0	12.2	-	-	4.27	.670
Aggregate scores						4.44	0.665

Source: Survey data (2015)

4.4.6 Firm Non-Financial Performance

Scholars have expressed dissatisfaction with the exclusive use of financial measures of performance, arguing that it emphasizes short-term perspective of the firm and therefore overlooks the long-term improvement strategy, ignores competitor information and interaction with customers (Kaplan & Norton, 1992). Researchers in

such circumstances recommend the use of multiple measures of firm performance that include both financial and non-financial measures. This study sought to determine the level of achievement in different non-financial indicators of corporate performance. The non-financial measures used in the study were goal achievement and customer satisfaction.

To find out the respondents' views relating to various statements based on the firm's non-financial performance, the study used a five-point Likert scale. The scale ranged from 1 to 5, with 1 denoting 'strongly disagree', 2 representing 'disagree', 3 'not sure', 4 'agree' and 5 'strongly agree'. The results in Table 4.12 indicate the mean scores obtained from respondents on aspects measuring firm performance ranged from 3.00 to 4.27, with an aggregate mean of $M=3.97$ and $S D=.562$. The high mean shows that the respondents agreed with the statements, and a low standard deviation indicated high clustering around the mean of the distribution. This implied that there was close agreement among the respondents on the effect of competitive intelligence practices on the non-financial performance of firms listed on the Nairobi Securities Exchange.

The statements with the highest score were 'The firm achieves its annual objectives within set time frame', with a mean of $M=4.27$ and $S D=.531$; "Products and services are regularly reviewed to meet customer needs", with a mean of $M=4.20$ and $SD=.562$; 'The firm responds promptly to customer complaints', with a mean of $M=4.18$ and $SD=.527$; 'Management reviews are carried out regularly for mapping how to improve goal achievement', with mean of $M=4.18$ and $SD=.601$. The

statement with the lowest score was 'The firm periodically evaluates the efficiency and effectiveness of resource utilization', with a mean of $M= 3.00$ and $SD=.736$.

The results support the findings of Adidam *et al.*, (2011) who found that firms with high levels of competitive intelligence activities in the emerging market of India perform better, indicating a positive link between firm performance and competitive intelligence activities. The results clearly indicate that the firms listed on the Nairobi Securities Exchange have been performing well in achieving non-financial indicators.

Table 4.12: Firm Non-Financial Performance

Statements	SA	A	NS	D	S D	Mea n	Std. Dev.
The firm responds promptly to customer complaints	24. 5	69. 4	6.1	-	-	4.18	.527
The firm continuously assesses customer satisfaction	22. 4	67. 3	10. 2	-	-	4.12	.564
Management reviews are regularly carried out to map out how to improve goal achievement	28. 6	61. 2	10. 2	-	-	4.18	.601
The firm achieves its annual objectives within set time frame	30. 6	65. 3	4.1	-	-	4.27	.531
The firm is sensitive to customers' changing needs	22. 4	71. 4	6.1	-	-	4.16	.514
The firm periodically evaluates the efficiency and effectiveness of resource utilization	-	26. 5	46. 9	26. 5	-	3.00	.736
The firm always strives to provide high quality products/services to clients	-	49. 0	38. 8	12. 2	-	3.37	.698
The firm meets set targets all the time	24. 5	67. 3	8.2	-	-	4.17	.553
The firm periodically evaluates effectiveness of formulated organizational strategies	12. 2	83. 7	4.1	-	-	4.08	.400
Products and services are regularly reviewed to meet changing customer preferences	24. 5	71. 4	4.1	-	-	4.20	.499
Aggregate scores						3.97	0.562

Source: Survey data (2015)

Financial information was the secondary data collected for this study by the use of document review guide, and it was available in the handbooks published bi-annually by the Nairobi Securities Exchange. For the purposes of this study, information on profitability, return on assets (ROA) and return on equity (ROE) was collected. The information collected was for three years, between 2011 and 2013. These were the years when the number of firms issuing profit warnings rose drastically from two to thirteen within the three years. For all the listed firms, information on profit before tax and return on equity was provided but the one on return on assets was not available, for some firms. Where this was the case, the values were calculated using a formula provided in the handbook. The data is provided on Appendices (III).

4.4.7 Qualitative Analysis

Table 4.13 shows that generally, respondents agree that strategy-oriented competitive intelligence practice enabled their firms to accurately anticipate business opportunities and threats in the dynamic business environment and thus assisted in making strategic decisions. This finding agrees with Bernhardt (1999) that the function of competitive intelligence is to provide accurate, relevant, unbiased, and timely intelligence of critical threats facing the organization. The results further support Agarwal (2006) who observed that competitive intelligence plays the role of providing higher levels of management with information on the competitive, economic, legal, and political environments in which an organization and its competitors operate now and in the future. It may also involve developing competitive intelligence on candidates for potential mergers and acquisitions as well as for strategic alliances and partnerships.

Respondents indicated that tactics-oriented competitive intelligence practice enabled the firms obtain better feedback from the market, which helps in improving customer care, profitability as well as increasing market share and discovering new opportunities. The results agree with Breeding (2000) that intelligence enhances the firm's ability to assess market issues, such as trends and tendencies. This helps the firm gain competitive advantage over rivals at the marketplace. The findings agree with Adidam *et al*, (2012) that the two most popular benefits of competitive intelligence in Indian firms were better service to customer needs (64%) and to anticipate new business opportunities (57%). Culver (2006) observed that tactics-oriented competitive intelligence practice is information and analysis about competitors that can support daily operations of a firm. Respondents indicated that technology-oriented competitive intelligence enabled their firms to keep abreast of technological advancements and bring innovative products and services to the marketplace. The results support the findings of Mugo *et al.*, (2012) that organizations that combine customer value innovation with technology-oriented competitive intelligence have an increased chance of gaining sustainable growth and profit.

The respondents indicated that target-oriented competitive intelligence practice is important for anticipating competitors' moves and activities. The results agree with Yap, Rashid and Sapuan (2013) that competitive intelligence provides management with information about the current and future behavior of competitors, suppliers and customers. The respondents further indicated that this type of intelligence helps their firms to track competitors' products, track trends and changes in the industry. The results agree with Blenkhorn and Fleisher (2005) that this type of intelligence is about competitors, their capabilities, current activities, plans, and intentions.

The respondents indicated that competitive intelligence led to improved firm performance by enabling firms to provide better service to customers as well as reduce the number of customer complaints. This in turn led to improved profitability. This supports Hughes' (2005) observation that a firm that engages in carrying out competitive intelligence activities regardless of the extent realizes improved performance.

Table 4.13 Qualitative Data Analysis

Objectives	Theme	Responses
Strategy-oriented competitive intelligence practice	-Regulatory intelligence -Economic intelligence	-Uncovers opportunities and threats - Aids in long-term planning - Anticipates changes in business environment
Tactics- oriented competitive intelligence practice	-Marketing intelligence -Customer intelligence -Current intelligence	-Obtains feedback on products from clients -Increases market share -Bench-marks with others -understands the market better -Discovers new opportunities
Technology-oriented competitive intelligence practice	-Technical intelligence -Basic intelligence	-Track changes in technological advancement -Aids in production of new innovations
Target-oriented competitive intelligence practice	-Supplier intelligence -Competitor intelligence -Industry intelligence	-Tracks competitors products -Compares firm's products with competitors -Tracks changes in industry -Tracks competitors activities
Firm performance	Improved profitability	-Provides better service to customers -Reduces response time to customer complaints

Source: Survey data (2015)

4.5 Diagnostic Tests

To draw inferences about the population of the study, there was need to empirically analyse the data using a regression model. The study used the multiple regression models to establish the effect of the independent variables on the dependent variable. However, before testing the research hypotheses, it was important to carry out diagnostic tests to meet the basic regression assumptions of multiple linear regressions. Greene (2002) recommended these tests in order to accurately estimate the regression model. A regression can accurately be estimated only if the basic assumptions of linear regression are observed (Greene, 2002). In this regard, testing for normality, linearity and multicollinearity was considered important for the study.

4.5.1 Normality Diagnostic Test

The variables were found to be normally distributed, with skewness and kurtosis values ranging between -1.0 and +1.0. The values are strategy-oriented competitive intelligence practice (skewness -.633, kurtosis 0.91); tactics-oriented competitive intelligence practice (skewness 0.271, kurtosis -.729); technology-oriented competitive intelligence practice (skewness -.386, kurtosis -.183); target-oriented competitive intelligence practice (skewness -.902, kurtosis .376); organizational factors (skewness -.230, kurtosis .767); and firm performance (skewness -.893, kurtosis -.036). The normality tests for all the variables were within the recommendations of Myoung (2008) of between -1 and +1. This indicates that the research variables are normally distributed and therefore further parametric tests can be carried out on the data.

4.5.2 Linearity Test

To meet the assumption of linearity, the linear relationship of the independent variables on the dependent variable was tested using the correlation of coefficients as suggested by Cohen, West and Aiken (2003). Table 4.14 shows that there is a linear relationship between the measures of the independent variables and the dependent variable. Strategy-oriented competitive intelligence practice ($R=.738$, $P=.000$), $P<.001$; tactics-oriented competitive intelligence practice ($R=0.658$, $P=.000$), $P<.000$; technology-oriented competitive intelligence practice ($R=.721$, $P=.001$), $P<.001$, target oriented competitive intelligence practice ($R=.676$, $P=.000$), $P<.000$; and organizational factors ($R=0.779$, $P=0.000$), $P<0.001$. The correlation coefficients for the independent variables were statistically significant, with P values $< .001$. This is an indication of a linear relationship between individual independent variables and the dependent variable as recommended by Field (2009) and implies that linear regression is suitable and can be estimated in this study.

