The Influence of ISO 9001 Quality Management System Implementation on Financial Performance Among Companies Listed In The Nairobi Securities Exchange

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DECLARATION

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

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DEDICATION

I dedicate this study to my father, Isaac Oyaro and my mother, Caren Kwamboka.

ABSTRACT

This study intended to probe the influence of ISO 9001 quality management system implementation on the financial performance of companies listed in the Nairobi Securities Exchange (NSE). Based on a population of companies listed by August 2019 and using, correlation, regression, and ANOVA analysis models, the research sought to find out if implementing Quality Management Systems influences financial performance. The researcher provided a historical and theoretical foundation for the study of ISO 9001 quality management system implementation and its relationship with the financial performance for certified firms. One main research objective and six specific objectives were tested. The significance of the study to existing Kenyan firms, regulators, policymakers, and scholars was explained. The Signaling theory and Institutional theory and their relevance to the survey were also revealed. Over ten previous studies on the subject and their conclusions were discussed. Seven total variables of interest were presented in the form of a conceptual framework. The target population was 177 management staff stratified into the top, middle, and low-level management staff from which a sample size of 122 respondents was selected. The data was collected using structured questionnaires which were administered using the drop-off/pick up strategy. One hundred and twenty-two questionnaires were applied with a response rate of 68%. The study concluded that top management leadership influenced financial performance for listed companies. Customer orientation, quality system processes, human resource applications, supplier relationships and process control & improvement did not affect financial performance for companies listed on the NSE. A t-test revealed a statistically significant difference between the financial performance of ISO 9001 certified companies compared to non-ISO 9001 certified firms with ISO 9001 accredited companies having better financial performance.

Keywords: ISO, Quality, Management, Certification, Standards, Customers, Performance, Organisations

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
AQAP	Allied Quality Assurance Publications
BSI	British Standards Institute
CI	Certification Intensity
DOPU	Drop-Off/Pick-Up
EABL	East African Breweries Limited
GDP	Gross Domestic Product
HR	Human Resources
IRB	Institutional Review Board
ISO	International Organization for Standardization
KEBS	Kenya Bureau of Standards
MS	Management System
NACOSTI	National Commission for Science Technology and Innovation
NATO	North Atlantic Treaty Organization
NSE	Nairobi Securities Exchange
QM	Quality Management
QMS	Quality Management System
ROA	Return on Assets
SPSS	Statistical Package for the Social Sciences
TQM	Total Quality Management

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

The International Organization for Standardization (ISO) was founded in 1947. It is the world's most prominent developer of voluntary international standards and has members from 164 countries. The earliest ISO standard was published in 1951. ISO 9001 is a global standard for quality management and assurance. Intended to help firms document that they are maintaining a proficient quality system, the International Organization for Standardization (ISO) first published the standard in 1987. ISO 9001 has become a global reference for quality management requirements (Jacobs & Chase, 2018). In 1959, military authorities in the United States and the United Kingdom published quality standards such as the MIL-Q-9858 and Stan 05-21/05-24, respectively. When an organization wanted to do business with these military organizations, they had to comply with these standards.

Ultimately, these two defence industries adopted mutually recognized NATO AQAP, MIL-Q and Def Stan standards. International trade and the need to have internationally accepted quality criteria ultimately resulted in the ISO 9000 standards (Stamatis, 1995). ISO published its first quality management standard within the ISO 9000 family in 1987 (ISO, 2020). ISO has published five versions of ISO 9001 from inception. There is a 1987 version, a 1994 version, a 2000 version, a 2008 version and the current 2015 version. The 2015 release focuses on risk control and manager involvement in quality activities (Manders, 2015).

The emergence and the use of Management Systems (MS) have been one of the significant recent developments in the field of management practice. Through Management Systems, firms commit to improve their Quality, Environmental, Food Safety, Information Security, Occupational Health and Safety, Social Responsibility, Energy Management, or other management practices. ISO 9001 for quality management and ISO 14001 for environmental management are the two standards of the ISO series that have obtained most impact at international level (Simon, Stanislav, & Casadesus, 2012). The ISO standards focus on identifying criteria by which any firm can ensure that its products or services meet customer requirements. The standards require a company to document and implement its systems for quality management. An audit carried out by an independent accredited third party is used to verify the compliance of the system with the requirements of the standards (Jacobs & Chase, 2018).

One of the seven ISO quality management principles is leadership. Leadership at all levels creates the unity of purpose and direction and generates conditions in which people are engaged in accomplishing the organization's quality objectives. This unity empowers an organization to align its strategies policies, processes, and resources to achieve its goals (ISO, 2015). Customer orientation (focus) is one of the seven principles of ISO quality management. The main aim of quality management is to meet customer needs and to endeavour to surpass customer expectations. Continuous success is achieved when an organization attracts and maintains the trust of customers and other stakeholders. Recognizing the present and future needs of customers and other stakeholders adds to the sustained success of the organization (ISO, 2015).

Quality system processes are the specific processes an organization will implement to support its quality management system. For example, a service provider might have an incident management process to manage disruptions to its services.

Human resources applications are the processes of attracting, developing, and maintaining a talented and energetic workforce to support organizational mission, objectives and strategies. Competent human resources are generally well educated and trained. They are also continually developing their skills and knowledge to meet new market demands and achieve organizational objectives (ISO, 2015).

To achieve continued success, an organization manages its relationships with stakeholders such as suppliers. Relationship management with suppliers and partner networks is essential for lasting success (ISO, 2015). Another quality management principles is a process approach. Consistent and foreseeable outcomes are realized more effectively and efficiently when activities are understood and managed as interrelated processes that work as a coherent system. Appreciating how a quality management system generates results assists an organization in optimizing the quality management system and its performance. (ISO, 2015).

Following a similar approach to Wamai and Kilika (2016), a conceptual model to study the influence of Quality Management Systems certification on organisation financial performance was built. ISO quality management system implementation was broken down into six variables. The practical application of ISO 9001 was measured in the respective NSE listed firms using a questionnaire anchored on the six variables.

Financial performance formed the dependent variable. Financial performance was measured from the respondents using five specific questions in the survey.

ISO 9001 and associated ISO quality management standards are based on seven quality management principles. These are customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management. (ISO, 2015).

Table 1.1: ISO Quality Management Principles

Principle	Rationale
Customer Focus	Sustainable success is attained when a firm attracts and retains the confidence of customers and other stakeholders.
Leadership	Unity of purpose enables a firm to align its strategies, policies, processes, and resources to achieve its objectives.
Engagement of People	Engaged employees are essential to an organization to enable it to create and deliver value.
Process Approach	Activities should be overseen as interrelated processes that make up a coherent system.
Improvement	Improvement is vital for an organization to maintain current performance and to create new opportunities.
Evidence-Based Decision Making	Use of facts and evidence leads to better decision making.
Relationship Management	For sustainable success, an organization must manage relationships with all stakeholders.

Source: (ISO, 2015)

The ISO 9001:2015 standard uses the process approach which utilizes the Plan-Do-Check-Act (PDCA) cycle and risk-based thinking. Risk-based thinking assists an organization in establishing the factors that could make its quality management system to deviate from the planned outcomes and to put in preventive measures. To conform to the requirements of the ISO 9001:2015 standard, an organization needs to design and employ actions to address risks and opportunities (British Standards Institute, 2015). The requirements of the ISO 9001: 2015 standard are generic and intended to apply to any organization regardless of size type or good and services it provides. The provisions of the standard as detailed in British Standards Institute (2015) are listed in Table 1.2.

Table 1.2: ISO 9001:2015 Requirements

Clause	Focus Areas
4	The context of the organization, expectations of stakeholders' scope of the quality management system and its processes.
5	Leadership and commitment, quality policy and organizational roles and responsibilities.
6	Planning to address risks and opportunities, quality objectives and planning of changes to the quality management system.
7	Support for the quality management system in terms of resources, competence, awareness, communication, and documented information.
8	Operation of the quality management system.
9	Performance evaluation of the quality management system.
10	Improvement of the quality management system

Source: British Standards Institute (2015)

1.1.1 Global Perspectives on the Impact of ISO Certifications on Financial Performance

The study by Casadesu, Heras, and Dick (2002) looked at how ISO 9001 certification impacts a firm's bottom line. They achieved this through a comparative study of the profitability of Basque region companies in Spain. Using returns on assets employed, they calculated the average level of profitability for 400 certified firms and 400 non-certified firms over five years. The study concluded that the average profitability of certified firms was superior. Benner and Veloso (2008) conducted a study of 75 firms in the auto supplier industry in the United States by evaluating the relationship between quality management systems represented by ISO 9001 certification and corporate financial performance for ten years. The study found that late adopters of ISO 9001 no longer gain financial benefits from these practices. Firms that have a very narrow or extensive technological focus had fewer opportunities for mutual interactions that arose from process management practices and thus benefited less than those with limited breadth in technologically related activities. The study concluded that ISO 9001 certification had a significant impact on financial performance Tobin's Q and Return on Assets (Tobin's Q and return on assets).

Other studies have concluded that ISO 9001 certification does not improve companies' financial performance. Duarte, Brito, Diserio, and Martins (2011) tested the relationship between quality management practices and ISO certification on financial performance measured by profitability and growth among a sample of 1,200 firms from Brazil, was used. Analysis using multiple regression investigated the effect of practices and their interaction with industry dummies.

Results did not support the presence of a positive relationship with financial performance. A weak negative correlation between ISO certification and growth was found.

Causation between ISO 9001 and enhanced business performance was studied by Dick, Heras Saizarbitoria, and Casadesus (2008). They concluded that there is some evidence to indicate that quality management system certification has some causal influence on business performance. There is likewise evidence for the presence of a substantial mechanism whereby better-performing firms self-select to adopt certification. In an earlier study, Casadesu et al. (2002) concluded that there is little empirical research that can attribute causality to accreditation. For Sampaio, Saraiva, and Monteiro (2012), there was no unanimity that certified companies would be less profitable if they had not implemented their quality management systems.

1.1.2 Regional Perspectives on the Impact of ISO Certification on Financial Performance

In a study on the impact of ISO 9001 certification on sales in Mauritius, using a sample of 39 ISO certified companies and 39 non-ISO certified companies, Kawthar and Vinesh (2011) reported a significant difference between the mean sales of the two groups in favour of the certified companies. From a study by Allur, and Heras-Saizarbitoria (2014), the ISO 9001 certification intensity of the African continent is 0.18. This certification intensity means that the contribution of Africa to the worldwide gross domestic product (GDP) of the globe is more than five times superior to the proportion of ISO 9001 certificates located in Africa. There is an opportunity for more relevant organizations to be certified to ISO 9001 to reap benefits of certification if any. Certification Intensity (CI) is computed as the ratio between the percentage share of the number of certificates issued globally and the percentage share of total world GDP measured in US dollars at current exchange rates of the time (Guasch, Luis; Racine, Jean-Louis; Sanchez, Isabel; Diop, Makhtar, 2007).

There were 878,664 valid ISO 9001:2015 certificates in the world as at 31st December 2018. These certificates are spread across 1,180965 sites. Of these certificates, 9977 are in Africa, representing only 1.13% of the global ISO 9001:2015 certificates. Within Africa, South Africa and Egypt dominate with 3257 and 1936 certificates, respectively or 52% of the certificates in Africa (ISO, 2018). South Africa and Egypt are part of the top five economies in Africa (World-Bank, 2019).

