

**The Effects of Organizational Culture on The Adoption of Technology: A Study of
Multinational Corporations in Nairobi**

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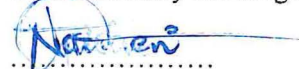
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ABSTRACT

Business dynamics in this century have been as a result of development in globalization. The reality of the global markets and competition is prevalent. The number of multinational corporations investing in the country has been increasing and thus all multinational organizations have the objective of maintaining a competitive edge over others. This is the reason to give focus to the organizational culture of multinationals. Adoption of technology offers a platform for MNCs to compete. Adoption of technology that is rapidly changing is one the critical issues that face organizations in the global society. Further, organizations function in undefined, networked, decentralized business environments, where adoption and use of technology have become paramount to fulfilling organizational goals. Firms often seek to create an advantage out of the evolution of technological applications. To benefit from the technological applications, the culture of an organization should be flexible to ensure its adoption. This study had the objective of exploring the effects of organizational culture on the adoption of technology among multinational companies operating in developing economies; case of Nairobi, Kenya. The researcher identified four constructs that can be used to conceptualize organizational culture. These are adaptability, consistency, involvement and mission of organizational culture. These constructs were examined to understand the extent to which they affected technology adoption. Data was collected by use of questionnaires with the target population of 43 multinational corporations which had their Africa regional headquarters in Nairobi. Descriptive statistics correlation analysis and multiple correlation analysis were used to analyze the data. Adaptability, consistency, involvement and mission were examined against adoption. Finding from the study revealed that there was a positive relationship between organizational culture and adoption. Moreover, the findings revealed that all the constructs were significant in influencing adoption. The study concluded that the organizational culture owned by multinationals was critical in the adoption of technology introduction. The study recommends that multinationals should observe a culture that encourages adoption of technology and that managers should develop tools that cultivate and enhance a culture that encourages adoption. The study limitations were that it considered multinational corporations in Nairobi County. This research suggested that future research could extend to other business sectors.

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LIST OF ABBREVIATIONS AND ACRONYMS

MNC	Multinational Corporation
TAM	Technology Acceptance Model
A	Adoption
UTAUT	Unified Theory of Acceptance and Use of Technology
TPB	Theory of Planned Behavior
UNCTAD	United Nations Conference on Trade and Development
KenInvest	Kenya Investment Agency
UNDP	United Nations Development Programme
KNBS	Kenya National Bureau of Statistics
SPSS	Statistical Package for the Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Today, multinational corporations (MNCs) are progressively conducting their business globally, as a result, there has been increasing complexity in scope as they operate across national, cultural and social boundaries (Miriti, 2017). Acknowledging cultural differences and managing their businesses cohesively to achieve corporate objectives and enhance performance in every host country has been one of the major challenges facing these MNCs. Adoption of technology, which ensures efficiency in operations and achievement of objectives is a challenge that these MNCs face as they operate in these cultures different from their home countries. Current literature indicates that organizational culture is an important determinant of technology adoption in host countries (Melitski, Gavin & Joanne, 2010; Dasgupta & Gupta, 2017).

Organizational culture has an impact on technology adoption, implementation and success (Harper, 2001; Doherty, 2003; Harrington, 2005). Schein (1999) asserts that culture can be understood as an idealized system as it focuses on the meaning implied by values, rules, knowledge, beliefs and expressive forms of an organization (Patrick, 2010). Organizational culture shapes the way technology is used in an organization (Melitski et al., 2010). Building an organizational culture that encourages technology adoption despite the location of operations is a critical issue facing organizations in a global society. Moreover, organizations operate in undefined, networked, decentralized environments, where adoption and use of technology have become fundamental in fulfilling organizational missions.

Constant changes in technology concurrently create threats to established business models, despite offering opportunities for novel service offerings (Lai, 2006; 2007; 2010; 2016). Firms often seek to shape the evolution of technological applications to their own advantage (Lovelock, 2001; Lai, 2007). In recent times, issues relating to technology adoption have gained attention as a result of the rapid strides in innovations in every conceivable domain. Shih (2007) defines technology adoption as the process of selecting a technology for use by an individual or organization. Researchers have carried out studies addressing the consumers' adoption of new technologies (Shikanda & Okibo, 2011; Mwambia, 2015; Lai, 2016). Consumers, according to the studies refer

to companies that rely on technology for operation. The adoption of these technologies is affected by the organizational culture of the companies.