Table 4.14: Results of Linearity Diagnostic Test

Variables	Linearity	Firm performance	Conclusion
Strategy-oriented competitive intelligence	Pearson Correlation	.738	Linear
	Sig. (2-tailed)	.000*	
	N	49	
Tactics-oriented competitive intelligence	Pearson Correlation	.658	Linear
	Sig. (2-tailed)	.000*	
	N	49	
Technology-oriented competitive intelligence	Pearson Correlation	.721	Linear
	Sig. (2-tailed)	.001*	
	N	49	
Target-oriented competitive intelligence	Pearson Correlation	.676	Linear
	Sig. (2-tailed)	.000*	
	N	49	
Organizational factors	Pearson Correlation	.779	Linear
	Sig. (2-tailed)	.001*	
	N	49	

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

Source: Survey data (2015)

4.5.3 Multicollinearity Test

To establish whether multicollinearity would pose a problem, regression analysis was conducted and the tolerance and Variance Inflation Factors (VIF) are shown in Table 4.15. The table shows that the VIF for strategy-oriented competitive intelligence practice is 2.350; for tactics-oriented competitive intelligence practice is 3.163; for technology-oriented competitive intelligence practice is 2.037; and for target-oriented competitive intelligence practice is 1.924. The mean VIF for the variables is 2.178. Table 4.15 shows that the variables have a VIF that is less than 10 and tolerance value of more than 0.1, thus ruling out the possibility of multicollinearity (Field, 2009).

Therefore, the results imply that there was no multicollinearity problem among the variables, hence the level of multicollinearity in the model can be endured.

Table 4.15: Results of Multicollinearity Diagnostic Test

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Strategy-oriented competitive intelligence	.425	2.350
Tactics-oriented competitive intelligence	.316	3.163
Technology-oriented competitive intelligence	.491	2.037
Target-oriented competitive intelligence	.523	1.914
Organizational factors	.701	1.426
a Dependent Variable: Firm Performance	0.491	2.178

Source: Survey data (2015)

4.6 Test of Hypotheses

The test of the hypotheses required the use of multiple regression analysis. This was performed using the field data as well as the secondary data and results interpreted according to the R^2 values at 95% confidence level. The variables under study were regressed on financial and non-financial indicators.

4.6.1 Strategy-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

The first objective of the study sought to determine the effect of strategy-oriented competitive intelligence practice and performance of firms listed on the Nairobi Securities Exchange. This was achieved by testing the following hypothesis:

H_{01} : Strategy-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange.

In order to establish the contribution of strategy-oriented competitive intelligence practice on firm performance, a simple regression model was specified and analysis undertaken, with performance of firms listed on the Nairobi Securities Exchange as

the dependent variable. The model shows an R-Square value of 0.545, indicating that the independent variable (strategy-oriented competitive intelligence practice) explained 54.5% of the variation in performance. The remaining 45.5% is explained by other management practices and strategies put in place by managers.

The results shown in Table 4.16 clearly indicate that the performance of listed firms was positively affected by strategy-oriented competitive intelligence practice. The findings agree with Adidam *et al*, (2012) who found that firms in the emerging market of India which exhibit higher levels of competitive intelligence achieve better financial performance results. The findings are supported by Ain, Waheed and Jamil (2013) who found that the use of competitive intelligence by listed firms in Malaysia is significantly associated with growth, higher quality and performance.

Table 4.16: Model Summary for Strategy-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738	.545	.535	1.35462

a. Predictors: (Constant) Strategy–Oriented Competitive Intelligence

Source: Survey data (2015)

F-test was carried out to test the null hypothesis that strategy-oriented competitive intelligence practice has no effect on performance of firms listed on the Nairobi Securities Exchange. The ANOVA test in Table 4.17 shows that the significance of $F(1,47)= 56.298$ and $P=0.000$, which is less than 0.05, indicating that the null hypothesis is rejected; therefore, strategy-oriented competitive intelligence has a

statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange.

Table: 4.17 Strategy-Oriented Competitive Intelligence Practice versus Performance of Firms Listed on the Nairobi Securities Exchange ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	103.307	1	103.307	56.298	.000
	Residual	86.244	47	1.835		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

b. Predictors: (Constant) Strategy-Oriented Competitive Intelligence

Source: Survey data (2015)

To test the effect of strategy-oriented competitive intelligence practice and performance on firms listed on the Nairobi Securities Exchange, a regression was carried out. The regressions coefficients (β), the intercept (α), and the significance of all coefficients in the model are subjected to a t-test to test the null hypothesis that the coefficient is zero. The null hypothesis states that $\beta=0$, meaning there is no relationship between the two variables as the slope is 0. The results on the beta coefficient of the resulting model in Table 4.18 shows that the constant $\alpha=-10.59$ is significantly zero. The coefficient $\beta=.851$ is also significantly different from 0, with a p-value=0.000, which is less than 0.05.

This implies that the null hypothesis $\beta_1=0$ is rejected and the alternative hypothesis $\beta_1 \neq 0$ is taken to hold, implying that the model $P=-10.59+ .851$ (strategy-oriented competitive intelligence practice) $+\varepsilon$, is significantly fit. The model performance $=\alpha +$

β (strategy-oriented competitive intelligence practice) holds as suggested by the above test. This confirms that strategy-oriented competitive intelligence practice has a positive and statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange. The findings indicate that when strategy-oriented competitive intelligence practice is increased by 1 unit, performance of firms listed on the Nairobi Securities Exchange is expected to increase by 0.851.

Table 4.18: Coefficients for Strategy Oriented Competitive Intelligence Practice

Model	Coefficients				T	Sig.
	Unstandardized Coefficients		Standardized Coefficients	Beta		
	B	Std. Error				
(Constant)	-10.589	6.710			-1.578	.121
1 Strategy Oriented competitive intelligence practice	.851	.113	.738		7.503	.000

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

4.6.2 Tactics-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

The second objective of the study sought to determine the effect of tactics-oriented competitive intelligence practice and performance of firms listed on the Nairobi Securities Exchange. This was achieved by testing the following hypothesis:

H₀₂: Tactics-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange

To establish the contribution of tactics-oriented competitive intelligence practice on performance of firms listed on the Nairobi Securities Exchange, a simple linear regression model was specified and analysis conducted, with performance of firms listed on the Nairobi Securities Exchange as the dependent variable. The regression analysis in Table 4.19 shows R-Square value of 0.433, meaning that the independent variable (tactics-oriented competitive intelligence practice) explained 43.3% of the variation in firm performance. The remaining 56.7% is explained by other management practices and strategies put in place by managers.

Table 4.19: Model Summary for Tactics-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.658	.433	.421	1.51199

a. Predictors: (Constant), Tactics-Oriented Competitive Intelligence
Source: Survey data (2015)

Further, F-test was carried out to test the null hypothesis that tactics-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange. The ANOVA test results in Table 4.20 shows that that the significance of $F(1, 47)=35.914$ and $P=0.000$, which is less than 0.05, indicates that the null hypothesis is rejected; hence conclude that tactics-oriented competitive intelligence has a statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange.

Table 4. 20: Tactics-Oriented Competitive Intelligence Practice versus Performance of Firms Listed on the Nairobi Securities Exchange ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.104	1	82.104	35.914	.000
	Residual	107.447	47	2.286		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

b. Predictors: (Constant), Tactics–Oriented Competitive Intelligence

Source: Survey data (2015)

To test the significance of the effect of tactics-oriented competitive intelligence practice on performance of firms listed on the Nairobi Securities Exchange, a regression was done, the regression coefficients (β), the intercept (α), and the significance of all coefficients in the model are subjected to a t-test to test the null hypothesis that the coefficient is zero. The null hypothesis states that $\beta=0$, meaning there is no relationship between the two variables, as the slope is zero. The results on the beta coefficient of the resulting model in Table 4.21 shows that the constant $\alpha=13.718$ is significantly different from zero. The coefficient $\beta=.523$ is also significantly different from 0, with a p-value=0.000, which is less than 0.05.

This implies that the null hypothesis, $\beta_1=0$, is rejected and the alternative hypothesis $\beta_1 \neq 0$ is accepted, implying that the model $P=13.718+.523$ (tactics-oriented competitive intelligence practice) $+\varepsilon$, is significantly fit. The model Performance $=\alpha + \beta$ (tactics-oriented competitive intelligence practice) holds as suggested by the above test. This indicates that there is a positive and statistically significant effect of tactics-oriented competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange. The findings indicate that when tactics-oriented

competitive intelligence practice is increased by 1 unit, performance of firms listed on the Nairobi Securities Exchange is expected to increase by 0.523.

Table 4.21: Coefficients for Tactics Oriented Competitive Intelligence Practice

Model	Coefficients				T	Sig.
	Unstandardized Coefficients		Standardized Coefficients	Beta		
	B	Std. Error				
(Constant)	13.718	4.347			3.156	.003
1 Tactics Oriented competitive intelligence practice	.523	.087	.658		5.993	.000

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

4.6.3 Technology-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

The third objective of the study sought to determine the effect of technology-oriented competitive intelligence practice and performance of firms listed on the Nairobi Securities Exchange. This was achieved by testing the following hypothesis:

H₀₃ Technology-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange

In order to determine the contribution of technology-oriented competitive intelligence on firm performance, a simple linear regression model was specified and an analysis was undertaken with performance of firms listed on the Nairobi Securities Exchange as the dependent variable. As shown in Table 4.22, the regression results show R-Square value of 0.519, indicating that technology-oriented competitive intelligence

practice explained 51.9% of the variation in firm performance. The remaining 48.1% is explained by other management practices and strategies put in place by managers.