With Egypt and South Africa also accounting for 52% of all the ISO 9001:2015 certificates in Africa, it would be of interest to study if there is a correlation between quality management practices in a country and its financial performance (GDP growth).

1.1.3 Local Perspectives on the Impact of ISO Certification on Financial Performance

In the Kenyan context, Ochieng, Muturi, and Njihia (2015) studied the effect of ISO 9001 implementation on the performance of organizations in Kenya. They specifically targeted organizations listed on the Nairobi Securities Exchange (NSE). Secondary data from the NSE repositories on financial performance was collected from 19 of these organizations. The study covered five sectors, namely: finance; automobiles; manufacturing; energy/petroleum and commercial services. The survey made use of web content analysis to collect data from these organizations' websites. Data was collected on net profit, turnover and net assets over four years (2010- 2013). The results revealed that ISO 9001 certification influenced return on net assets of the organizations, thereby affecting their performance. For other variables measured (net profit and turnover), there were no significant differences between the ISO 9001 certified organizations and the ones not certified. Also, no sizable differences were noted across sectors of organizations covered in the survey. Ochieng et al. (2015) concluded that ISO 9001 certification has a positive influence on the organization's return on assets, thus improving its performance. There are 554 valid ISO 9001:2015 certificates in Kenya as at 31st December 2018. These certificates are spread across 843 sites in Kenya (ISO, 2018).

1.1.4 Cost of ISO 9001 Certification

ISO 9001 certification has three parts. The first component involves organizations building a quality management system. After that, organizations will typically hire consultants to review and improve their quality management system. Finally, organizations must pay certification audit costs. Overall costs are dependent on company size, number and type of products, and the state of the quality management system (Stevenson & Barnes, 2002). The Quality Systems Update report puts certification costs at US$245,200 (Weston, 1995). Large organizations spend more than US$ 1 million for certification. Smaller organizations spend around US$250,000 on certification and US$70,000 on annual maintenance costs (Zuckerman, 1994).

The employee training costs are approximately US$ 5,000 for a single site. Employees receiving a one-day training costs about US$500 per person. Consultants cost about US$1600 per day. Registration costs up to US$ 40000 depending on company size. Surveillance for three years cost around US$ 4000 (Stevenson & Barnes, 2002). Globally, 878,664 organizations are certified to ISO 9001:2015 across 191 countries (ISO, 2018).

Several mechanisms have led to worldwide diffusion of ISO 9001. These mechanisms include legal rules, sanctions, and market induced requirements (Manders, 2015)

1.1.5 Listed Companies in the Nairobi Securities Exchange

There are 59 companies listed on the NSE covering the agricultural, automobiles, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, investment services, manufacturing and allied, telecommunication, real estate investment trusts and exchange-traded funds. A list of these companies is provided in the appendix section.

1.2 Problem Statement

According to ISO (2018), 554 Kenyan organizations are accredited to ISO 9001:2015. ISO standards are, therefore, increasingly gaining popularity in Kenya. Managers need to justify investments in their implementation through corresponding firm performance. Safaricom PLC is one of the companies listed on the NSE and is certified in several ISO certifications, including the ISO 9001 quality certification. Safaricom PLC is the most capitalized company at the NSE at 1.2 trillion KES and has 40.06 billion shares in issue, representing 42 per cent of the NSE's total listed shares (Business-Daily, 2018). Safaricom PLC accounts for 45 per cent of total market capitalization at the NSE, which stands at Ksh2.61 trillion. East African Breweries Limited (EABL), is another NSE listed company and is ISO 9001 certified. It is valued at KES 156 billion and is second to Safaricom on the NSE in terms of market capitalization. This research seeks to discover if a relationship between ISO 9001 quality management system implementation and financial performance of companies listed in the NSE exists.

Under the current situation, studies carried out in quality management systems have resulted in conclusions of a contradictory nature. Some scholars conclude that there is a positive relationship between ISO 9001 certification and companies' financial improvement (Skuras, Dimara, Tsekouras, & Goutsos, 2004).

Some authors, however, do not find evidence to support a positive relationship between ISO 9001 quality management system implementation and companies' financial improvement (Corbett, Montes Sancho, & Kirsch, 2005). For Sousa and Voss (2002) quality management practices have a significant and substantial impact on quality and operational performance. However, their impact on business financial performance is weaker and not always significant.

Under an ideal situation, managers of the 554 organizations certified to ISO 9001:2015 in Kenya need to justify investments in implementation of ISO quality management standards through corresponding positive firm performance. There is room for conducting additional work to analyze ISO certification impact over business performance if any. This research seeks to complement the literature by researching the effects of ISO 9001 certification on financial performance for firms listed on the Nairobi Securities Exchange.

1.3 Research Objectives

1.3.1 General Objective

To assess the influence of ISO 9001 Quality Management System implementation on financial performance among companies listed in the Nairobi Securities Exchange.

1.3.2 Specific Objectives

i. To establish the relationship between top management leadership and financial performance among companies listed in the Nairobi Securities Exchange.
ii. To establish the relationship between customer orientation and financial performance among companies listed in the Nairobi Securities Exchange.
iii. To establish the relationship between quality system processes and financial performance among companies listed in the Nairobi Securities Exchange.
iv. To establish the relationship between human resources applications and financial performance among companies listed in the Nairobi Securities Exchange.
v. To establish the relationship between supplier relationships and financial performance among companies listed in the Nairobi Securities Exchange.
vi. To establish the relationship between process control and improvement and financial performance among companies listed in the Nairobi Securities Exchange.

1.4 Research Questions

i. What is the relationship between top management leadership and financial performance among companies listed on the Nairobi Securities Exchange?
ii. What is the relationship between customer orientation and financial performance among companies listed on the Nairobi Securities Exchange?
iii. What is the relationship between quality system processes and financial performance among companies listed on the Nairobi Securities Exchange?
iv. What is the relationship between human resources applications and financial performance among companies listed on the Nairobi Securities Exchange?
v. What is the relationship between supplier relationships and financial performance among companies listed on the Nairobi Securities Exchange?
vi. What is the relationship between process control and improvement and financial performance among companies listed on the Nairobi Securities Exchange?

1.5 Scope of the Study

The scope of the study was firms listed in the NSE. The key objective was to assess the influence of ISO 9001 quality management system implementation on the financial performance of listed firms on the NSE. The Companies listed on the NSE operate in diverse industries such as Agriculture, Banking, Construction, Energy and Petroleum, Insurance, Investment Services and Manufacturing and Telecommunications. There are 59 listed companies on the Nairobi Securities Exchange covering the mentioned industries. ISO 9001 identifies requirements for a quality management system and is the most adopted Quality Management framework globally, with over 878,664 organizations using it (ISO, 2018)

1.6 Significance of the Study

The findings of this study are relevant in the following ways:

1.6.1 Existing Kenyan Firms

According to ISO (2018), there are 554 firms certified to the ISO 9001:2015 Quality Management System. These firms have spent considerable financial resources and time to get certified. It is essential for these firms to know whether certification and implementation of quality management systems help them post better business results.

1.6.2 Regulators and Policy Makers

This research will be helpful in terms of assisting policymakers in Kenya to evaluate the influence of quality management systems on the financial performance of organizations. This evaluation will help in shaping policy conversations around quality management for specific industries.

1.6.3 Scholars and Researchers

This study will offer a thorough description of the current status of ISO 9001 Standardized Management systems in Kenya and their impact on financial performance for certified firms.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents theories and their relevance to the study and previous studies on the subject. A conceptual framework consisting of variables of interest and operationalisation of those study variables will also be discussed.

2.2 Theoretical Review

Two fundamental theories are applied in this study. Spence (1973) signalling theory argues that sellers can signal quality through actions only if those actions are differentially costly to obtain. In markets characterized by information asymmetry, quality management systems can be used to signal quality to consumers. The Institutional Theory, on the other hand, emphasizes the legitimacy of organizations. Rather than improving their decisions, systems, and structures, organizations look to their contemporaries for signals to appropriate behaviour.

2.2.1 Signaling Theory

The influence of quality management system certification on financial performance can be explained by signalling theory. In his signalling theory Spence (1973) famously presented that education could be used as a signal to separate workers in terms of productivity whether students learnt anything while attending college or not. ISO 9001 Quality Management System certification could work in the same way and act as a market signal (Manders, 2015). Markets are characterized by information asymmetry. Consumers often lack full knowledge about the characteristics of products and their supplier (Akerlof, 1970) . Quality management systems like ISO 9001 can partly solve this problem. Such systems help to distinguish organizations that guarantee high-quality products from companies that might be less reliable in terms of quality (Manders, 2015).

Subsequently, a company with a quality management system like ISO 9001 might gain an advantage over a non-certified firm which might translate to higher revenues (Terlaak & King, 2006). Organizations from developing countries experience challenges in signalling their product and services quality to consumers.

As many companies from financially developed countries supply their products from economically less developed countries, certification can assist companies in developing countries to increase their export opportunities (Clougherty & Grajek, 2008). Signalling is useful when it is hard to ascertain the quality of an organization (Graffin & Ward, 2010).

Graffin and Ward (2010) postulate that the more uncertain customers are about an organization's capabilities, the more likely the organization's reputation will profit from third-party quality signals like certification. In the service sector, consumers are involved in the process of production, which gives them the chance to experience the quality of the whole system (Manders, 2015). In the manufacturing sector, consumers only see the finished product and not how it is produced. The distance between a manufacturing company and its consumers is more significant. This distance makes it harder for the customer to visit the company, and subsequently, the customer is more likely to rely on the quality certificate. Signalling aids the manufacturing sector more (Manders, 2015).

The Signaling theory was used in this study to understand the impact that quality management system implementation can have on the perception of an organization by its customers. By implementing quality management standards in the firm, an organization is pointing out to the customers and stakeholders that there are systems in place to improve its operational efficiency and thus increase its performance. The signalling theory is essential in this study as it shows the importance of the six variables that make up quality management system implementation. These six variables are top management leadership, customer orientation, quality system processes, human resources applications, supplier relationships, process control, and improvement on customer perception.

2.2.2 Institutional Theory

According to the Institutional Theory, ISO 9001 certification may not necessarily enhance operational performance for certified organizations. Institutional theory avers that firms act to strengthen their legitimacy and not necessarily their efficiency (DiMaggio & Powell, 1983). Firms may get quality management certification because of industry expectations. Consequently, they make the least effort to change their processes. Implementation of the quality management system becomes ritualistic and does not result in improvement in operational performance (Boiral, 2012).

Institutional theories of the study of organizations submit that organizations obtain legitimacy by conforming to the dominant practices within their organizational field.

DiMaggio and Powell (1991) propose that there are three types of external pressure lead organizations towards homogeneity. These external pressures are coercive, mimetic, and normative pressure. Coercive isomorphism results from the pressure of external interested parties to adopt ISO standards.

For example, pressure from customers is one of the main drivers of ISO 9001 certification (Boiral, 2003). Mimetic isomorphism occurs when organizations view ISO standards as useful forms of management practices. The imitation of organizations adopting these sound management practices tends to proliferate specific standards such as ISO 9001 across borders (Boiral, 2007).