Schein (1996) states that organizational culture is one of the most powerful and stable forces operating in organizations. Many multinational enterprises try to build and own a common organizational culture as to establish a "language" or a way to cooperate despite the geographical location of their subsidiaries. While these enterprises habitually run expensive programs in an attempt to establish a common organizational culture across the world, the behavior may be different from one subsidiary within the enterprise to another.

Studies have been done on the topic of organizational culture and technology adoption in leading multinationals in the world particularly in the western countries such as Europe. Little, if any, has been carried out with a focus in the African environment, especially Kenyan, despite the fact that Kenya has received a large share of multinational companies' investments. This study intended to identify the effects of organizational culture on the adoption of technology by focusing on multinational corporations in Nairobi.

1.1.1 Organizational culture

Definitions of organizational culture take different theories depending on the concept they reflect, the approach adopted by the author and the emphasis made. Hofstede (2011) contends that organizational culture is a concept difficult to accurately define and explain since it cannot be touched or felt. Organizational culture is pervasive and cuts across all activities of an organization making it an important concept to ignore (Burnett & Huisman, 2010). Lund 2003 argues that it is the environment formulated at the workplace from interactions among employees. Therefore, it entails the basic assumptions, common philosophies, values, shared approach, beliefs, expectations, attitudes and norms in an organization.

Erez and Gati (2004) suggest that organizational culture is formed through a bottom-up process through the individuals within an organization, thus the culture formed in different organizations will be expected to be different as a result of the difference in the values and behaviors of individuals in different countries. O'Reilly, Chatman, and Caldwell (2010) argue that even organizations in the same country differ significantly from one another. Many researchers have reported that organizational culture is a key capability for organizations since it cannot be

replicated easily and therefore becomes a source of competitive advantage (Carmeli & Tishler, 2004).

Denison (1995) model of organizational culture identifies four traits and values that are associated with the effectiveness of organizations; adaptability, consistency, involvement, and mission. Adaptability trait according to the Denison model define the ability of organizations to change in response to customers and markets (Zhu & Chang, 2013). Three aspects are identified in this trait which is change creation, focus on customers and organizational learning. Through change creation, adaptive ways are created to enable organizations to meet changing needs of the industry. Additionally, it enables the organization to react to changing trends and anticipate future needs of the industry. Having a focus on customers' means that organizations understand and react to current and future customer needs. It also reflects the extent to which organizations are concerned with customer satisfaction. Organizational learning ensures an organization is able to translate and interpret the environment to create opportunities that encourage innovation, knowledge gain and capability development (Nasrin et al., 2011).

The extent to which values, beliefs, and behavior standards are acquired and shared is defined by the consistency trait. It is explained by three constructs. These are core values that members of an organization share which create an identity and expectations (Denison, 1990). Agreement is the second construct which explains the ability of employees to reach a consensus on crucial matters and resolve arising matters and differences. The last construct of consistency explains the unity and harmony in the functioning of the units of the organization to achieve common goals. Organizational systems built on consensual support promote internal governance systems that promote consistency (Onyambu, 2013). As a result, coordination and integration are achieved effectively as opposed to external systems of control that rely on explicit governance. Highly committed employees who promote from within and have clear rules on the do's and don'ts' of the organization are nurtured. (Nasrin et al., 2011).

Employee empowerment, teamwork, and development of human capability at all levels describe effective organizations. The involvement trait is measured by three indices. Empowerment, which describes ownership and responsibility towards the organization by employees. Team orientation, which encourages teamwork (Denison, 1990). Capability development ensures that growth and

development of employees is a top priority of organizations to enable them to stay competitive to meet business needs.

Denison (1990) suggests that mission defines a social role and external goals for the organization. Additionally, it defines the course of action by providing clear goals and direction. It is defined by three indices; direction and intent, goals and objectives, and vision. The organization's purpose is conveyed through strategic direction and makes it clear how employees can impact their industry. Goals and objectives reflect on the link that employee jobs have with the goal of the organization. Shared view for a future outcome explains the vision of the organization (Nasrin et al., 2011).