Table 4.22: Model Summary for Technology-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721	.519	.509	1.39244

a. Predictors: (Constant), Technology-Oriented Competitive Intelligence

Source: Survey data (2015)

F-test was carried out to test the null hypothesis that technology-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange. The ANOVA test in Table 4.23 shows that the significance of $F(1, 47)=50.763$ and $P=0.000$, which is less than 0.05, indicating that the null hypothesis is rejected; hence conclude that technology-oriented competitive intelligence practice has a statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange.

Table 4.23: Technology-Oriented Competitive Intelligence Practice versus Performance of Firms Listed on the Nairobi Securities Exchange ANOVA

Results

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	98.423	1	98.423	50.763	.000
	Residual	91.128	47	1.939		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

b. Predictors: (Constant), Technology-Oriented Competitive Intelligence

Source: Survey data (2015)

To test the significance of the regression effect of technology-oriented competitive intelligence practice on performance of firms listed on the Nairobi Securities Exchange, the regressions coefficients (β), the intercept (α), and the significance of all coefficients in the model are subjected to a t-test to test the null hypothesis that the coefficient is zero. The null hypothesis states that $\beta=0$, meaning there is no relationship between the two variables, as the slope is zero. The results on the beta coefficient of the resulting model in Table 4.24 shows that the constant $\alpha=21.829$ is significantly different from zero. The coefficient $\beta=.389$ is also significantly different from 0, with a p-value=0.000, which is less than 0.05.

This implies that the null hypothesis $\beta_1=0$ is rejected and the alternative hypothesis $\beta_1 \neq 0$ is taken to hold, implying that the model $P=21.829 + .389$ (technology-oriented competitive intelligence practice) $+\epsilon$, is significantly fit. The model Performance $=\alpha + \beta$ (technology-oriented competitive intelligence practice) holds as suggested by the above test. This confirms that there is a positive linear relationship between technology-oriented competitive intelligence practice and performance of firms listed on the Nairobi Securities Exchange.

The findings indicate that when technology-oriented competitive intelligence practice is increased by 1 unit; performance of firms listed on the Nairobi Securities Exchange is expected to increase by 0.389. The results of the analysis clearly indicate that the performance of listed firms has a moderately strong association with technology-oriented competitive intelligence practice. The results corroborate with the findings of Mugo *et al.*, (2012) who found that technology-oriented competitive intelligence had a positive effect of .365 on the profitability of Equity Bank. The results further

support the findings of Muthama and Ngugi (2012) that technology-oriented competitive intelligence made the most contribution to the profitability of mobile phone companies in the Kenyan telecommunication industry, compared to other variables in the study.

Table 4.24: Coefficients for Technology Oriented Competitive Intelligence Practice

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	21.829	2.521		8.659	.000
1 Technology oriented competitive intelligence practice	.389	.055	.721	7.125	.000

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

4.6.4 Target-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

The fourth objective of the study sought to determine the effect of target-oriented competitive intelligence practice and performance of firms listed on the Nairobi

Securities Exchange. This was achieved by testing the following hypothesis:

H₀₄: Target-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi securities exchange.

The model in Table 4.25 shows R-Square value of 0.457, indicating that target-oriented competitive intelligence practice explained 45.7% of the variation in the

performance of firms listed on the Nairobi Securities Exchange. The remaining 54.3% is explained by other management practices and strategies put in place by managers.

Table 4.25: Model Summary for Target-Oriented Competitive Intelligence Practice and Performance of Firms Listed on the Nairobi Securities Exchange

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.676	.457	.445	1.48013

a. Predictors: (Constant), Target-Oriented Competitive Intelligence

Source: Survey data (2015)

Further, F-test was carried out to test the null hypothesis that target-oriented competitive intelligence practice has no effect on the performance of firms listed on the Nairobi Securities Exchange. The ANOVA test in Table 4.26 shows that the significance of $F(1,47)=39.522$ and $P=0.000$, which is less than 0.05, indicating that the null hypothesis is rejected; therefore, target-oriented competitive intelligence has statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange.

Table 4.26: Target-Oriented Competitive Intelligence Practice versus Performance of Firms Listed on the Nairobi Securities Exchange

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.584	1	86.584	39.522	.000
	Residual	102.967	47	2.191		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

a. Predictors: (Constant), Target-Oriented Competitive Intelligence

Source: Survey data (2015)

To test the significance of the regression relationship between target-oriented competitive intelligence practice and performance of firms listed on the Nairobi

Securities Exchange, the regression coefficient (β), the intercept (α), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis states that $\beta=0$, meaning that there is no relationship between the two variables, as the slope is zero. The results on the beta coefficient model on Table 4.27 shows that the constant $\alpha=24.086$ is significantly different from zero. The coefficient $\beta=.316$ is also significantly different from 0, with $p\text{-value}=0.000$, which is less than $p=0.05$.

This implies that the null hypothesis $\beta_1=0$ is rejected and the alternative hypothesis $\beta_1 \neq 0$ is taken to hold, implying that the model $P=24.086+.316$ (target-oriented competitive intelligence practice) + ε is significantly fit. The model performance of listed firms $=\alpha +\beta$ (target-oriented competitive intelligence practice) holds as suggested by the test above. This confirms that there is a positive linear relationship between target-oriented competitive intelligence practice and performance of firms listed on the Nairobi Securities Exchange.

The findings also reveal that an increase of 1 unit of target-oriented competitive intelligence practice would be expected to increase performance of firms listed on the Nairobi Securities Exchange by .316 units. The results of the analysis clearly indicate that target-oriented competitive intelligence has a positive effect on the performance of firms listed on the Nairobi Securities Exchange. This type of intelligence is concerned with competitors, their capabilities, current activities, plans, and intentions. It is most often used when competitive intelligence efforts are best focused on a small number of competitors that a firm faces in several market niches. The findings agree with Hughes and Beasley (1996) that firms which employed competitive intelligence

activities, regardless of extent, scope or structure of these activities, performed better than companies with no knowledge of or the use of competitive intelligence.

Table 4.27: Coefficients for Target-Oriented Competitive Intelligence Practice Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	24.086	2.498		9.641	.000
Target Oriented	.316	.050	.676	6.287	.000

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

4.6.5 Effect of Competitive Intelligence Practices (CIPs) on Non-Financial Performance of Firms Listed on the Nairobi Securities Exchange

Scholars have expressed dissatisfaction with the exclusive use of financial measures, arguing that it focuses on short-term plans and hence overlooking the long-term sustainability of the firm's competitive advantage (Kaplan & Norton 1992). Under such circumstances, researchers recommend the use of multiple measures, including both financial and non-financial measures. This study sought to establish the level of achievement of non-financial measures.

Performance was measured, first using non-financial indicators, using data collected by the use of a questionnaire and later on using financial measures which were derived from published reports on listed firms for the period between 2011 and 2013. The financial information collected included profit before tax, Return on Assets (ROA) and Return on Equity (ROE). In order to establish the contribution of strategy-

oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices on the non-financial performance of firms listed on the Nairobi Securities Exchange, the following multiple regression model was specified, with the firm performance as the dependent variable.

$$P = \beta_0 + \beta_1 \text{STR} + \beta_2 \text{TAC} + \beta_3 \text{TEC} + \beta_4 \text{TAR} + \varepsilon_i$$

Where:

P= Firm performance

β_0 = Intercept

STR= Strategy-oriented competitive intelligence practice

TAC =Tactics-oriented competitive intelligence practice

TEC =Technology-oriented competitive intelligence practice

TAR=Target-oriented competitive intelligence practice

ε_i = Constant; and

β_1, \dots, β_4 are regression coefficients

In order to obtain more information on the effect of the independent variables and the dependent variable, a multiple regression was done.

Hypothesis for multiple regression models:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$$

H_0 : at least one of $\beta_1 = \beta_2 = \beta_3 = \beta_4$ is not equal to zero.

The model in Table 4.28 shows R-Squared value of 0.836, indicating that the independent variables (strategy-oriented, tactical-oriented, technology-oriented, target-oriented competitive intelligence practices) explained 83.6% variation in the non-financial performance of firms listed on the Nairobi Securities Exchange. The remaining 16.4% is unexplained and is represented by the error term. The results indicate a positive contribution of competitive intelligence practices to the performance of listed firms. The findings indicate that competitive intelligence positively affects the ability of listed firms in achieving their organizational goals and customer satisfaction.

Table 4.28: Model Summary of Competitive Intelligence Practices and Non-Financial Performance of Firms Listed on Nairobi Securities Exchange.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.914	.836	.821	.84158

a. Predictors: (Constant), Target oriented, Tactics oriented, Strategy oriented, Technology oriented competitive intelligence practices.

Source: Survey data (2015)

F-test was carried out to test the null hypothesis that competitive intelligence practices have no effect on non-financial performance of firms listed on the Nairobi Securities Exchange. The ANOVA test in Table 4.29 shows that the $F(4,44)=55.907$ and $P=0.000$, which is less than 0.05, indicate that the null hypothesis is rejected; therefore, competitive intelligence practices affect non-financial performance of firms listed on the Nairobi Securities Exchange.