Normative isomorphism occurs when an accreditation body has the right to appraise and inspect other organizations. The accreditation body grants the use of a seal or label certifying that the authorized organization follows the processes set by the authorizer. Certificates such as ISO 9001 fall into this category (Guler, Guillen, & Macpherson, 2002). Organizations seek support and legitimacy in their institutional fields by implementing structural models that are perceived to be the best available. In that way, entities such as ISO are critical players in defining the isomorphic properties of many institutional fields. ISO standards can be superficially implemented when organizations are driven by the pursuit of social legitimacy rather than the search for improvement (Boiral, 2007).

Rather than improving their top management leadership, customer orientation, quality system processes, human resource applications, supplier relationships and process control, organizations look to their contemporaries for signals to appropriate behaviour.

2.3 Empirical Review

2.3.1 ISO Standards

One of the ways businesses can distinguish themselves and be competitive is through effective quality management. The International Organization for Standardization (ISO) was established with the idea of answering a fundamental question related to quality: "what is the best way of doing this?" International Standards mean that customers can have confidence that products are safe, reliable, and of good quality (ISO, 2018). Customer confidence in a firm's products or services translates to better performance for an organisation in the form of revenues.

According to Heras et al. (2002), there have been several studies globally on the impact of ISO management systems certification for companies and their subsequent financial performance. Performance of an organisation can be described using financial or non-financial indicators. Broadly, economic indicators like profits and cash flows or derivatives from them are used to describe performance for many firms. Non-financial measures of performance include the balanced scorecard.

The emergence and the use of Management Systems (MS) have been one of the significant recent developments in the field of management practice. Through Management Systems, firms commit to improve their Quality, Environmental, Food Safety, Information Security, Occupational Health and Safety, Social Responsibility, Energy Management, or other management practices. These Management Systems can be certified with, for example, the quality standard ISO 9001 or the environmental standard ISO14001. Ilkay and Aslan (2012) proposed the following six variables to measure the implementation of an ISO 9001 quality management system.

2.3.1.1 Top Management Leadership

Purwihartuti, Sule, Hilmiana, and Zusnita (2016) conducted a study on quality management systems and the performance of organizations. They broke down quality management into ten variables, with one of the variables being leadership. They broke down the performance of organizations into eight variables. The data was obtained by searching the relevant international journal of Emerald and ProQuest by using keywords like quality management system and organizational performance. The findings of the study were that top management leadership improved the business results of firms. The study concluded that leaders establish unity of purpose and direction of the organization and must create and maintain a conducive operating environment.

Adam et al. (1997) found out that top management leadership improves financial performance. They conducted their study using data collected from 977 business organizations located in Asia/South Pacific, Europe, and North America. Sadikoglu and Olcay (2014) investigated the impact of quality practices on various performance measures as well as the motives and the barriers to quality practices for firms in Turkey. Working with 242 questionnaires, they used a cross-sectional survey methodology in their study. Exploratory factor analysis and multiple regression analysis revealed that leadership was not significantly related to any performance measures. The study thus concluded that leadership did not affect business performance.

Nguyen, Phan, and Matsui (2018) examined the contribution of quality management practices to the sustainability performance of Vietnamese firms. The research investigated the relationship between quality management practices and sustainability performance as well as the moderating effects from quality management implementation timeline, type of industry, and firm size on this relationship.

Data was collected from enterprises in Vietnam from July 2016 to March 2017. The results indicated that top management support for quality management had a significantly positive impact on performance.

Wanza, Ntale, and Korir (2017) conducted a study on the impact of Quality Management implementation on organizational performance of Kenyan Universities. The study adopted the explanatory survey design. The target population was the staff of public and private universities from which 321 respondents were selected using stratified random sampling techniques. Data was analyzed using Pearson correlations and structural equation modelling. The study unveiled that leadership commitment and continuous improvement and customer focus have a significant effect on university performance.

2.3.1.2 Customer Orientation

Jitpaiboon and Rao (2007) used the meta-analysis method to show that quality management practices such as customer focus and leadership are positively related to internal and external business performance. More specifically, top management support had the highest impact on both performances. Total Quality Management (TQM) practices, which had a medium-sized effect on internal performance, included customer orientation. The quality management practices which had a medium impact on external performance were benchmarking and customer orientation.

Terziovski, Power, and Sohal (2003) had a similar view in their study on the effects of the ISO 9000 certification on business performance as they concluded that customer orientation contributed significantly to business performance. Malik, Iqbal, Shaukat and Yong (2008) conducted a study on quality management and its effect on organizational performance for Pakistan SMEs. They found out that customer focus has a positive impact on business performance. Sadikoglu and Olcay (2014), in their study on Turkish firms, also concluded that customer focus has a significant positive effect on business performance. Purwihartuti, Sule, Hilmiana, and Zusnita (2016) similarly found that customer focus improves financial performance.

In contrast, some studies found no significant impact on financial performance as a consequence of customer orientation.

Sila and Ebrahimpour (2005) investigated the relationships among Total Quality Management (TQM) factors such as leadership, strategic planning, customer orientation, information and analysis, human resource management, process management, supplier management and the results from adopting such practices. They found out that business results were not affected by customer orientation.

Ilkay and Aslan (2012) conducted a study to determine whether there was a variation among ISO 9001 accredited and non-accredited companies in terms of performance. Their research design examined differences between certified and non-certified companies in terms of financial performance and quality practices using one-way analysis of variance. The study concluded that customer orientation did not affect business performance. Customer orientation for quality certified companies was higher than non-certified companies. However, this was not high enough to affect performance. Rahman (2000) also found no significant difference between SMEs with ISO 9001 and those without for organizational performance as far as customer orientation was concerned.

2.3.1.3 Quality System Processes

In their study, Sila and Ebrahimpour (2005) explored the relationships among Total Quality Management (TQM) factors such as leadership, strategic planning, customer orientation, information and analysis, human resource management, process management, supplier management. Other than leadership, quality system process management was the only factor that they determined had a direct effect on business results. Ilkay and Aslan (2012) studied the impact of the ISO 9001 quality management system on the performance of SMEs in Turkey. The purpose of their study was to determine if a difference among ISO 9001 certified and non-certified companies in terms of performance existed. They concluded that quality system processes did not affect business performance. Quality system processes implementation for quality certified companies was higher than non-certified companies. However, this was not high enough to affect performance.

ISO 9000 registered companies were also demonstrated to have higher levels of Quality System Processes than non-certified companies, according to (Rao, Ragu-Nathan, & Solis, 1997).

However, they did not establish whether higher levels of quality practices affected business performance. For his study, Gupta (2000) found that statistically significant differences do exist between ISO and non-ISO organizations for Quality System Processes implementation.

Nevertheless, he did not comment on whether this difference in implementation affected business performance. On the contrary, Rahman (2000) found no significant difference between SMEs with quality system processes implemented and those without for organizational business performance.

2.3.1.4 Human Resources Applications

Sila and Ebrahimpour (2005) studied the relationships among quality management factors, including strategic planning, customer focus, information and analysis, human resource applications, process management, supplier management. They found out that human resource applications had a mediating effect on business performance. Ilkay and Aslan (2012) found no statistically significant difference in business performance between certified and non-certified firms following human resource quality applications after studying the effect of the ISO 9001 quality management system on the performance of SMEs in Turkey. The study concluded that human resource applications did not affect business performance. Human resource application for quality certified companies was higher than non-certified companies. However, this was not high enough to affect performance. ISO 9000 registered companies were established to have higher levels of human resources applications than non-certified companies by (Rao, Ragu-Nathan, & Solis, 1997). However, the researchers did not establish if the higher level of application affected business performance.

Gupta (2000) found statistically significant differences do exist between ISO and non-ISO organizations for the implementation of human resource applications. Still, he did not ascertain whether the higher implementation affected business performance. Purwihartuti, Sule, Hilmiana, and Zusnita (2016) concluded that human resource applications have a positive effect on business results. In contrast, Rahman (2000) found no significant difference between SMEs with human resource quality applications and those without for organizational performance.

2.3.1.5 Supplier Relationships

Sila and Ebrahimpour (2005) explored the relationships among TQM factors including strategic planning, customer focus, information and analysis, human resource applications, process management, supplier management and the results from adopting such practices such as human resource results, customer results, organizational effectiveness and financial and market results. They found out that supplier management did not affect business performance.

Ilkay and Aslan (2012) found statistically significant differences between certified and non-certified firms in the 0.01 level of significance for supplier relationships after studying the impact of ISO 9001 quality management system implementation on the performance of SMEs in Turkey. They concluded that supplier relationships did not affect business performance. Supplier relationships for quality certified companies were better than non-certified companies. However, this was not high enough to affect performance.

Malik, Iqbal, Shaukat, and Yong (2008) conducted a study on quality management and its effect on organizational performance for Pakistan SMEs. They found out that supplier relationships and benchmarking were the most critical determinants of business performance followed by top management commitment and customer orientation. ISO 9000 registered companies were found to exhibit higher levels of Supplier Relationships than non-certified companies from a study by (Rao, Ragu-Nathan, & Solis, 1997). The effect of better supplier relationships on business performance was not determined. Gupta (2000), for his part, concluded that there were statistically significant differences between ISO and non-ISO organizations for Supplier Relationships. The effect of the difference in supplier relationship on financial performance was not investigated. Rahman (2000) found no significant impact of better supplier relationship on business performance for quality certified organizations compared to non-certified ones.

2.3.1.6 Process Control and Improvement

Ilkay and Aslan (2012) found statistically significant differences in the 0.01 level of significance for process control-improvement after studying the effect of the ISO 9001 quality management system on the performance of SMEs in Turkey. They concluded that process control and improvement did not affect business performance. Process control and improvement for quality certified companies were better than non-certified companies. However, this was not high enough to transform business performance.

ISO 9001 registered companies were also confirmed to have higher levels of Process Control and Improvement than non-certified companies from a study by (Rao, Ragu-Nathan, & Solis, 1997). The researchers did not explore whether better process control influenced business performance. Gupta (2000) determined that statistically significant differences do exist between quality certified and non-quality certified organizations for process control and improvement. He did not make a call, whether the difference in process control influenced financial performance.

2.3.1.7 Financial Performance

The performance of an organization consists of three specific areas of firm outcomes (Richard, Devinney, Yip, & Johnson, 2009). These three areas are financial performance (profits, return on assets, return on investment), product market performance (sales, market share) and shareholder return (total shareholder return, economic value-added). Financial performance is measured using data from financial statements such as balance sheets, income statements and statements of cash flows. It can also refer to market data, such as the market value of shares. A firm's financial performance can be defined by several indicators such as turnover, return on assets, return on sales, return on equity, earnings per share, earnings before interest, taxes, depreciation, and amortization (Benner & Veloso, 2008).

Organizational performance is the ultimate dependent variable of interest for researchers concerned with any area of management, according to Richard, Devinney, Yip, and Johnson, (2009). Market competition for customers, inputs, and capital make organizational performance essential to the survival and success of the modern business. As a result, this construct has secured a central role as the deemed goal of current industrial activity. Marketing, operations, human resources (HR), and strategy are all ultimately judged by their contribution to organizational performance. Measuring it is essential in allowing researchers and managers to evaluate the specific actions of firms and managers, where firms stand vis-à-vis their rivals, and how firms evolve and perform over time. Its importance as the ultimate evaluative criterion is reflected in its pervasive use as a dependent variable (Richard, Devinney, Yip, & Johnson, 2009).

Among a sample of 439 articles in the Strategic Management Journal, the Academy of Management Journal, and Administrative Science Quarterly over three years March and Sutton (1997) found 23% included some measure of performance as a dependent variable.