Table 4.29: F-test for Multiple Regression Model**ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	158.388	4	39.597	55.907	.000
Residual	31.163	44	.708		
Total	189.551	48			

a. Dependent Variable: Non-Financial Performance

a. Predictors: (Constant), Target-oriented, tactics-oriented, strategy-oriented, technology-oriented Competitive Intelligence

Source: Survey data (2015)

Table 4.30 shows that the beta coefficients of the resulting model indicate that strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices (CIPs) have a positive and significant effect on the performance of firms listed on the Nairobi Securities Exchange, with slopes of $\beta_1 = .399$, $\beta_2 = .229$, $\beta_3 = .150$ and $\beta_4 = .132$ respectively. This implies that the null hypothesis, $\beta_1 = 0$, is rejected and the alternative hypothesis, $\beta_1 \neq 0$, is accepted.

This implies that holding all other variables constant, the non-financial performance of firms listed on the Nairobi Securities Exchange increase by 0.399 units when strategy-oriented competitive intelligence practice goes up by one unit, increase by 0.229 units when tactics-oriented competitive intelligence practice goes up by one unit, increase by 0.150 units when technology-oriented competitive intelligence practice goes up by one unit, and increase by .132 units when target-oriented competitive intelligence practice increases by one unit. The regression equation for the effect can be re-stated as shown:

$$P = -8.667 + .399 \text{ STR} + .229 \text{ TAC} + .150 \text{ TEC} + .132 \text{ TAR} + \varepsilon$$

The findings reveal that competitive intelligence practices play a vital role in the non-financial performance of firms listed on the Nairobi Securities Exchange. The findings contradict Wright, Fleisher and Madden (2008) who found managers in pharmaceutical industry in the United Kingdom to have mixed perception on the contribution of competitive intelligence on the overall performance on firms. The study agrees with Ain, Waheed and Jamil (2013) that companies that use competitive intelligence have a high impact on performance.

Table 4.30: Overall Regression Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-8.667	4.501		-1.926	.061
1 Strategy Oriented	.399	.089	.346	4.494	.000
Tactics Oriented	.229	.057	.289	4.026	.000
Technology Oriented	.150	.042	.277	3.535	.001
Target Oriented	.132	.034	.282	3.879	.000

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

4.6.5.1 Return on Assets

To establish the relative contribution of strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices on return on assets (ROA), the following linear regression model was specified, with the return on assets as the dependent variable.

$$ROA = \beta_0 + \beta_1 STR + \beta_2 TAC + \beta_3 TEC + \beta_4 TAR + \varepsilon_i$$

Table 4.36 shows R-square value of 0.162, meaning the independent variables (strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices) explained 16.2% of the variation in return on assets. The remaining 83.8% is explained by other management practices and strategies that managers put in place. Historically, analysts and researchers agree that better competitive intelligence will improve the firm's overall performance (Glueck & Jauch, 1994). However, many studies in this field are descriptive and have not sought to establish the relationship between variables, but Adidam *et al.*, (2012) found that firms in the emerging market of India that practice competitive intelligence perform better than others, with a ROA of 18.17. The findings of this study of ROA at 16.2 compares very well.

Table 4.31: Model Summary of Competitive Intelligence Practices and Return on Assets (ROA)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403	.162	.086	.14061

Predictors: (Constant), Target-oriented, tactics-oriented, Strategy-oriented, technology-oriented competitive intelligence practice

Source: Survey data (2015)

Further, F-test was carried out to test the relationship between the joint effect of competitive intelligence practices and financial performance of firms listed on the Nairobi Securities Exchange. The ANOVA test in Table 4.32 shows that the $F(4, 44)=2.130$ and $P=0.093$ is more than 0.05, indicating a statistically insignificant effect of competitive intelligence practice and Return on Assets (ROA) of firms listed on the Nairobi Securities Exchange.

Table 4.32: F-test for Multiple Regression Model and Return on Assets (ROA)

ANOVA					
Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.168	4	.042	2.130	.093
Residual	.870	44	.020		
Total	1.038	48			

a. Dependent Variable: ROA

b. Predictors: (Constant), Target oriented, tactics-oriented, strategy-oriented, technology-oriented competitive intelligence practices

Source: Survey data (2015)

Table 4.33 indicates that there is a negative and insignificant effect between strategy-oriented competitive intelligence practice and (ROA) at ($\beta=-.032$). Tactics-oriented and technology-oriented competitive intelligence practice have a positive but insignificant relationship, at ($\beta=.006$) and ($\beta=.010$) respectively. Target-oriented competitive intelligence practices have a negative insignificant relationship, at ($\beta=-.007$).

This implies that holding other variables constant, Return on Assets (ROA) is predicted to decrease by 0.032 units when strategy-oriented competitive intelligence practice goes up by one unit, increase by 0.006 units when tactics-oriented competitive intelligence practice goes up by one unit, increase by 0.010 units when technology-competitive intelligence practice goes up by one unit, and decrease by 0.007units when target-oriented competitive intelligence practice goes up by one unit. The study establishes that competitive intelligence practices have no effect on the financial performance of firms listed on the Nairobi Securities Exchange. The regression model for the relationship can be re-stated as shown:

$$P(\text{ROA}) = 1.589 - 0.032\text{STR} + 0.006\text{TAC} + 0.010\text{TEC} - 0.007\text{TAR} + \varepsilon_i$$

4.6.5.2 Return on Equity

To establish the relative contribution of strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices on Return on Equity (ROE), the following linear regression model was specified, with the return on equity as the dependent variable.

$$ROE = \beta_0 + \beta_1 STR + \beta_2 TAC + \beta_3 TEC + \beta_4 TAR + \varepsilon_i$$

Table 4.33: Overall Regression Model versus Return on Assets (ROA) Coefficients

Model	Coefficients			T	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	1.589	.752		2.113	.040
Strategy oriented	-.032	.015	-.376	-2.164	.036
Tactics oriented	.006	.010	.094	.579	.566
Technology oriented	.010	.007	.259	1.466	.150
Target oriented	-.007	.006	-.196	-1.194	.239

a. Dependent Variable: ROA

Source: Survey data (2015)

Table 4.34 shows R-square value of 0.193, implying that the independent variables (strategy-oriented, tactics-oriented, technology-oriented and target-oriented competitive intelligence practices) explained 19.3% of the variation on Return on Equity (ROE). The remaining 80.7% is explained by other management practices and strategies put in place by managers.

Table 4.34: Model Summary of Competitive Intelligence Practices and Return on Equity (ROE)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.440	.193	.120	.17292

a. Predictors: (Constant), Target-oriented, tactics-oriented, strategy-oriented, technology-oriented competitive intelligence practice

Source: Survey data (2015)

F-test was carried out to test the relationship between the joint effect of competitive intelligence practice and financial performance of firms listed on the Nairobi Securities Exchange. The ANOVA test in Table 4.35 shows that the $F(4,44)=2.636$ and $P=0.047$, which is almost equal to 0.05, indicates a statistically insignificant relationship between the joint effect of competitive intelligence practices and Return on Equity (ROE) of firms listed on the Nairobi Securities Exchange.

Table 4.35: F-test for Multiple Regression Model and Return on Equity (ROE)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.315	4	.079	2.636	.047
Residual	1.316	44	.030		
Total	1.631	48			

a. Dependent Variable: ROE

b. Predictors: (Constant), Target-oriented, tactics-oriented, strategy-oriented, technology-oriented competitive intelligence practice

Source: Survey data (2015)

The findings shown in Table 4.36 further indicate that there is a negative but significant relationship between strategy-oriented competitive intelligence practice and (ROE) at ($\beta=-.041$). Technology-oriented competitive intelligence practice had a

positive but insignificant relationship, at ($\beta=.017$). Tactics-oriented and target-oriented competitive intelligence practices had negative insignificant relationship, at ($\beta=-.002$) and ($\beta=-.010$) respectively.

This implies that holding other variables constant, Return on Equity (ROE) is predicted to decrease by 0.041 units when strategy-oriented competitive intelligence goes up by one unit, decrease by 0.002 units when tactics-oriented competitive intelligence goes up by one unit, increase by 0.017 units when technology-oriented competitive intelligence goes up by one unit, and decrease by 0.010 units when target-oriented competitive intelligence goes up by one unit. The finding indicates there is negligible improvement on the return of equity due to the firm carrying out competitive intelligence activities. The study concludes that competitive intelligence practices have no statistically significant effect on the financial performance of the firms listed on the Nairobi Securities Exchange.

This finding supports the observation by Teece *et al.*, (1997) that the quality of performance in firms was not due to much investment in capital or the degree of the automation of facilities; it was due to special routines adopted by the management, that included gathering and processing information and directly connecting consumer experience to product development. This was termed as the dynamic capabilities of the firm. The study finds that competitive intelligence practices have no effect on the financial performance of firms listed on the Nairobi Securities Exchange. The findings contradict Adidam (2012) who found that Indian firms that exhibit higher levels of competitive intelligence activities achieve better financial results.

Table 4.36: Overall Regression Model versus Return on Equity (ROE) Coefficients

Model	Coefficients				
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.328	.925		2.517	.016
Strategy Oriented	-.041	.018	-.383	-2.246	.030
Tactics Oriented	-.002	.012	-.025	-.160	.873
Technology Oriented	.017	.009	.344	1.985	.053
Target Oriented	-.010	.007	-.221	-1.369	.178

a. Dependent Variable: ROE

Source: Survey data (2015)

The regression model for the relationship can be re-stated as shown:

$$ROE = 2.328 - 0.041STR - 0.002TAC + 0.017TEC - 0.010TAR + \epsilon_i$$

4.6.6 Moderating effect of Organizational Factors on the Relationship between Competitive Intelligence Practices and Performance of Firms Listed on the NSE

The fifth objective of the study sought to determine the moderating effect of organizational factors between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange. This was achieved by testing the following hypothesis:

H₀₅: Organizational factors have no moderating effect on the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange.

To test the moderating effect of organizational factors on the relationship between competitive intelligence practices and performance of firms listed on the Nairobi

Securities Exchange, the study considered its base as Model 3.4 and then used two regression models as recommended by Whisman and MacClelland (2005). First, in the base Model 3.4, competitive intelligence practices (CIPs) were regressed on firm performance. Then in Model 3.5, competitive intelligence practices and organizational factors were regressed on firm performance. However, in Model 3.6, competitive intelligence practices, organizational factors and the interaction effect between competitive intelligence practices and organizational factors were regressed on performance of firms listed on the Nairobi Securities Exchange.

$$P = \beta_0 + \beta_1 CIP + \dots \dots \dots 3.4$$

Where,

P= Performance of firms listed on the Nairobi Securities Exchange

CIP=Competitive Intelligence Practices

ϵ = is the error term

The results in Table 4.37 indicate that $R^2 = 0.809$. This implies that the model explained 80.9% variation of the performance of firms listed on the Nairobi Securities Exchange. The remaining 19.1% is explained by other variables not fitted into the model.

Table 4.37: Model Summary for Competitive Intelligence Practice (CIP) and Performance of Firms Listed on the Nairobi Securities Exchange

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.899 ^a	.809	.805	.87800

a. Predictors: (Constant), CIP centered

Source: Survey data (2015)

The results shown on Table 4.38 indicate that the regression model found the effect of the predictor variable, competitive intelligence practices (CIP), to be statistically significant, at $F(2, 46) = 198.890$, $P=0.000$, which is less than 0.05 level of significance. Since the model was found to be significant, it was therefore fit to move on to the next step.

Table 4.38: Competitive Intelligence Practices (CIP) versus Performance of Firms Listed on the Nairobi Securities Exchange

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	153.320	1	153.320	198.890	.000
	Residual	36.231	47	.771		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

a. Predictors: (Constant), CIP centered

Source: Survey data (2015)

The regression results of Model 3.4 shown on Table 4.39 indicate that competitive intelligence practices (CIP) had statistically significant coefficients, at $\beta=0.899$, $t=14.103$ and $p=0.000$.

Table 4.39: Coefficients of Competitive Intelligence Practices (CIP)
Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.735	.125		316.793	.000
1 CIP centered	.190	.013	.899	14.103	.000

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

$$P = \beta_0 + \beta_1 CIP + \beta_1 ORGF + \varepsilon \dots \dots \dots 3.5$$

Where,

P= Performance of firms listed on the Nairobi securities exchange

CIP=Competitive Intelligence Practices

ORGF=Organizational Factors

ε = is the error term

The results in Table 4.40 shows that $R^2 = 0.837$. This implies that the model explained 83.7% of the variation in the performance of firms listed on the Nairobi Securities Exchange. The remaining 16.3% is explained by variables not fitted into the model.

The model shows that there is a change in the R^2 value.

Table 4.40: Model Summary for Competitive Intelligence Practice (CIP) and Organizational Factors Performance of Firms Listed on the Nairobi Securities Exchange

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915 ^a	.837	.830	.81950

a. Predictors: (Constant), Organizational factors centered, CIP centered

Source: Survey data (2015)

The results shown on Table 4.41 indicate that the regression model found the effect of the two predictor variables—competitive intelligence practice, and organizational factors—to be statistically significant, with $F(2, 46) = 118.124$, $P = 0.000$, which is less than 0.05. level of significance. Since the model was found to be significant, it was fit to move on to the next step.

Table 4.41: Competitive Intelligence Practices (CIP) and Organizational Factors versus Performance of Firms Listed on the Nairobi Securities Exchange

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158.659	2	79.329	118.124	.000
	Residual	30.892	46	.672		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

b. Predictors: (Constant), Org factors centered, CIP centered

Source: Survey data (2015)

Results of the regression shown on table 4.42 indicate that the regression results in Model 3.5 reveal that at 95% level of confidence interval, the coefficients of two variables are statistically significant, with competitive intelligence practice

coefficient at $\beta=0.714$, $t=8.051$ and $p=0.000$. Organizational factor coefficients were found to be $\beta=0.250$, $t=2.819$ and $p=0.007$, which is less than 0.05.

Table 4.42: Coefficients of Competitive Intelligence Practices (CIP) and Organizational Factors

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.735	.117		339.407	.000
1 CIP centered	.151	.019	.714	8.051	.000
Org. factors centered	.210	.074	.250	2.819	.007

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

Model 3.6 was specified to test the effect of the three factors on the performance of firms listed on the Nairobi Securities Exchange.

$$P = \beta_0 + \beta_1 \text{CIP} + \beta_2 \text{ORGF} + \beta_3 \text{CIP} * \text{ORGF} + \varepsilon \dots \dots \dots 3.6$$

Where,

P= Performance of firms listed on the Nairobi Securities Exchange

CIP=Competitive Intelligence Practices

ORGF=Organizational Factors

CIP*ORGF= Competitive Intelligence Practice x Organizational Factors

ε = is the error term

Next, the interaction effect between competitive intelligence practices and organizational factors was added to the regression model. The value R^2 was found not to change from what it was before the introduction of the interaction effect. The $R^2=0.837$ implied that the model still explained 83.7% of the variation in the performance of firms listed on the Nairobi Securities Exchange.

Table 4.43: Model Summary for Target Oriented Competitive Intelligence Practice (CIP) , Organizational Factors and Interaction Effect on Performance of Firms Listed on the Nairobi Securities Exchange

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915	.837	.826	.82797

a. Predictors: (Constant), CIP Organizational factors centered, Organizational factors centered, CIP centered

Source: Survey data (2015)

The results shown on Table 4.44 of the regression Model 3.6 found the effect of the two predictor variables, competitive intelligence practice and organizational factors, and the introduction of the interaction effect to be statistically significant, with $F(3, 45)=77.167$, $P=0.000$, which is less than 0.05.level of significance.

Table 4.44: Competitive Intelligence Practices (CIP), Organizational Factors and Interaction Effect versus Performance of Firms Listed on the Nairobi Securities Exchange ANOVA Results

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158.702	3	52.901	77.167	.000
	Residual	30.849	45	.686		
	Total	189.551	48			

a. Dependent Variable: Overall Performance

b. Predictors: (Constant), CIP Organizational factors centered, Organizational factors centered, CIP centered

Source: Survey data (2015)

Results shown on Table 4.45 of Model 3.6 reveal that at 95% level of confidence interval, the coefficients of two variables are statistically significant, with competitive intelligence practice coefficient at $\beta=0.710$, $t=7.765$ and $p=0.000$. Organizational factors $\beta=0.29$, $t=2.781$ and $p=0.000$. The interaction effect was found to be statistically insignificant at $\beta=-0.016$, $t=-0.251$ and $p=0.803$. The findings are in line with the decision-making criterion for moderation, Table 3.2. This implies that changes in the organizational factors, specifically organizational culture, structure and top management perception towards competitive intelligence practices, could negatively affect competitive intelligence practices and firm performance, as the direction of the relationship is negative. The null hypothesis is not supported and is therefore rejected.

Table 4.45: Coefficients of Competitive Intelligence Practices (CIP) and Organizational Factors and Interaction Effect

Coefficients						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	39.755	.144		277.020	.000
	CIP centered	.150	.019	.710	7.765	.000
	Org. factors centered	.209	.075	.249	2.781	.008
	CIP Org. factor centered	-.001	.005	-.016	-.251	.803

a. Dependent Variable: Overall Performance

Source: Survey data (2015)

The study therefore concludes that organizational factors are an explanatory variable in the relationship between competitive intelligence practices and the performance of firms listed on the Nairobi Securities Exchange.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions, contributions of the study to knowledge, policy recommendations and suggestions on areas for further research.

5.2 Summary

The specific objectives of the study were: to determine the effect of strategy-oriented competitive intelligence practice; to establish the effect of tactics-oriented competitive intelligence practice; to assess the effect of technology-oriented competitive intelligence practice; to determine the effect of target-oriented competitive intelligence practice; and to determine the moderation effect of organizational factors on the relationship between competitive intelligence practices and performance of firms listed at the Nairobi Securities Exchange.

The study used both descriptive and explanatory survey research design. The primary data was collected using a semi-structured questionnaire, while secondary data was collected using a document review guide from published sources available at the Nairobi Securities Exchange. The financial information obtained included profit before tax, Return on Assets (ROA) and Return on Equity (ROE). The collected data was analyzed using descriptive and inferential statistics. The descriptive statistics were used to describe and summarize data, while inferential statistics, particularly multiple regressions, was used to establish the relationship between variables.

The study revealed that the strategy-oriented competitive intelligence practice had a statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange. Tactics-oriented competitive intelligence practice was found to have a positive and statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange. Technology-oriented competitive intelligence practice was found to have a positive and statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange. Target-oriented competitive intelligence practice was found to have a positive statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange.