Reviewing the last three years of the journals examined by March and Sutton (1997) as well as the Journal of International Business Studies and the Journal of Management, Richard et al. (2009) identified 213 papers—29% of the overall published in those journals— that comprised organizational performance as a dependent, independent, or control variable. The measures ranged from a collection of financial operating ratios (For example, net profit after taxes and the return on equity to measures of successful outcomes (e.g., Food and Drug Administration approvals and survivorship).

Many studies rely on subjective measures that are evaluated by respondents. Scholars have discussed the necessity to use subjective performance measures as a substitute for the objective measure. The use of subjective measurements for business performance is made more necessary by the relative difficulty, particularly for small firms, of gathering objective financial data. Either these types of data are unavailable, or they are obscured or manipulated by managers' eager to protect their firms' reputations or avoid personal or corporate taxes (Santos & Brito, 2012).

Subjective measures allow comparison across firms and contexts, such as industry types, time horizons, cultures or economic condition (Song et al., 2005). Indeed, it can be a good alternative if the measures focus on the firm's current situation and the objective data may not be compatible with the intended level of analysis (Wall et al., 2004). The use of subjective measures can reduce the dependence on objective criteria, mainly when the research is executed at business units of multi-industry firms and privately held firms (Nur & Zulkiffli, 2014). In this study, the respondents were asked to indicate their level of agreement with statements on profitability, turnover, market share, receivables turnover, and inventory turnover of their respective firms. These statements were adapted from Ilkay and Aslan (2012).

2.3.2 ISO Certification and Financial Performance

Several researchers have researched the relationship between ISO 9001 implementation and company performance. Duarte et al. (2011) examined several operational practices and their connection with the financial performance for 1200 Brazilian companies. One of the operational practices they studied was ISO certification. After analysis using multiple regression, they found no definite relation between ISO certification and financial performance. Heras et al. (2008) focused their studies on causation between ISO 9001 and improved organizational performance.

They found evidence that well-performing firms self-select to pursue certification. They still saw some evidence to indicate some causal influence on business performance by the quality management system. A study by Ionascu, Ion, Sacarin, and Minu (2017) focused on the relationship between ISO 9001, ISO 14001 and OHSAS certification and financial performance for companies listed on the Bucharest Stock Exchange.

Working with audited financial statements of 67 companies in Romania, and using regression models, their research showed that certified companies performed better.

They also discerned that this excellent performance was directly linked to the complexity of the management systems implemented. Heras et al. (2002) worked on establishing the impact of ISO 9000 certification on sales and profitability. They focused on establishing causality of certification and business performance. Through a longitudinal study, they sampled 400 certified companies pre- and post-certification. They found no evidence of improved performance after certification for the 400 companies studied. They concluded that the better business performance of certified firms was because firms with superior performance had a higher propensity to pursue ISO 9000 certification.

Sampaio et al. (2012) centred their study on whether payoffs from ISO 9001 were a myth or reality. Using case studies, they reconstructed financial history to identify the benefits and costs directly related to their quality management systems. From their results, it was not unanimous that certified companies would be less profitable if they had not implemented their quality management systems. Dimara et al. (2004) sampled Greek firms in their study of strategic orientation and financial performance of firms implementing ISO 9000. They classified the sampled Greek businesses into three categories of strategic direction. These were cost leadership, market differentiation and focus strategy. They established no considerable difference in financial performance for certified firms, six years after certification. When they examined the companies according to strategic orientation, they found that businesses pursuing a cost leadership strategy had statistically significant financial profitability. They found companies pursuing market differentiation had statistically considerable growth in their turnover and market share. They concluded strategic orientation was a moderating factor influencing the relationship between certification to a quality scheme and financial performance of an organisation. The impact of quality management effectiveness on the performance of service firms was researched by Pantouvaksis, Psomas, and Kafetzopoulos, (2013).

They sampled 100 ISO 9001 certified service companies using structured questionnaires. They concluded that financial performance was directly influenced by operational performance. The findings of the present study confirmed the dimensionality of the ISO 9001 effectiveness and revealed its significant contribution to the performance of the service companies. The product/service quality and operational performance of the service companies are directly and significantly influenced by ISO 9001 effectiveness.

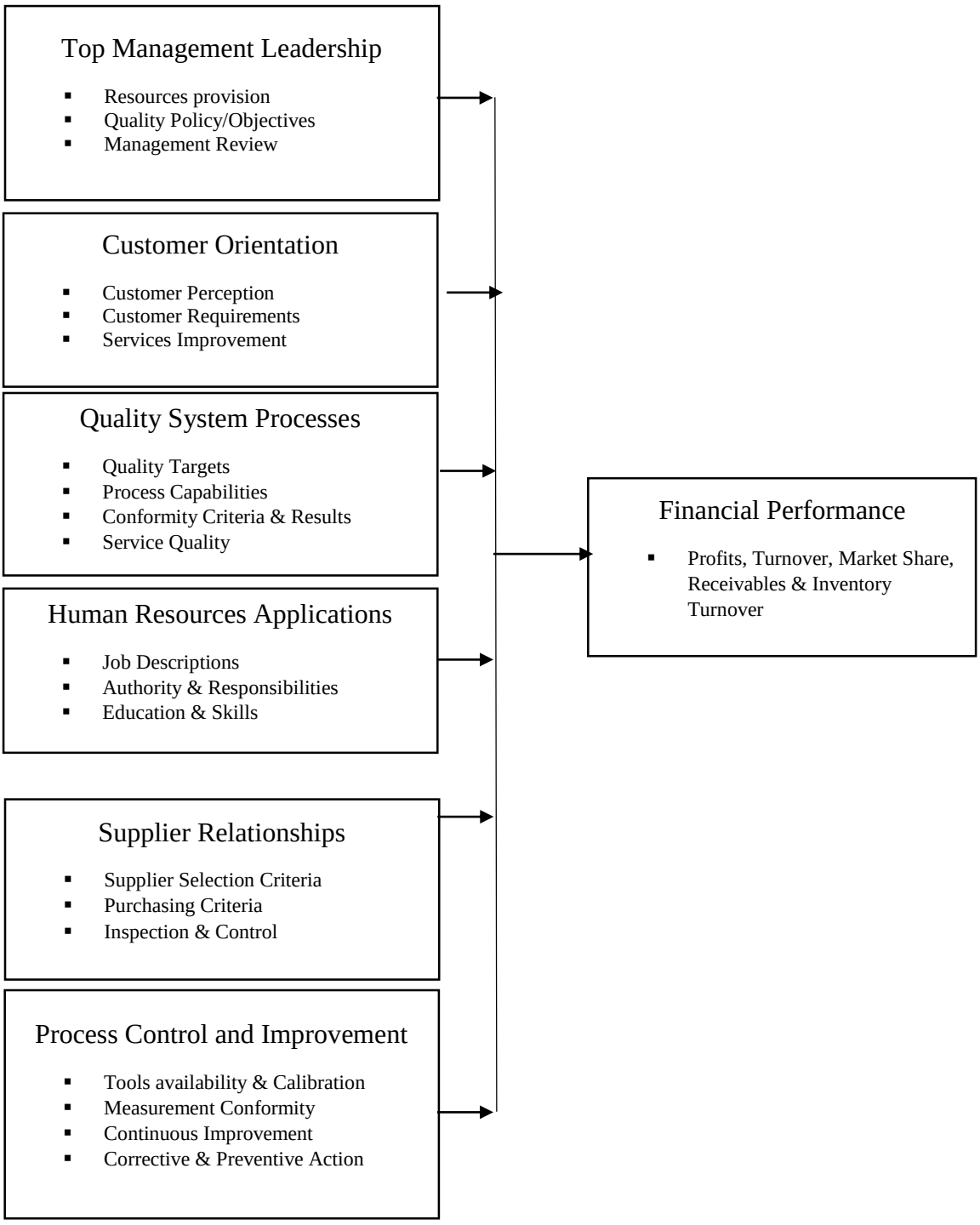
2.4 Research Gap

From the literature review, there is confusion in the attribution of causation between ISO certification and financial performance. Can improved financial performance fully or partially be attributed to certification? Is it possible that firms that were already performing well were the ones that chose to go for ISO certification? Reviewed existing research is not conclusive on whether certified organizations would be less profitable had they not implemented their ISO quality management systems. Research conclusions on the impact of ISO certifications on business performance are as varied and inconclusive as to the number of research papers on the topic.

There are limited researches that address the performance of companies after certification (Kawthar & Vinesh, 2013). Little evidence exists for the influence of Quality Management certification on business performance than for the counter-intuitive effect of reverse attribution, according to Dick et al. (2008). They propose future research should investigate the attribution of excellent business performance to Quality Management certification. Research gaps in ISO 9001 and ISO 14001 Management System Standards were studied by (Heras Saizarbitoria & Boiral, 2013). For knowledge gaps in Management System Standards, they propose a research agenda in seven areas. One of the seven research areas proposed is on the benefits of adoption and impact on the performance of certified organizations.

2.5 Conceptual Framework

Based on theoretical and empirical literature reviewed concerning the primary study objective, the research developed a conceptual framework, as presented in Figure 2.1. Six fundamental elements of ISO 9001 formed the independent variables. These six core elements are Top management leadership, Customer orientation, Quality system processes, Human resources applications, Supplier relationships and Process control and improvement. The company financial performance formed the dependent variable.



Independent variables **Dependent variable**

Figure 2.1: Conceptual Framework

2.6 Operationalization of Study Variables

Table 2.1 indicates the operationalization of the study variables. The table shows the study variables along with the indicators that were used to measure them.

Table 2.1: Operationalization of Study Variables

Variable	Indicators	Measure	Supporting Literature
Top Management Leadership	▪ Provision of resources. ▪ Availability of a Quality Policy. ▪ Availability of Quality Objectives ▪ Review of Quality-Related Activities.	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay & Aslan (2012)
Customer Orientation	▪ Customer perception. ▪ Customer requirements. ▪ Customer data ▪ Improvement of products and services	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay & Aslan (2012)
Quality System Processes	▪ Quality targets ▪ Process capabilities ▪ Conformity criteria ▪ Product and Service quality ▪ Conformity results	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay & Aslan (2012)
Human Resources Applications	▪ Job descriptions ▪ Authority & responsibilities ▪ Education and skills	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay & Aslan (2012)
Supplier Relationships	▪ Supplier Selection Criteria ▪ Purchasing Criteria ▪ Inspection and control.	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay & Aslan (2012)
Process Control & Improvement	▪ Tools availability ▪ Tools calibration ▪ Measurement for conformity ▪ Data analysis ▪ Continuous improvement ▪ Corrective and preventive action	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay &Aslan (2012)
Financial Performance	▪ Profitability ▪ Turnover ▪ Market share ▪ Receivables turnover ▪ Inventory turnover	5-point scale: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5=Strongly agree	Ilkay and Aslan (2012)

Source: Researcher (2020)

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology of the study that covers research design, target population, sampling technique, data collection methods, data analysis, reliability of instruments, the validity of instruments, and research ethics.

3.2 Research Design

This study adopted a descriptive survey research design. The survey strategy is common in business and management research, according to Saunders, Lewis, and Thornhill (2016). Survey design is a method for collecting data as reported directly by individuals (Bowling, 2005). The research sought to examine relevant data sets and identify potential relationships between the variables as proposed in the conceptual framework. This involved the generation of data in a form that was subjected to quantitative analysis. A survey strategy was conducted using structured questionnaires. Survey strategies using questionnaires are popular as they allow the collection of standardized data from a sizeable population in a highly economical way, enabling easy comparison (Saunders et al., 2016). The research philosophy adopted was positivism.

3.3 Population

According to Saunders et al. (2016), a population is a well-defined set of people, services, elements, and events, group of things or households that are being investigated in a study. The target population of the research was management staff from NSE firms which operate in agricultural, automobiles, banking, commercial, construction, energy, insurance, investment, manufacturing, technology, and real estate sectors. The target population was thus 177 respondents, as summarized in Table 3.1.

Table 3.1: Target Population of the Study

Categories	Population
Low-Level Management	68
Middle Management	71
Top Management	38
Total	**177**

Source: Researcher Computation (2020)

3.4 Sampling

Sampling is concerned with selection of a subset of individuals from a population to estimate characteristics of the whole population. Sampling methods are designed to provide correct, scientific and economic tools for research problems (Barnabas & Sunday, 2014). The study adopted stratified random sampling to select the sample of the study. Stratified sampling has been designed to ensure that all-important views are represented in samples. Stratification is a means of sample design by which the population of interest is divided into groups, called strata, according to some known characteristic (Barnabas & Sunday, 2014). The study adopted Yamane (1973) sampling formula which determined the sample size as 122 respondents.

$$n = \frac{N}{1+N\,(e^2)}$$

$$n = 177 / 1 + 177\,(0.05)^2$$

$$= 177 / 1.4425$$

$$= 122$$

Table 3.2: Sample Size of the Study

Categories	Population	Sample Size
Low Level Management	68	47
Middle Management	71	58
Top Management	38	17
Total	**177**	**122**

Source: Researcher Computation (2020)

3.5 Data Collection Methods

Primary data was collected from the sampled groups using self-administered structured questionnaires (Appendix II). A questionnaire is a general term to include all techniques of data collection in which a person is asked to respond to the same set of questions in a predetermined order. The questionnaire comprised of structured/closed-ended questions that were designed to address both the general and specific objectives of the study. Questionnaires were used because they work best with standardized questions that were interpreted the same way by all respondents.

The researcher adopted the drop and pick approach to administer the questionnaires. Ibeh, Brock, and Zhou (2004) asserted that the drop-off/pick-up (DOPU) method resulted in significantly higher response rates and was thus adopted for this study. The drop-off/pick-up method involves an investigator interacting face-to-face with potential respondents when hand-delivering survey questionnaires and returning later for retrieval (DOPU). The investigator thus went to these organisations and asked for permission from relevant authorities to access the targeted respondents (Steele, Bourke, Luloff, Liao, Theodori, & Krannich, 2001). The researcher explained the purpose of the study, objectives, and outcomes of the study. The respondents were left with a copy of the informed consent form.

3.6 Reliability of Instruments

A pilot study was conducted to test the reliability of the instrument. A pilot study aims to pre-test or 'try out' a research instrument, and the objective is to increase research quality (Malmqvist, Hellberg, Möllås, Rose, & Shevlin, 2019). This pilot was conducted among ten respondents from the firms who were not targeted in the sample to avoid contamination of the final sample. The data was then tested for reliability by applying Cronbach's Alpha technique, where the statistic for the independent and the dependent variables was established. The closer the reliability coefficients get to 1.0, the better. A measure of less than 0.70 was considered weak, and a measure of more than 0.70 was deemed to be reasonable. The Cronbach Alpha was calculated from a pilot test of 10 questionnaires. The Cronbach Alpha was 0.760, and hence the research instrument was considered reliable.

Table 3.3: Cronbach's Alpha Reliability Results

Variables	Cronbach's Alpha	Number of Items
Top Management Leadership	0.812	4
Customer Orientation	0.801	4
Quality System Processes	0.712	5
Human Resources Applications	0.722	3
Supplier Relationships	0.888	3
Process Control and Improvement	0.595	6
Financial performance	0.791	5
Instrument Reliability	**0.760**	**30**

Source: Researcher Computation (2020)

3.7 Validity of Instruments

Validity refers to the accuracy of instruments/measurement. To address the validity of the questionnaire, items in the survey were adapted from prior studies on the relationship between ISO Certification and financial performance such as Haversjo (2000). Expert opinion was also sought from the university supervisor.

3.8 Data Analysis

Data analysis is the processing of data collected to make meaningful information out of them (Saunders et al. 2016). Data analysis was done using descriptive and inferential statistics. The differences between ISO 9001 certified and non-certified companies in terms of financial performance were examined by one-way analysis of variance (one-way ANOVA). In hypothesis tests, a one-way ANOVA was used to determine differences between the organization's level of quality application and performance. Multiple linear regression analysis was utilized to test the relationship between the six independent variables and financial performance. Factor analysis and bivariate analysis were also utilized in the data analysis.

CHAPTER FOUR
RESEARCH FINDINGS

4.1 Introduction

This chapter presents the study findings for the research. The results are discussed and presented according to the study objectives.

4.2 Response Rate

In this study, 122 questionnaires were administered to the sampled population. Out of these, the researcher was able to collect back 83 questionnaires that met the criteria for data analysis. A response rate is calculated by dividing the returned surveys against the total number of surveys administered. The returned surveys, as shown in Table 4.1, represented a response rate of 68 % which, according to Baruch (1999), is an adequate response rate for academic research. The response rate was achieved with thorough follow-up; however, follow up was limited following the introduction of Covid-19 guidelines which resulted in a lower but acceptable response rate.

Table 4.1: Study Response Rate

Categories	Frequency	Percent
Administered	122	100.0
Returned	83	68.0

4.3 Quality Management Systems

4.3.1 Firm ISO Certification

65.1% of respondents were from companies with ISO 9001 certification, while 34.9% of respondents were in firms that did not have ISO 9001 certification, as seen in Table 4.2.

Table 4.2: ISO Certification of Firms

ISO Certification	Frequency	Percent
Yes	54	65.1
No	29	34.9
Total	**83**	**100.0**

4.3.2 Firm Quality Practices

The researcher was interested in determining the application of quality practices in the firms. As seen in Table 4.3, most respondents worked in firms implementing quality practices and accounted for 86.7 % with 13.3 % of respondents working in firms not adopting quality practices.

Table 4.3: Firm Quality Practices

Adoption of Quality Practices	Frequency	Percent
Yes	72	86.7
No	11	13.3
Total	**83**	**100.0**

4.4 Financial Performance

Financial performance was the dependent variable for this study which was measured by having five statements. These five statements were related to profitability, revenue, market share, money collection, and sale inventory. 50.6% of the respondents strongly agreed that their company was in excellent condition in terms of profitability. In contrast, 2.4% strongly disagreed. 47% of respondents strongly agreed that their companies were in good shape in terms of revenue, while 1.2% strongly disagreed. 43.4% of the respondents strongly agreed that their company had a good market share, while 2.4% strongly disagreed. 43.4% of the respondents agreed that their company collected money owed by customers in good time. 39.8% of the respondents were neutral that their company sold inventory promptly. The findings also show that revenue had the highest mean of 4.24 and a standard deviation of 0.864. The profitability of firms had a mean score of 4.17 and a standard deviation of 1.046, followed by market share, which had a mean score of 4.16 and a standard deviation of 0.994. The results further show that the collection of money owed had a mean score of 3.90 and a standard deviation of 0.821. In contrast, the sale of inventory had the lowest mean score of 3.75 and a standard deviation of 0.839, as presented in table 4.4. The results suggest that revenue generation was the most important indicator of financial performance for the firms while the sale of inventory was the least.

Table 4.4: Financial Performance

Financial performance	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Our company is in a good condition in terms of profitability	8.4%	14.5%	26.5%	50.6%	4.17	1.046
Our company is in a good condition in terms of revenue	2.4%	16.9%	33.7%	47.0%	4.24	0.864
Our company is in a good condition in terms of market share	9.6%	6.0%	41.0%	43.4%	4.16	0.994
Our company collects money owed by customers in a timely manner	3.6%	27.7%	43.4%	25.3%	3.90	0.821
Our company sells inventory in a timely manner	3.6%	39.8%	34.9%	21.7%	3.75	0.839

4.5 Top Management Leadership

Table 4.5 shows the results on perceptions for top management leadership. 47% of the respondents strongly agreed that their company top management provided resources for quality-related activities. 67.5% of the respondents strongly agreed that their company had a quality policy, while 1.2% strongly disagreed. 47% of the respondents strongly agreed that their company had measurable quality objectives. 48.2% of the respondents agreed that their top management regularly reviewed quality-related activities. The findings also indicate that respondents agreed that companies had a quality policy in place, as indicated by a mean score of 4.58 and a standard deviation of 0.751. The findings further show respondents' agreement that there were measurable quality objectives established in their firms (M=4.39, SD=0.678). The respondents also agreed that top management provides the resources for quality-related activities as shown by a mean score of 4.36 and a standard deviation of 0.725. The findings also indicated that top management regularly reviews quality-related activities (M=4.17, SD=0.778).

Table 4.5: Top Management Leadership

Top management leadership	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Mean**	**Std. Deviation**
In our company top management provides the resources for quality-related activities	1.2%	7.2%	44.6%	47.0%	4.36	0.725
Our company has a quality policy	3.6%	1.2%	27.7%	67.5%	4.58	0.751
In our company measurable quality objectives are established	2.4%	3.6%	47.0%	47.0%	4.39	0.678
In our company top management regularly review quality related activities	3.6%	12.0%	48.2%	36.1%	4.17	0.778

4.6 Customer Orientation

56.6% of the respondents strongly agreed that their company collected information about customer perception. 43.4% of the respondents agreed that their company received information about customer requirements. 45.8% of the respondents strongly agreed that in their company customer complaints were investigated. 43.4% of the respondents agreed that customer feedback is used in improving products and services in their company. In reference to customer orientation, the findings show that sampled companies collected information about customer perception as demonstrated by a mean score of 4.47 and a standard deviation of 0.704.

Results show respondents' agreement that their companies collect information about customer's requirements (M=4.16, SD=0.788), customer complaints were investigated (M=4.31, SD=0.731), and customer feedback is used as a tool for improving products and services (M=4.12, SD=0.861) as seen in Table 4.6.

Table 4.6: Customer Orientation

Customer Orientation	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Our company collects information about customer perception	2.4%	4.8%	36.1%	56.6%	4.47	0.704
Our company collects information about customer's requirements	2.4%	16.9%	43.4%	37.3%	4.16	0.788
In our company customer complaints are investigated	1.2%	12.0%	41.0%	45.8%	4.31	0.731
In our company customer feedback is used as a tool for improving products and services	6%	13.3%	43.4%	37.3%	4.12	0.861

4.7 Quality System Processes

54.2% of the respondents agreed that their company success rates of quality targets were monitored. 51.8% of the respondents agreed that the capabilities of processes are investigated in their company. 53% of the respondents agreed that in their company criteria for conformity of products or services were established. 51.8% of the respondents agreed that inferior quality products or services were identified in their company.

47% of the respondents agreed that conformity results are recorded in their company. Table 4.7 also shows respondents agreed that the success rates of quality targets were monitored as an observed mean of 4.29 and a standard deviation of 0.672. Criteria for conformity of products or services are established at (M=4.22, SD=0.682). Capabilities of processes are investigated at (M=4.13, SD=0.712). Conformity results are recorded at (M=4.13, SD=0.8745), and that inferior quality products or services are identified (M=4.06, SD=0.771). These results are illustrated in Table 4.7.