The study revealed that competitive intelligence practices had a positive and statistically significant effect on the non-financial performance of the firms listed on the Nairobi Securities Exchange. In respect of the financial performance, the study found that competitive intelligence practices have a statistically insignificant effect on both financial measures of Return on Assets (ROA) and Return on Equity (ROE). The study further revealed that organizational factors (organizational culture, organizational structure and managerial attitudes towards competitive intelligence) have a statistically insignificant moderation effect between on the relationship between competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange.

The study found out that a majority of the firms are spending less than one million Kenya shillings on competitive intelligence activities each year, which is a small investment compared to what firms in other economies are spending. The firms have not invested enough resources and effort to efficiently reap the rewards that would

come with a more thorough understanding of the competitive landscape. The study also found that nearly half of the firms listed on the Nairobi Securities Exchange do not have a functional unit devoted to competitive intelligence activities. The researcher speculates that this may be a contributing factor to these firms' inability to sustain competitive advantage, leading to decline in profits and hence needing to issue profit warning.

The variables of the study were adopted from a study done in the pharmaceutical industry in the United Kingdom. That study found that the views of both senior management and heads of department on the contribution of competitive intelligence to firm's overall performance were mixed. Some thought that it made positive contribution, while others had the view that it made no positive contribution. The current study found that competitive intelligence has a positive and significant contribution to performance of firms listed on the Nairobi Securities Exchange; it therefore assists in establishing the impact of these practices.

5.3 Contribution of the Study to Knowledge

It is widely accepted that competitive intelligence provides management with information that assists it to make quality decisions that have a positive effect on the company's competitiveness. The study sought to establish the individual and joint effect of competitive intelligence practice on the performance of firms listed on the Nairobi Securities Exchange. Empirical studies in this field are limited and most of the literature addressing this issue has been either anecdotal or case-based research in the developed markets of United States of America and Europe.

Prior studies have established that there is a significant effect of competitive intelligence activities and performance of firms. In the Kenyan context, most of the studies done were descriptive in nature and did not seek to establish a link between competitive intelligence practices and performance of corporate firms. The study established that competitive intelligence practices play a vital role in the overall performance of firms listed on the Nairobi Securities Exchange.

This study contributes to empirical literature by revealing that undertaking competitive intelligence activities has a statistically significant relationship with the performance of firms listed on the Nairobi Securities Exchange. The study has found that nearly half of the firms listed on the Nairobi Securities Exchange do not have a functional unit dealing with competitive intelligence activities; therefore, future researchers will be aware of that fact. The study found that more than half of the firms listed on the Nairobi Securities Exchange spend a million or less on competitive intelligence annually, unlike firms in the United Kingdom that spend millions of Euros on competitive intelligence annually.

The study found hiring other organizations to collect information for competitive intelligence purposes ranked last. This was in contrast to the findings that 45% of the firms in the emerging market of India obtain information from industry experts or consultants. The internet was ranked first as a source of information for competitive intelligence purposes, and this was in contrast with results that found that Malaysian firms ranked newspapers and periodicals as the most preferred source of competitive intelligence information. The current study established that competitiveness is

strongly emphasized among firms listed on the Nairobi Securities Exchange. The finding contradicts a study that noted that the analysis of the competitive environment was often subordinated, while greater emphasis was placed on understanding customers and consumers.

This study found that email was the most preferred method for disseminating competitive intelligence among the firms listed on the Nairobi Securities Exchange. This was in contrast to a study that found memos to be the most preferred method for disseminating information among firms in the emerging market of India, and email the least preferred method. It further contradicted the finding of another study which found that employee briefing was the most frequently used method within the banking sector in the United Kingdom. In this study SWOT analysis was ranked as the most preferred method of analyzing information for competitive intelligence purposes. This was in contrast to a study which found that firms in the emerging market of India ranked analysis of Critical Success Factors (CSF) as number one.

The study makes a contribution by shedding light on the practice of competitive intelligence among the firms listed on the Nairobi Securities Exchange and the extent of its usage in developing and maintaining competitive advantage in a dynamic business environment. The study extends the current literature on competitive intelligence activities and its practice in a developing economy, thus identifying practical implications for corporate managers.

A study in the United Kingdom had found the views of senior managers and heads of department of pharmaceutical firms on the contribution of competitive intelligence to

the overall performance to be mixed. Some thought it had a positive contribution, but others thought otherwise. The findings of this study have found a positive and significant relationship between competitive intelligence practices and the performance of firms listed on the Nairobi Securities Exchange, thus assisting in making a decision in the context of mixed views. The same study found that unlike the Kenyan situation, business firms in the United Kingdom spend millions of Euros every year on competitive intelligence activities.

The study findings indicated that organizational factors do not moderate the relationship between the practice of competitive intelligence and performance of firms listed on the Nairobi Securities Exchange. The study found organizational factors to be an explanatory variable. The introduction of the moderating variable has enabled the study to have a greater explanatory power on the strategic management field. Prior Kenyan studies did not include a moderating factor.

5.4 Conclusions

The ability of corporate sector firms to attain superior performance is critical for the attainment and maintenance of competitive advantage, which ultimately determines whether a firm excels, survives or dies. In this study, the researcher examined the effect of competitive intelligence practices on the performance of firms listed on the Nairobi Securities Exchange. The following conclusions were made, based on the findings of the study.

The contribution of strategy-oriented competitive intelligence practice in providing higher levels of management with information on the competitive, economic, legal,

and political environment in which an organization and its competitors operate, now and in the future, was found to be positive and statistically significant in the study. The practice of this type of competitive intelligence provides support for strategic decisions in the organizations, such as evaluating candidates for potential mergers, acquisitions as well as strategic alliances and partnerships. The contribution of tactics-oriented competitive intelligence that aids organizations in designing near-term plans identifiable in the marketplace was found to be positive and statistically significant in this study. This type of competitive intelligence helps a firm to track what is going on in the market where competitors face off for customers and consumers. It permits organizations to fine-tune marketing efforts and respond faster to changes in the environment.

The contribution of technology-oriented competitive intelligence practice that permits a firm to respond to threats as well as identify and exploit opportunities resulting from technical and scientific changes was found to be positive and statistically significant in this study. This type of competitive intelligence support technology-based strategies as well as research and development, which are critical for innovation in firms. The contribution of target-oriented competitive intelligence practice that permits a firm to focus on competitors, their current capabilities, current activities, plans and intentions was found to be positive and statistically significant in this study.

The effect of competitive intelligence practices was found to be positive and statistically significant. This indicates that firms that carry out competitive intelligence activities stand to gain a competitive advantage over their rivals that do not engage in the practice. The combined effect of the competitive intelligence has a

positive and statistically insignificant relationship with the firm's financial Return on Assets (ROA) and Return on Equity (ROE). Organizational factors—organizational culture, organizational structure and managerial attitudes towards competitive intelligence—were found to have a positive and statistically insignificant moderating effect between the competitive intelligence practices and performance of firms listed on the Nairobi Securities Exchange. As a result, the study concluded that organizational factors are an explanatory variable.

5.5 Recommendations for Policy Implications

From the findings of this study, several policy implications can be drawn on the effective utilization of competitive intelligence in enhancing the competitive advantage of the firms listed on the Nairobi Securities Exchange over their rivals. The recommendations can also be generalized to the non-listed firms in Kenya. The policy implications are presented according to the objectives of the study.

Since strategic-oriented competitive intelligence practice was found to have a positive and significant effect on the performance of firms listed on the Nairobi Securities Exchange, the managers of these firms should consider raising the current level of competitive intelligence activities from its current relatively moderate level and start implementing more sophisticated competitive intelligence techniques and tools for analysis. This could permit the firms make accurate predictions on changes in the business environment before they become obvious as well as evaluate potential candidates for mergers, acquisitions, strategic alliances and partnerships more intelligently.

Managers of listed firms should strike a balance between long-term and short-term planning. They should ensure effective utilization of tactics-oriented competitive intelligence practice. Tactics-oriented competitive intelligence supports daily operations, such as comparing the quality and appeal of their rivals' products with their own products. This guides the sales force on the limitations and constraints of rival products and how the next generation of products might look like. The insight gained could help the sales people market the firm's products for being aware of what makes their product or service superior to that of their rival. Managers should encourage the use of this type of intelligence to gain competitive advantage at the marketplace.

The study recommends that the firms listed on the Nairobi Securities Exchange should increase their use of technology-oriented competitive intelligence to improve their competitiveness in terms of product innovation and automation to improve service delivery.

Listed firms should train their employees and thus equip them with better methods of collecting and analyzing information for competitive intelligence. This would go a long way in ensuring that the firms gain competitive advantage. Target-oriented competitive intelligence practice permits a firm to seek to study its competitors, their current capabilities, current activities, plans and intentions and thus train their staff as part of making their company acquire inimitable capabilities. Firms should use target-oriented intelligence to track registration of patents by rivals and the expiry of those patents. Capital Markets Authority (CMA), the regulators of the listed firms, should

formulate policies that ensure effective utilization of competitive intelligence so as to improve competitiveness among listed firms.

Since the study found the competitive intelligence practices to have a positive and statistically significant effect on the performance of firms listed on the Nairobi Securities Exchange, managers of these firms should increase the amount of resources devoted to competitive intelligence activities, which was found to be low compared to firms in other countries. The firms that do not have a functional unit specifically dedicated to matters of competitive intelligence should create one to enable them obtain the competitive advantage that other firms enjoy.

5.6 Suggestions for Further Research

Future research should build on the findings of this study to add to the existing body of knowledge on the practice of competitive intelligence. Such studies should, for example, consider carrying out research on the effect of competitive intelligence practices on the non-listed firms to validate this research and add more knowledge to this area of study.

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APPENDICES**Appendix I: Researcher's Introductory Cover Letter**

To Whom It May Concern

Dear Sir/Madam,

**Effect of Competitive Intelligence Practices on the Performance of
firms listed at the Nairobi Securities Exchange, Kenya.**

I am a Doctor of Philosophy (Ph D) student in the department of Business Administration at the School of Business of Kenyatta University. As part of the requirement for the award of the degree, I am expected to undertake research in my area of study. I am working on the above top title with the purpose of investigating the effects of competitive intelligence practices on the performance of firms listed on the Nairobi Securities Exchange.

I wish to humbly request your assistance with certain information from your firm to facilitate completion of the thesis. I have attached a copy of the questionnaire and an introduction letter from the University for your quick reference on the matter. Kindly answer all the questions as completely as possible. The information is intended for academic purposes only and will be treated with utmost confidentiality. No specific reference will be made on your firm and only the summary of the results will be made public.

I look forward to your support and remain grateful.

Waithaka Paul

Telephone: + (254) 0724-863 828

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Appendix II: Questionnaire

This questionnaire is designed to obtain information purely for academic purposes from respondents in senior management on the use of competitive intelligence by firms listed on the Nairobi securities exchange. The accuracy of the responses you provide will be crucial for the success of the research project. You are kindly requested to respond to each of the questions in the various parts by putting a tick in the boxes, ranking or writing a statement.

Definition: Competitive intelligence is the process through which firms ethically and legally collect and analyze information on competitors and the competitive environments which the management integrates in the planning and decision-making processes to improve performance.

PART I

GENERAL

1. Name of Company.....

2. Gender

Male

Female

3. What is your highest level of academic qualification?

Higher diploma

Degree

Masters

PhD

4. What is your position in the organization?

Director Strategy

Director Planning

Strategy Manager

Manager Planning

5. How long have you held your current position in the organization?

0-5 Years

6-10 Years

11-15 Years

Over 15 Years

6. What industry type would best describe your company?

Agriculture

- Automobiles and Accessories
- Banking
- Commercial and Service
- Construction and Allied
- Insurance
- Investment
- Manufacturing and allied
- Energy and Petroleum
- Tourism and Hospitality
- Telecommunication and Technology
- Growth and Enterprise Market Segment

7. How many years has the company been in operation?

- 0-5 years
- 6-10years
- 11-15years
- 16-20years
- Over 20 years

8. How many employees are in your company?

- 0 -100 employees
- 101-200 employees
- 201-300 employees
- 301-400 employees
- 401- 500 employees
- Over 500 employees

9. How much does your firm budget annually for the purposes of competitive intelligence activities?

- Less than 1 Million Shillings
- Between 1 and 5 Million Shillings
- Between 5 and 10 Million Shillings
- Over 10 Million Shillings

10. Considering the constraint of funds, time and access, how would you rate the quality of competitive intelligence information being availed to management?

- Very Poor
- Poor
- Average
- Good
- Excellent

11. Rank the following methods used in collecting information for competitive intelligence in your company stating with one most frequently used to the least used?

- The firm has employed competitive intelligence professionals
- The firm hires other organizations to collect information on its behalf
- The firm has incentives that encourages employees to report the competitive observation and information
- Most of employees in the firm are trained on how to collect intelligence

12. Rank the firm's main source of information for competitive intelligence according to the order of importance to the firm.

- Suppliers
- Review articles in trade press
- Internet
- Electronic media
- Attend trade fairs
- Debrief formal employees of competitors
- Analysis of financial reports

13. Rank the methods the firm uses to disseminate competitive intelligence in their order, from most commonly used to the least commonly used.

- Employee's briefings
- User's Conferences
- Face to face
- Email
- Presentations
- Written reports
- Newsletters

14. Competitive intelligence has helped the firm improve its performance.

Yes No

15. Rank the following techniques used by firms to analyse information for competitive intelligence starting with the one most frequently used by your firm.

- SWOT Analysis
- Financial statement analysis
- Environmental analysis
- Competitor profiling

PART II: STRATEGY ORIENTED COMPETITIVE INTELLIGENCE

16. Please indicate extent to which you agree or disagree with the following statements that relate to your firm.

No	Statements	Strongly	Agree	Not	Disagree	Strongly
		5	4	3	2	1
a	Intelligence enables our firm to be aware of international issues before they become obvious.					
b	Our firm carries out counterintelligence activities against competitors					
c	Firm monitors international economic occurrences through competitive intelligence					
d	Competitive intelligence is a crucial function in today's economy					
e	As a member of senior management I use competitive intelligence in decision making					
f	The firm is constantly scanning the environment to detect changes before they become obvious					
g	The firm collects intelligence on market regulators					
h	Monitoring regulators is critical to the firm's performance					
i	The firm devotes considerable resources to competitive intelligence operations.					
j	Competitive intelligence aids the firm to uncover opportunities					
k	Competitive intelligence aids the firm to uncover threats					
l	The firm provides intelligence training to all employees					
m	Resources are a constraint to the firm's ability to establish an effective competitive intelligence unit					
n	Competitive intelligence informs the firm on international occurrences that can affect its performance					
o	Firm evaluates the reliability and accuracy of the information received					

PART III: TACTICS ORIENTED COMPETITIVE INTELLIGENCE

17. Please indicate extent to which you agree or disagree with the following statements that relate to your firm.

No	Statements	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
		5	4	3	2	1
a	Competitive intelligence assists the firm to keep abreast with market information					
b	Competitive intelligence helps the firm to track competitors products					
c	Bench-marking activities helps to track what's going on in the industry					
d	The firm obtains information from people who do business with competitors					
e	The firm uses competitive intelligence determine customer needs					
f	Competitive intelligence helps firm to anticipate changes in the business environment					
g	Competitive intelligence helps tract changes in consumer preferences					
h	Investing in a competitive intelligence system improves the firm's performance					
i	Competitive intelligence enables the firm improve current market position.					
j	The industry has several suppliers who are almost equal in capacity					
k	Competitive intelligence helps reduce response time customer needs.					
l	Competitive intelligence enables the firm to keep an up-to date profile of competitors					

18. In your view what are the contributions of strategy oriented competitive intelligence to your firm.....

19. Comment of the use tactics oriented competitive intelligence in your firm.....

PART IV: TECHNOLOGY ORIENTED COMPETITIVE INTELLIGENCE

20. Please indicate extent to which you agree or disagree with the following statements that relate to your firm.

No	Statements	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
		5	4	3	2	1
a	Technology enables the firm to use electronics sources for competitive intelligence purposes					
b	Technology intelligence assists the firm to improve quality of products					
c	The firm encourages knowledge sharing among employees about our operations, products and services					
d	The firm has adopted robotics and other innovations in its operations to gain competitive advantage					
e	The firm is continually innovating to stay ahead of competition.					
f	The firm systematically monitors changes in technology globally to determine new substitutes that are emerging					
g	The firm uses technology intelligence to identify opportunities					
h	Developing new technology is too expensive and the firm opts to imitate others					
i	The firm produces intelligence report and assessment on emerging technologies it believes are most important					
j	Knowledge is very specific to our company; this knowledge cannot easily be adapted outside our company.					
k	Innovation keeps the firm abreast with changing customer preferences					
l	The firm prepares employees on what information to look for while attending trade fairs and exhibitions					

PART V: TARGET ORIENTED COMPETITIVE INTELLIGENCE

21. Please indicate extent to which you agree or disagree with the following statements that relate to your firm.

No.	Statements	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
		5	4	3	2	1
a	The industry in which the firm operates is very competitive					
b	The firm uses intelligence to track trends in the industry					
c	Suppliers are a rich source of information on competitors					
d	The firm tracks the number of patents competitors register					
e	The firm's is competitive relative to other Kenyan firms in the market					
f	The industry has many competitors of different capabilities					
g	Employees are involved in the competitive intelligence process					
h	The firm regularly prepares profiles of competitors					
i	Monitoring the competitors helps improve the firm's decision making.					
j	Competitive intelligence assists in making accurate prediction of competitors' moves					
l	Competitive intelligence aids the firm in accurately evaluating suppliers capability and reliability					
m	Competitive intelligence assists in positioning the firm in its competitive environment					
n	The firm analyzes competitors' plans and strategies to predict and anticipate their actions					

22. Comment on the role of target oriented competitive intelligence in your firm.....

PART V: IMPACT OF ORGANIZATIONAL FACTORS

23. Please indicate extent to which you agree or disagree with the following statements that relate to your firm.

	Statements	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
		5	4	3	2	1
i) Organizational culture						
a	The firm conducts training for employees to enhance intelligence processing skills.					
b	Competitiveness is strongly emphasized in the firm					
c	The firm has a forum where employees freely make suggestions					
ii) Organizational structure						
d	The firm has a functional competitive intelligence unit					
e	The firm has a well laid out structure from receiving information from employees					
f	The firm has a well laid out structure for intelligence gathering					
g	Policies exist for recognizing employees contribution to intelligence gathering					
iii) Senior management attitude towards competitive intelligence						
h	Top management supports competitive intelligence activities					
i	Firm's competitive intelligence capability is considered a strategic management tool					
j	The firm evaluates implementation of competitive intelligence					
k	Management regularly informs employees of the happenings in the industry					

PART: VII FIRM PERFORMANCE

24. To what extent do you agree with the follow following statements concerning your firm's achievement of non-financial performance measures? Kindly tick as appropriate.