Table 4.7: Quality System Processes

Quality System Processes	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
In our company success rates of quality targets are monitored	2.4%	4.8%	54.2%	38.6%	4.29	0.672
In our company capabilities of processes are investigated	1.2%	15.7%	51.8%	31.3%	4.13	0.712
In our company criteria for conformity of products or services are established	1.2%	10.8%	53.0%	34.9%	4.22	0.682
In our company poor quality products or services are identified	3.6%	15.7%	51.8%	28.9%	4.06	0.771
In our company conformity results are recorded	1.2%	18.1%	47.0%	33.7%	4.13	0.745

4.8 Human Resources Applications

55.4% of the respondents strongly agreed that job descriptions were clearly defined in their organization, while 1.2% strongly disagreed. 49.4% of the respondents strongly agreed that their company clearly explained the responsibilities of the employees. 48.2% of the respondents agreed that employees affecting quality were capable in terms of educations and skills in their organization. In terms of human resources applications, the results also indicate that respondents agreed that job descriptions are clearly defined as shown by a mean score of 4.46 and 0.738 standard deviation. Respondents further agreed that responsibilities of employees are identified as indicated by a mean score of 4.42 and 0.646 standard deviation and that employees affecting quality are capable in terms of education and skills as shown by a 4.18 mean score and 0.701 standard deviation as seen in Table 4.8.

Table 4.8: Human Resources Applications

Human Resource Applications	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
In our company job descriptions are clearly defined	2.4%	3.6%	38.6%	55.4%	4.46	0.738
In our company responsibilities of employees are clearly defined	1.2%	4.8%	44.6%	49.4%	4.42	0.646
In our company employees affecting quality are capable in terms of education and skills	0%	16.9%	48.2%	34.9%	4.18	0.701

4.9 Supplier Relationships

Fifty-three per cent of the respondents agreed that criteria for supplier selection and evaluation are determined in their organization. 54% of the respondents agreed that their company had rules for purchasing. 57.8% of the respondents agreed that in their organization, inspection and control are done during acceptance of products or services. Table 4.9 also shows that the respondents' agreed that criteria for supplier selection and evaluation are determined in their organization with a mean score of 4.20 and 0.658 standard deviation. The respondents agreed that the requirements for purchasing are defined as a mean score of 4.24, and 0.636 standard deviation was observed. The respondents also slightly agreed that inspection and control are done during acceptance of products or services as evidenced by a mean score of 4.12 and 0.722 standard deviation.

Table 4.9: Supplier Relationships

Supplier Relationships	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Mean**	**Std. Deviation**
In our company criteria for supplier selection and evaluation are determined	0%	13.3%	53.0%	33.7%	4.20	0.658
In our company criteria for purchasing are determined	0%	10.8%	54.2%	34.9%	4.24	0.636
In our company inspection and control is done during acceptance of products or services	3.6%	9.6%	57.8%	28.9%	4.12	0.722

4.10 Process Control and Improvement

Forty-nine per cent of the respondents agreed that they had tools for review and measurement. 50.6% of the respondents agreed that measurement tools are calibrated periodically in their organization. 44.6% of the respondents agreed that product characteristics are measured for conformity in their organization. 37.3% of the respondents agreed that data collected from measurements are analyzed in their organization. 50.6% of the respondents agreed that information is used for continuous improvement of quality in their company. 49.4% of the respondents agreed that corrective and preventive actions are done in their organization. Regarding process control and improvement, the findings also show that respondents agreed that their respective firms had tools for review and measuring.

This is shown by a 4.23 mean score and a standard deviation of 0.704. The other findings show respondents' agreement that information is used for continuous improvement of quality (M=4.34, SD=0.649), that corrective and preventive actions are done (M=4.31, SD=0.697), that data collected from measurements is analyzed (M=4.12, SD=0.787), and that product characteristics are measured for conformity (M=4.07, SD=0.745). However, the findings show that respondents moderately agreed that measurement tools are calibrated periodically (M=3.88, SD=0.722), as shown in Table 4.10.

Table 4.10: Process Control and Improvement

Process Control and Improvement	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
In our company we have tools for review and measuring	1.2%	12.0%	49.4%	37.3%	4.23	0.704
In our company measurement tools are calibrated periodically	1.2%	28.9%	50.6%	19.3%	3.88	0.722
In our company product characteristics are measured for conformity	0%	24.1%	44.6%	31.3%	4.07	0.745
In our company data collected from measurements is analyzed	0%	25.3%	37.3%	37.3%	4.12	0.787
In our company information is used for continuous improvement of quality	1.2%	6.0%	50.6%	42.2%	4.34	0.649
In our company corrective and preventive actions are done	2.4%	6.0%	49.4%	42.2%	4.31	0.697

4.11 Financial Performance of ISO Certified and Non-Certified Firms

The study aimed to determine whether there was a statistically significant difference between the financial returns of ISO-certified firms and non-ISO certified firms listed in the NSE.

A one-way ANOVA test was conducted for the ISO-certified and non-ISO certified firms. Table 4.11 shows the results of the t-test where the F statistic is positive (F = 8.353) and the p-value of the Levene's test is less than 0.05 (p = 0.005) which indicated a statistically significant difference in the performance of ISO certified and non-ISO certified firms listed in the NSE. There was a noteworthy difference in mean performance between non-ISO, and ISO accredited firms (t3.829 = 3.362, p < .005). The average financial performance of ISO-certified firms was 0.56488 better than financial performance of non-ISO certified firms.

Table 4.11: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		
									Lower	Upper
Financial Performance	Equal variances assumed	8.353	0.005	3.829	81	0.000	0.56488	0.14753	0.2713	0.8584
	Equal variances not assumed			3.362	40.486	0.002	0.56488	0.16803	0.225	0.9044

4.12 Factor Analysis

The researcher conducted a Principal Component Analysis (PCA) for all the study variables, and these results are presented in this section.

4.12.1 Top Management Leadership Principal Components Analysis

Table 4.12 shows that the first component explained the most variance among the statements for top management leadership with a variance of 66.7 %.

Table 4.12: Top Management Leadership Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.667	66.677	66.677	2.667	66.677	66.677
2	0.642	16.054	82.732			
3	0.459	11.472	94.203			
4	0.232	5.797	100			

Extraction Method: Principal Component Analysis.

Following Varimax rotation, the findings in Table 4.13 show that only one component was extracted and therefore, there was no result of the rotated component matrix.

The results indicate that the first statements on top management leadership had the most significant factor loading to the component with a score of 0.851.

Table 4.13: Top Management Leadership Component Matrix

	Component 1
In our company top management provides the resources for quality-related activities	0.851
Our company has a quality policy	0.846
In our company, measurable quality objectives are established	0.721
In our company top management regularly review quality-related activities	0.842

Extraction Method: Principal Component Analysis.

A 1 component extracted.

4.12.2 Customer Orientation

Table 4.14 shows that the first component explained the most variance among the statements for Customer orientation with a variance of 60.4 %.

Table 4.14: Customer Orientation Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.417	60.418	60.418	2.417	60.418	60.418
2	0.708	17.699	78.117			
3	0.508	12.7	90.818			
4	0.367	9.182	100			

Extraction Method: Principal Component Analysis.

Varimax component rotation was done, and the findings show the second statement of customer orientations had the largest factor loading of 0.816 on the component and was thus selected as the indicator for this variable as shown in Table 4.15.

Table 4.15: Customer Orientation Component Matrix

	Component 1
Our company collects information about customer perception	0.718
Our company collects information about customer's requirements	**0.816**
In our company customer complaints are investigated	0.789
In our company customer feedback is used as a tool for improving products and services	0.782

Extraction Method: Principal Component Analysis.
A 1 component extracted.

4.12.3 Quality System Processes

The results of the PCA for quality system processes shows that one component explained a variance of 60.0 % and had an eigenvalue of greater than one, as shown in Table 4.16.

Table 4.16: Quality System Processes Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.995	59.903	59.903	2.995	59.903	59.903
2	0.704	14.078	73.981			
3	0.549	10.973	84.954			
4	0.44	8.793	93.747			
5	0.313	6.253	100			

Extraction Method: Principal Component Analysis.

The results from the Varimax component rotation show that two statements from the quality systems variable had a more substantial factor loading of 0.819 and were thus selected to measure this variable, as shown in Table 4.17.

Table 4.17: Quality System Processes Component Matrix

	Component1
In our company success rates of quality, targets are monitored	0.723
In our company capabilities of processes are investigated	0.729
In our company criteria for conformity of products or services are established	0.819
In our company, poor quality products or services are identified	0.775
In our company conformity results are recorded	0.819

Extraction Method: Principal Component Analysis.
A 1 component extracted.

4.12.4 Human Resources Applications

Table 4.18 shows the principal component analysis extraction for the human resources applications variable where one component had an eigenvalue greater than one and a variance of 71.0 %.

Table 4.18: Human Resources Applications Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.121	70.687	70.687	2.121	70.687	70.687
2	0.68	22.667	93.353			
3	0.199	6.647	100			

Extraction Method: Principal Component Analysis.

The Varimax component rotations extracted one statement that had a higher factor loading from the three statements to the component, and this was the second statement which was thus selected to represent the human resources applications variable as shown in Table 4.19.

Table 4.19: Human Resources Applications Component Matrix

	Component 1
In our company job, descriptions are clearly defined	0.888
In our company, the responsibilities of employees are clearly defined	0.923
In our company employees affecting quality are capable in terms of education and skills	0.693

Extraction Method: Principal Component Analysis.
A 1 component extracted.

4.12.5 Supplier Relationships

In terms of supplier relationships, the principal component analysis revealed that one component had an eigenvalue greater than one and had a variance of 80.0 %, as seen in Table 4.20.

Table 4.20: Supplier Relationships Total Variance Explained

Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.393	79.754	79.754	2.393	79.754	79.754
2	0.449	14.961	94.715			
3	0.159	5.285	100			

Extraction Method: Principal Component Analysis.

Varimax component rotation extracted one component, and the second statements among the three had the greatest factor loading of 0.945. They were thus selected as the variables to measure supplier relationships as presented in Table 4.21.

Table 4.21: Supplier Relationships Component Matrix

	Component 1
In our company criteria for supplier selection and evaluation are determined	0.891
In our company criteria for purchasing are determined	**0.945**
In our company inspection and control is done during acceptance of products or services	0.839

Extraction Method: Principal Component Analysis.
A 1 component extracted.

4.12.6 Process Control and Improvement

Table 4.22 shows the results of the extraction of process control and improvement variable, which revealed that one component met the threshold for eigenvalues greater than one and explained variance of 60.0 %.

Table 4.22: Process Control and Improvement Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.579	59.658	59.658	3.579	59.658	59.658
2	0.638	10.636	70.293			
3	0.625	10.411	80.705			
4	0.499	8.317	89.021			
5	0.417	6.95	95.972			
6	0.242	4.028	100			

Extraction Method: Principal Component Analysis.

The findings of the component rotation revealed that the first statement had a higher factor loading than the rest of the statements and thus were selected to measure the variable as highlighted in Table 4.23.

Table 4.23: Process Control and Improvement Component Matrix

	Component 1
In our company, we have tools for review and measuring	0.828
In our company measurement tools are calibrated periodically	0.745
In our company product characteristics are measured for conformity	0.701
In our company data collected from measurements is analyzed	0.825
In our company information is used for continuous improvement of quality	0.745
In our company, corrective and preventive actions are done	0.782

Extraction Method: Principal Component Analysis.
A 1 component extracted.