No	Non-financial measure	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
		5	4	3	2	1
	Customer satisfaction					
a	The firm continuously assesses customer satisfaction					
b	The firm responds promptly to customer complaints					
c	The firm is sensitive towards customer changing needs					
d	The firm always strive to provide high quality products/services to clients					
e	Products and services are regularly reviewed to meet changing customer preferences					
	Goal Achievement					
f	Firm meets set targets all the time					
g	The firm achieves its annual objectives within set time frame					
h	The firm periodically evaluates effectiveness of formulated organizational strategies					
i	The firm periodically evaluates the efficiency and effectiveness of the resource utilization					
j	Management reviews are regularly carried out to map on how to improve goal achievement					

25. What benefits that has accrued to your firm from its competitive intelligence?

.....

26. Comment on how your firm has been using technology oriented competitive intelligence.....

Appendix III: Document Review Guide (ROA) and (ROE)

Data on Return on Assets (ROA) and Return on Equity (ROE) obtained from Nairobi securities exchange handbooks 2010-2011 and 2012-2013 where a value was not available it was calculated using the formula provided below.

Sector	ROA			ROE		
Year / Firm	2011	2012	2013	2011	2012	2013
Eaagards Ltd	0.06	0.05	0.24	0.06	0.04	0.27
Rea Vipingo Plantations Ltd.	0.22	0.19	0.30	0.24	0.32	0.22
Sasini Ltd.	0.07	0.05	-0.01	0.09	0.07	-0.02
Williamsom Tea Kenya Ltd.	0.22	0.15	-0.08	0.24	0.17	-0.1
Car & General (K) Ltd.	0.07	0.06	0.05	0.21	0.19	0.12
CMC Holdings	0.015	0.012	0.008	0.03	-0.04	0.02
Marshalls (EA) Ltd	-0.06	-0.42	0.38	0.08	-0.41	0.45
Sameer Africa Ltd	.05	.04	.08	0.05	0.04	0.08
Barclays Bank of Kenya Ltd.	0.46	0.48	.498	0.28	0.3	0.3
CFC Stanbic of Kenya Holdings Ltd	0.71	0.83	0.12	0.76	.095	0.12
Diamond Trust Bank of Kenya Ltd.	0.024	.027	0.03	0.251	.259	.258
Equity Bank Ltd.	0.03	0.04	0.03	0.26	0.28	0.30
Housing Finance Co. Kenya Ltd.	0.019	.002	.018	0.13	0.14	0.13
I & M Holding Ltd.	0.10	0.11	0.13	0.12	0.14	0.16
Kenya Commercial Bank Ltd	0.031	.033	.033	0.23	0.25	0.25

National Bank of Kenya Ltd	0.02	0.02	0.01	0.13	0.15	0.07
NIC Bank Ltd	0.032	.034	.028	.236	.257	.196
Standard Chartered Bank Kenya Ltd	0.05	0.06	0.07	0.31	0.33	0.30
The Co-operative Bank of Kenya Ltd.	0.29	0.32	0.04	.247	.256	.263
Express Kenya Ltd.	-0.53	-64	.04	-0.84	-1.48	.066
Hutching Biemer Ltd	-	-	-	-	-	-
Longhorn Kenya Ltd.	0.23	0.30	-.039	0.27	0.33	-0.08
Nation Media Group Ltd.	0.17	0.19	0.34	0.18	0.19	0.34
Scangroup Ltd.	0.10	.11	.09	0.17	.017	0.15
TPS Eastern Africa Ltd.	0.045	.056	.043	0.07	0.09	0.06
Uchumi Supermarkets Ltd	0.16	0.18	.104	0.14	0.17	0.103
Bamburi Cement Ltd	0.17	0.18	0.13	0.22	0.24	0.16
Crown Paints Kenya Ltd	0.05	0.06	.06	0.10	0.12	0.11
E.A. Cables Ltd	0.09	.104	0.15	0.11	0.14	0.18
Kengen Co. Ltd	0.12	.014	.019	0.02	0.03	0.04
Kenolkobil Ltd.	0.23	.27	-.612	0.19	0.28	-0.97
Total Kenya Ltd.	0.03	-.015	-.005	0.05	-.008	-.014
Umeme Ltd.	0.13	0.17	0.19	0.21	0.24	0.22
British-American Investment Co. (Kenya).	0.12	-.19	.29	0.17	-.23	0.20
CIC Insurance Group Ltd.	0.59	0.66	0.11	0.21	0.25	0.14

Jubilee Holdings Ltd.	0.27	0.31	0.30	0.25	0.28	0.26
Kenya Re Insurance Corporation Ltd.	0.18	0.17	0.21	0.17	0.17	0.19
Liberty Kenya Holdings Ltd.	0.21	0.23	0.18	0.19	0.23	0.16
Pan African Insurance Holdings Ltd.	0.03	0.04	0.05	0.19	0.21	0.27
Centum Investment Co. Ltd.	0.24	.026	0.12	0.22	0.24	0.12
Olympia Capital Holdings	0.04	.05	.05	0.04	0.05	0.04
Trans-century Ltd	0.03	0.04	0.03	0.07	0.09	0.10
Baumann & Co. Ltd.	-	-	-	-	-	-
BOC Gases Ltd	0.07	0.08	0.1	0.12	0.14	0.11
British American Tobacco Kenya Ltd.	0.44	0.46	0.41	0.46	0.48	0.46
Carbacid Investment Ltd.	0.17	0.19	0.23	0.18	0.21	0.24
Mumias Sugar Co. Ltd.	0.10	0.11	0.09	0.12	0.13	0.13
Unga Group Ltd	0.05	.005	0.04	0.76	.087	.112
Home Africa Ltd	0.01	0.02	0.03	0.02	0.03	0.05

Source: Nairobi securities exchange

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Average Assets}}$$

$$\text{Return on Equity} = \frac{\text{Net Profit (Profit after Tax)}}{\text{Equity}}$$

Appendix IV: Firms Listed at the Nairobi Securities Exchange

AGRICULTURAL

1. Eaagards Ltd
2. Kakuzi Ltd.
3. Kapchorua Tea Company Ltd.
4. The Limuru Tea Company Ltd
5. Rea Vipingo Plantations Ltd.
6. Sasini Ltd.
7. Williamsom Tea Kenya Ltd.

AUTOMOBILES AND ACCESSORIES

1. Car & General (K) Ltd.
2. CMC Holdings
3. Marshalls (EA) Ltd
4. Sameer Africa Ltd.

BANKING

1. Barclays Bank of Kenya Ltd.
2. CFC Stanbic Kenya Holdings Ltd.
3. Diamond Trust Bank of Kenya Ltd.
4. Equity Bank Ltd.
5. Housing Finance Co. Kenya Ltd.
6. I & M Holding Ltd.
7. Kenya Commercial Bank Ltd.
8. National Bank of Kenya Ltd.
9. NIC Bank Ltd.
10. Standard Chartered Bank Kenya Ltd.
11. The Co-operative Bank of Kenya Ltd.

COMMERCIAL AND SERVICES

1. Express Kenya Ltd.
2. Hutching Biemer Ltd.
3. Kenya Airways Ltd.
4. Longhorn Kenya Ltd.
5. Nation Media Group Ltd.
6. Scangroup Ltd.
7. Standard Group Ltd.
8. TPS Eastern Africa Ltd.
9. Uchumi Supermarkets Ltd

CONSTRUCTION & ALLIED

1. ARM Cement Ltd.
2. Bamburi Cement Ltd
3. Crown Paints Kenya Ltd
4. E.A. Cables Ltd
5. E.A. Portland Cement Ltd.

ENERGY & PETROLEUM

1. Kengen Co. Ltd
2. Kenolkobil Ltd.
3. Kenya Power & Lighting Ltd.
4. Total Kenya Ltd.
5. Umeme Ltd.

INSURANCE

1. British-American Investment Co. (Kenya).
2. CIC Insurance Group Ltd.
3. Jubilee Holdings Ltd.
4. Kenya Re Insurance Corporation Ltd.
5. Liberty Kenya Holdings Ltd.
6. Pan African Insurance Holdings Ltd.

INVESTMENT

1. Centum Investment Co. Ltd.
2. Olympia Capital Holdings
3. Trans-century Ltd

MANUFACTURING & ALLIED

1. Baumann & Co. Ltd.
2. BOC Gases Ltd
3. British American Tobacco Kenya Ltd.
4. Carbacid Investment Ltd.
5. East African Breweries Ltd.
6. Eveready East Africa Ltd
7. Kenya Orchards Ltd.
8. Mumias Sugar Co. Ltd.
9. Unga Group Ltd.

TELECOMMUNICATION & TECHNOLOGY

1. Safaricom Ltd.

GROWTH ENTERPRISE MARKET SEGMENT

1. Home Africa Ltd.

Source: Nairobi Securities Exchange (2014)

Appendix V: Research Permit

THIS IS TO CERTIFY THAT:


MR. PAUL WAITHAKA MAHINGE
of KENYATTA UNIVERSITY, 730-1000
THIKA, has been permitted to conduct
research in All Counties

on the topic: EFFECT OF COMPETITIVE
INTELLIGENCE PRACTISES ON THE
PERFORMANCE OF FIRMS LISTED AT THE
NAIROBI SECURITIES EXCHANGE, KENYA

for the period ending:
14th August, 2015

Paul Waithaka Mahinge
Applicant's Signature

Permit No : NACOSTI/P/14/0556/4395
Date Of Issue : 18th December, 2014
Fee Received : Ksh 2,000



[Signature]
Secretary
National Commission for Science, Technology & Innovation