4.12.7 Financial Performance

Table 4.24 shows the component extraction of financial performance variable where only one component met the threshold of an eigenvalue of more than one and explained 57.4 % of the variance.

Table 4.24: Financial Performance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.872	57.43	57.43	2.872	57.43	57.43
2	0.929	18.57	76.001			
3	0.51	10.192	86.193			
4	0.354	7.088	93.281			
5	0.336	6.719	100			

Extraction Method: Principal Component Analysis.

The results of the component rotation for financial performance shows that the statement on company revenue had the highest factor loading and was thus selected to measure this variable, as shown in Table 4.25.

Table 4.25: Financial Performance Component Matrix

	Component 1
Our company is in a good condition in terms of profitability	0.782
Our company is in a good condition in terms of revenue	0.841
Our company is in a good condition in terms of market share	0.769
Our company collects money owed by customers in a timely manner	0.681
Our company sells inventory in a timely manner	0.706

Extraction Method: Principal Component Analysis.
A 1 component extracted.

4.13 Bivariate Analysis

Pearson's correlation was conducted to determine the relationship between each independent variable and dependent variable. The findings indicate that there was a positive and statistically significant association between top leadership management (r =0.505, p =0.000), quality system processes (r =0.458, p =0.000), process control improvement (r =0.399, p =0.000), customer orientation (r =0.332, p =0.002), human resources applications (r =0.301, p =0.006), supplier relationships (r =0.255, p =0.020) and financial performance respectively as seen in Table 4.26.

Table 4.26: Correlation Coefficient Results

		Top Leadership Management	Customer Orientation	Quality System Processes	Human Resources Applications	Supplier Relationships	Process Control Improvement
Top Leadership Management	Pearson Correlation	1					
	Sig. (2-tailed)						
Customer Orientation	Pearson Correlation	.489**	1				
	Sig. (2-tailed)	0.000					
Quality System Processes	Pearson Correlation	.731**	.440**	1			
	Sig. (2-tailed)	0.000	0.000				
Human Resources Applications	Pearson Correlation	.463**	.349**	.538**	1		
	Sig. (2-tailed)	0.000	0.001	0.000			
Supplier Relationships	Pearson Correlation	.300**	.348**	.387**	.359**	1	
	Sig. (2-tailed)	0.006	0.001	0.000	0.001		
Process Control Improvement	Pearson Correlation	.418**	.390**	.657**	.453**	.395**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
Financial Performance	Pearson Correlation	.505**	.332**	.458**	.301**	.255*	.399**
	Sig. (2-tailed)	0.000	0.002	0.000	0.006	0.020	0.000

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

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

4.14 Linear Regression Analysis

A multiple linear regression assessment was performed to determine the effect of the study independent variables on financial performance, and the results of this analysis are presented in this section.

4.14.1 Model Summary

The model summary result provides information about the regression line's ability to account for the total variation in the dependent variable. Table 4.27 shows the model summary, which indicates that the six quality management practices had a 30.1 % impact on the financial performance of sampled firms.

Table 4.27: Model Summary Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549[a]	.301	.246	.60092

a. Predictors: (Constant), Process Control Improvement, Customer Orientation, Supplier Relationships, Human Resources Applications, Top Leadership Management, Quality System Processes

4.14.2 Analysis of Variance

Table 4.28 shows the results of the ANOVA for the regression analysis which shows that the F - statistic is 5.465 and the p-value is 0.000 which means that the study model is statistically significant in explaining the effect of our six variables on the financial performance of firms.

Table 4.28: ANOVA Results

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.840	6	1.973	5.465	.000[b]
Residual	27.444	76	.361		
Total	39.284	82			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Process Control Improvement, Customer Orientation, Supplier Relationships, Human Resources Applications, Top Leadership Management, Quality System Processes

4.14.3 Regression Coefficients

Table 4.29 shows the regression coefficients for each of our independent variables and their effects on financial performance. The results suggest that an increase in top leadership management had a 0.429 increase in the financial performance of the firms, and this was statistically significant with a p-value of 0.015.

Table 4.29: Coefficients Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.608	.676		.899	.372
Top Leadership Management	.429	.172	.371	2.490	.015
Customer Orientation	.059	.133	.051	.447	.656
Quality System Processes	.028	.218	.022	.128	.899
Human Resources Applications	-.004	.141	-.003	-.029	.977
Supplier Relationships	.048	.127	.042	.380	.705
Process Control Improvement	.242	.167	.194	1.449	.151

a. Dependent Variable: Financial Performance

On the other variables, the study indicates that an increase in customer orientation, quality system processes, supplier relationships, and process control improvement had positive effects on firms' financial performance. Still, this effect was insignificant as p values for these variables were higher than 0.05. Human resource applications had a negative impact on firms' financial performance, but this effect was negligible. The findings suggest that top leadership management affected firms' financial performance.

CHAPTER FIVE
DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study findings, conclusions of the study based on results, and recommendations of the research for policy and action.

5.2 Discussion

5.2.1 Top Management Leadership

The first aim of the study was to determine the effect of top management leadership on financial performance among companies listed on the NSE. The findings found that top leadership management had a positive and statistically significant impact on the financial performance of firms listed on the NSE. The findings of the study support past studies that have found that top management leadership affects the financial performance of firms. The descriptive results indicated that respondents perceived the quality policy as an essential component of top leadership involvement in quality implementation.

Past studies include Purwihartuti et al. (2016) research on quality management systems and performance of organizations where they found that quality management leadership improved the results of firms. The study concluded that leaders establish unity of purpose and direction of the organization and must create and maintain an environment that inspires employees to perform better. The study also agreed with Adam et al., (1997), Nguyen, Phan, and Matsui (2018) and Wanza, Ntale, and Korir (2017). They also established that top management leadership had a significant and positive effect on business performance.

The findings go against previous research which did not find any association between top leadership management and financial performance. These studies include Sadikoglu and Olcay (2014) investigation into the impact of quality practices on several performance measures and reasons and barriers to quality practices for firms in Turkey. The outcome of the study demonstrated that leadership was not significantly related to any performance measures.

5.2.2 Customer Orientation

The second objective examined the influence of customer orientation on the financial performance of firms listed on the NSE. The results indicated that customer orientation did not have an association with business performance.

These findings correspond with previous studies that established that customer orientation had no association with the financial performance of firms. Sila and Ebrahimpour (2005) research found out that business results were not affected by customer orientation. Ilkay and Aslan (2012) concluded that customer orientation did not affect business performance. Customer orientation for quality certified companies was higher than non-certified companies. However, this was not high enough to transform business performance. Rahman (2000) also found no significant difference between SMEs with ISO 9001 and those without for organizational performance as far as customer orientation was concerned.

Malik, Iqbal, Shaukat and Yong (2008) in their study on quality management and its effect on organizational performance for Pakistan SMEs found out that customer orientation was not as significant as supplier relationships and top management commitment in influencing business performance. The results go against a group of research that has found a positive impact of customer orientation on financial performance. These include Jitpaiboon and Rao's (2007) meta-analysis approach that showed that customer orientation is positively related to internal and external business performance. Similarly, Terziovski, Power and Sohal (2003) study on the effects of the ISO 9000 certification on business performance concluded that customer orientation contributed significantly to business performance. Sadikoglu and Olcay (2014), in their study on Turkish firms, also concluded that customer focus has a significant positive effect on business performance. Purwihartuti, Sule, Hilmiana, and Zusnita (2016) similarly found that customer focus improves financial performance.

5.2.3 Quality System Processes

The third aim of the research was to determine the effect of quality system processes on the financial performance of firms. The results revealed that quality system processes had no significant impact on firms' financial performance.

There is evidence of research that corroborates this finding such as Rahman's (2000) research which found no significant difference between SMEs with ISO 9001 and those without for organizational performance as far as Quality System processes implementation was concerned. Ilkay and Aslan (2012) studied the effect of the ISO 9001 quality management system on the performance of SMEs in Turkey. The purpose of their study was to determine whether there was a difference between ISO 9001 certified and non-certified companies in terms of performance. They concluded that quality system processes did not affect business performance.

Quality system processes implementation for quality certified companies was higher than non-certified companies. However, this was not high enough to affect performance.
However, these results went against earlier studies that found positive and significant effects of quality system processes on financial performance. Sila and Ebrahimpour (2005) research established that other than leadership, quality system process management was the only factor that had a direct effect on business results.

5.2.4 Human Resources Applications

The fourth aim of the research was to establish the impact of human resource application on the financial performance of firms on the NSE. The results show that human resource applications had a negative but statistically insignificant effect on the financial performance of publicly listed firms. The findings are supported by those of Ilkay and Aslan (2012), which indicated that there was no statistically significant difference in business performance between certified and non-certified firms applying human resource quality applications. They concluded that human resource applications did not affect business performance. Human resource application for quality certified companies was higher than non-certified companies. However, this was not high enough to affect performance. Rahman (2000) also found no significant difference between SMEs with human resource quality applications and those without for organizational performance.

On the contrary, several researchers have established positive and significant impacts of human resource application on the financial performance of firms. Sila and Ebrahimpour (2005) research found that human resource applications had a mediating effect on business performance.

5.2.5 Supplier Relationships

The fifth objective of the study was to determine the influence of supplier relationship on the financial performance of firms listed on the NSE.

The results show that supplier relationships had a positive effect on the financial performance of NSE listed firms, but this effect was non-significant. The finding is agreeable to other studies that have established this association between the variables in question. For instance, Rahman (2000) found no significant effect of better supplier relationship on business performance for quality certified organizations compared to non-certified ones. Ilkay and Aslan (2012), in their study on Turkish firms, concluded that supplier relationships did not affect business performance.

Supplier relationships for quality certified companies were better than non-certified companies. However, this was not high enough to affect performance. Sila and Ebrahimpour (2005) also found no significant effect of supplier management on business performance.

Other studies found a positive influence of supplier relationships on the business performance of firms. These include Malik et al.'s (2008) survey on quality management and its effect on organizational performance for Pakistan SMEs which established that supplier relationships were the most critical determinants of performance followed by top management commitment and customer orientation.

5.2.6 Process Control and Improvement

The sixth objective of the study was to establish the effect of process control and improvement on the financial performance of firms. The regression results were indicative that there was no relationship between process control and improvement and the financial performance of firms. This finding agrees with past research which found no significant effects of process control and improvement on financial performance. These include Ilkay and Aslan's (2012) study, which concluded that process control and improvement did not affect business performance. Process control and improvement for quality certified companies were better than non-certified companies. However, this was not high enough to impact business performance.

However, the findings go against past studies which established a significant effect of process control and improvement on financial performance.

Rahman (2000) found a substantial difference between SMEs with ISO 9001 and those without for process control and improvement implementation and organizational performance.

Fening, Amaria, and Frempong, (2013) research on linkages between total quality management and organizational survival in manufacturing companies in Ghana found a positive effect of process control and improvement on organizational performance.

5.2.7 ISO Certification and Financial Performance

The seventh objective of the study was to establish whether there was a difference in the financial performance of ISO 9001 certified and non-certified firms. The t-test results revealed that there was a statistically significant difference in the performance of ISO 9001-certified firms in comparison to non-ISO 9001 accredited firms. ISO certification had a positive impact on the financial performance of firms in the NSE.

This finding agrees with past studies that have established a definite link between ISO 9001 quality implementation and financial performance of companies. These include Ionascu, Ion, Sacarin, and Minu (2017) survey on the relationship between ISO 9001, ISO 14001 and OHSAS certification and financial performance for companies listed in the Bucharest Stock Exchange. Using regression models, they showed that certified companies performed better. In a study on the impact of ISO 9001 certification on sales in Mauritius, using a sample of 39 ISO certified companies and 39 non-ISO certified companies Kawthar and Vinesh (2011) reported a significant difference between the mean sales of the two groups in favour of the accredited companies. Ochieng, Muturi, and Njihia (2015) studied the effect of ISO 9001 implementation on the performance of organizations in Kenya and listed on the NSE using secondary data. They specifically targeted organizations listed on the Nairobi Securities Exchange (NSE). Their results revealed that ISO 9001 certification influenced return on net assets of the organizations, thereby affecting their performance positively.

The finding disagrees with other studies that established that there existed no relationship between financial performance and ISO certification. Duarte et al. (2011) research on financial performance for 1,200 Brazilian companies after ISO certification and found no definite relation between ISO certification and financial performance. Sampaio et al. (2012) centred their study on whether payoffs from ISO 9001 were a myth or reality.

Using case studies, they reconstructed financial history to identify the benefits and costs directly related to their quality management systems. From their results, it was not unanimous that certified companies would be less profitable if they had not implemented their quality management systems.

Heras et al. (2002) worked on establishing the impact of ISO 9000 certification on sales and profitability. They focused on establishing causality of certification and business performance. Through a longitudinal study, they sampled 400 certified companies pre- and post-certification. They found no evidence of improved performance after certification for the 400 companies studied. They concluded that the better business performance of certified firms was because firms with superior performance had a higher propensity to pursue ISO 9000 certification.

5.3 Conclusions

5.3.1 Top Management Leadership

The study aimed to determine the influence of top management leadership on the financial performance of firms. The findings indicated that top leadership management had a positive and statistically significant impact on the financial performance of firms. Based on the descriptive results, the presence of a quality policy was cited as the most important attribute of top management leadership, which influenced financial performance. The study, therefore, concludes that the top management leadership has an essential function of implementing quality policy in the organisation.

5.3.2 Customer Orientation

The study aimed to determine the influence of customer orientation on the financial performance of firms. The findings of the study indicated that customer orientation did not have any significant effect on the financial performance of firms.

5.3.3 Quality System Processes

The study aimed to determine the influence of quality system processes on the financial performance of firms. The results demonstrated no significant impact of quality system processes on the financial performance of firms listed in the NSE. The study, therefore, concludes that quality system processes do not affect the financial performance of companies.

5.3.4 Human Resources Applications

The research sought to determine the influence of human resources applications on the financial performance of firms. The results showed that NSE listed companies' human resource applications did not affect business performance. This study concludes that there is no effect of human resource applications on the financial performance of organizations quoted in the NSE.

5.3.5 Supplier Relationships

The research aimed to examine the influence of supplier relationships on the financial performance of firms. The study findings revealed that there was no statistically significant influence of supplier relationships on the financial performance of companies listed in the NSE. The study, therefore, concludes that there is no impact of supplier relationships on the financial performance of firms listed in the NSE.

5.3.6 Process Control and Improvement

The research aimed to establish the influence of Process Control and Improvement on the financial performance of firms. The findings from the analysis indicate that there was no statistically significant impact of process control and improvement on the financial performance of companies listed in the NSE. The study, therefore, concludes that process control and improvement does not affect the financial performance of listed firms in the NSE.

5.3.7 ISO Certification and Financial Performance

The seventh objective of the study was to establish whether there was a difference in the financial performance of ISO 9001 certified and non-certified firms. The t-test results revealed that there was a statistically significant difference in the financial performance of ISO 9001-certified firms in comparison to non-ISO accredited firms. The study, therefore, concludes that there is a positive impact of ISO certification on the financial performance of firms.

5.4 Recommendations

5.4.1 Recommendations for Policy

The findings indicated that ISO 9001 quality implementation affected the financial performance of firms listed in the NSE.

Thus, the study recommends that policy and decision-makers in the quality management sector should provide education and awareness on the benefits of implementing ISO 9001 quality certification for companies and small business enterprises.

5.4.2 Recommendations for Practice

The study found that top management leadership had a positive and significant effect on the performance of listed firms.

The study recommends that top management leadership should regularly review the quality-related activities of the company, which will enhance the financial performance of the organization. The top management leadership should aim to provide the resources for quality-related exercises which in turn could strengthen implementation of quality improvement in the organisation, thereby improving the financial performance of the firm. This study supports various leadership theories such as The Contingency Theory, Situational Leadership Theory, Skills Theory, Transactional and Transformational Theory. As the research found out, top management leadership has a statistically significant effect on financial performance for companies listed on the NSE.

5.4.3 Limitations and Future Research

Financial performance is an elusive dependent variable being affected by multiple variables simultaneously, making investigation limited in terms of controls. The quality management system variables considered in this research are not the only predictors for financial performance. Operational practices considered may deliver positive outcomes in some settings but unfavourable consequences in others.

For future research, conceptual frameworks and regression models considering other factors like consultancy service during the certification period, employees' attitude, company size, time since certification and strategic orientation of the company may be useful for examining the certification-performance relationship. Other variables that can be included are geographic location, industry sector, version of the standard, implementation process, auditing style, motivation and quality culture in the organization.

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APPENDICES

Appendix I: Firms Listed on the NSE

AGRICULTURAL	**CONSTRUCTION & ALLIED**
Eaagads Ltd	Bamburi Cement Ltd
Kakuzi Plc	Crown Paints Kenya Plc
Kapchorua Tea Co. Ltd	E.A. Cables Ltd
The Limuru Tea Co. Plc	E.A. Portland Cement Co. Ltd
Sasini Plc	**ENERGY & PETROLEUM**
Williamson Tea Kenya Ltd	KenGen Co. Plc
AUTOMOBILES	Kenya Power & Lighting Co Ltd
Car & General (K) Ltd	Total Kenya Ltd
BANKING	Umeme Ltd
ABSA Bank Kenya Plc	**INSURANCE**
BK Group Plc	Britam Holdings Plc
Diamond Trust Bank Kenya Ltd	CIC Insurance Group Ltd
Equity Group Holdings Plc	Jubilee Holdings Ltd
HF Group Plc	Kenya Re Insurance Corporation
I&M Holdings Plc	Liberty Kenya Holdings Ltd
KCB Group Plc	Sanlam Kenya Plc
NCBA Group	**INVESTMENT**
Stanbic Holdings Plc	Centum Investment Co Plc
Standard Chartered Bank Kenya	Home Afrika Ltd
The Co-operative Bank of Kenya	Kurwitu Ventures Ltd
COMMERCIAL	Olympia Capital Holdings ltd
Eveready East Africa Ltd	Trans-Century Plc
Express Kenya Ltd	**INVESTMENT SERVICES**
Kenya Airways Ltd	Nairobi Securities Exchange Plc
Longhorn Publishers Plc	**MANUFACTURING & ALLIED**
Nairobi Business Ventures Ltd	B.O.C Kenya Plc
Nation Media Group Ltd	British American Tobacco Kenya Plc
Sameer Africa Plc	Carbacid Investments Ltd
Standard Group Plc	East African Breweries Ltd
TPS Eastern Africa Ltd	Flame Tree Group Holdings Ltd
Uchumi Supermarket Plc	Kenya Orchards Ltd
WPP Scangroup Plc	Unga Group Ltd
	TELECOMMUNICATION
	Safaricom Plc

Source: NSE

Appendix II: Questionnaire

1. What is the name of your organization? …….

2. Are you involved in quality-related initiatives/activities in your organization?

   YES ☐ NO ☐

3. Does your company have the ISO 9001 Quality Management System Certification?

   YES ☐ NO ☐

For each variable below, please mark the position that best describes conditions as they currently exist in your organization

PART A: TOP MANAGEMENT LEADERSHIP	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
In our company top management provides the resources for quality-related activities					
Our company has a quality policy					
In our company, measurable quality objectives are established					
In our company top management regularly review quality-related activities					
PART B: CUSTOMER ORIENTATION	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Our company collects information about customer perception					
Our company collects information about customer's requirements					
In our company customer complaints are investigated					
In our company customer feedback is used as a tool for improving products and services					
PART C: QUALITY SYSTEM PROCESSES	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
In our company success rates of quality, targets are monitored					
In our company capabilities of processes are investigated					
In our company criteria for conformity of products or services are established					
In our company, poor quality products or services are identified					
In our company conformity results are recorded					
PART D: HUMAN RESOURCES APPLICATIONS	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
In our company job, descriptions are clearly defined					
In our company, the authority and					

responsibilities of employees are clearly defined					
In our company employees affecting quality are capable in terms of education and skills					
PART E: SUPPLIER RELATIONSHIPS	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
In our company criteria for supplier selection and evaluation are determined					
In our company criteria for purchasing are determined					
In our company inspection and control is done during acceptance of products or services					
PART F: PROCESS CONTROL AND IMPROVEMENT	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
In our company, we have tools for review and measuring					
In our company measurement tools are calibrated periodically					
In our company product characteristics are measured for conformity					
In our company data collected from measurements is analyzed					
In our company information is used for continuous improvement of quality					
In our company, corrective and preventive actions are done					
PART G: FINANCIAL PERFORMANCE	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Our company is in a good condition in terms of profitability					
Our company is in a good condition in terms of revenue					
Our company is in a good condition in terms of market share					
Our company collects money owed by customers in a timely manner					
Our company sells inventory in a timely manner					

Thank you for taking the time to complete this questionnaire. If you have any queries, please do not hesitate to contact Kepha Atika by telephoning +254720792015 or emailing atikakepha@gmail.com

Appendix III: Ethical Approval

Strathmore UNIVERSITY

11th February 2020

Mr Atika, Kepha
atikakepha@gmail.com

Dear Mr Atika,

RE: The Influence of ISO 9001 Quality Management System Implementation On Financial Performance Among Companies Listed On the Nairobi Securities Exchange

This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is **SU-IERC0613/19.** The approval period is **11th February, 2020 to 10th February, 2021.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

for Dr Virginia Gichuru,
Secretary; SU-IERC

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
11 FEB 2020
TEL: +254 (0)703 034 000
P. O. Box 59857 - 00200
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Cc: Prof Fred Were,
Chairperson; SU-IERC

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Appendix IV: Introduction Letter

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Cell: +254-703 414/6/7, Twitter: @SBSKenya
Email: info@sbs.ac.ke or visit **www.sbs.strathmore.edu**

Strathmore UNIVERSITY
BUSINESS SCHOOL

15th November 2019

To Whom It May Concern.

Dear Sir/ Madam**.**

RE: FACILITATION OF RESEARCH – KEPHA ATIKA OYARO

This is to introduce Kepha Oyaro who is a Master of Business Administration student at Strathmore University Business School, admission number MBA/100429/17**.** As part of our MBA Program, Kepha is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MBA course. To this effect, he would like to request for appropriate data from your organisation.

Kepha is undertaking a research paper on **"The Influence of ISO 9001 Certification on Financial Performance Among Companies Listed on the Nairobi Securities Exchange".** The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and shall be willing to provide any further information if required.

Yours sincerely,

Caroline Tiara.
Manager – Graduate Programs.