In recent years, researchers have explored the role played by culture in the adoption and diffusion of technology. Studies have been conducted in technology adoption literature that has used Denison and Mishra's model. Dasgupta and Gupta (2017) carried out a research on a government agency in a developing country where results showed that organizational culture impacted the individual acceptance of internet technology. They recommended additional research in governmental and non-governmental organizations in different countries for further inquiry into the acceptance and use of technologies. The Denison Model of organizational culture provides an approach that can be used to understand and hypothesize organizational culture, with variables that are observable and applicable to this research.

1.1.2 Technology Adoption

With rapid strides being made in technology innovations in every conceivable domain, the issues related to technology adoption have gained increasing prominence in recent times. Barney and Ray (2015) recommended that organizations should evaluate the importance of organizational culture and its impact on technology adoption. Understanding technology acceptance is paramount since the anticipated benefits of the usage, such as improved efficiency, effectiveness and productivity cannot be achieved if individual users do not accept to use these systems (Kessio, Boi & Boit 2012)

Previous studies have majorly focused on the impact of organizational culture on technology adoption in developed countries. For example, Jetter, Satzger, and Neus (2008) studied the impact of technological innovations on the business model, organizational and corporate culture in IBM. The article claims that innovation in ICT calls for changes in the business model, adaptation of company culture and processes to accommodate the new or advanced technology. As a result, the

success of the company is ensured even in such changes. Chang and Hernandez (2015) conducted a research on the impact of organizational culture and adoption on technology-enhanced innovation in higher education. The results of their findings were that organizational culture features were important factors that influenced the perceived need, perceived usefulness, responsiveness and implementation of technology-enhanced innovation. However, the ease of use of these technologies was not explained in their study.

Moreover, Dasgupta and Gupta (2009) focused on organizational culture traits and internet technology adoption in a developing country. It was clear that organizational culture traits have an impact on the individual acceptance and use of Internet technologies in a developing country. Also, it showed that the mission of an organization is dominant during the adoption of technology and that the Technology Acceptance Model can be used to explain information technology adoption in a developing country. Besides, they suggest that capacity for change should be increased especially for cultures that promote stability to ensure successful adoption of technology.

Theoretical and empirical support, through validations, applications and replicates made by researchers and the information technology area professionals have been received on TAM. Lee (2003) recommend TAM as a model for analysis as it shows coherent, valid and robust results and can be used in varied applications (King & He, 2006). However, it has been criticized for failing to account for the influence that organizational culture and the external environmental factors such as economic and competition from customers and suppliers have on the adoption of technology (Manueli, 2007).

Adopting the Unified Theory of Acceptance and Use of Technology (UTAUT) model to explain technology adoption in Kenyan Public Universities, Chuma and Kessio (2015) indicated that the simplicity, performance expectancy, and social influence affected the student's behavioral intention, which ultimately affected adoption of technology.

1.1.3 Multinational Corporations in Nairobi

Multinational corporations (MNCs) dominate major sectors of the Kenyan economy, including manufacturing, petrochemicals, and telecommunication (Mugeni, 2015). The legal framework for foreign direct investments is provided by the Foreign Investment Protection Act, the Companies Ordinance, the Partnership Act and the Investment Protection Act. Legally, multinational

corporations are accorded the same treatment as local companies (Kenya Investment Authority, 2017). Kenyan policies on foreign investment generally have been favorable since independence and this has led to an increase of MNCs in Kenya (Chelimo, 2013). Porter (1990) argues that a nation's competitive advantage depends collectively on the competitive advantages of its firms. Foreign investment has been of considerable significance in financing development in Kenya (Mwega & Ndungu, 2002).

Dunning (2015) described a multinational company as an enterprise invests directly, owns and controls value addition activities in two or more countries. Evren (2006) describes a multinational as a company that has the headquarters in one country, mainly the home country and operates in at least one foreign country. Multinational corporations (MNCs) have also been defined as enterprises either incorporated or unincorporated that consist of parent companies and their affiliates in foreign countries (UNCTAD, 2007).

Approximately all major MNCs are either American, Japanese or Western European. MNCs advocates say that they create jobs, wealth and bring technology in countries which are in need of such development since their home countries are mainly technically advanced and developed compared to their host countries. However, critics argue that multinational corporations can afford political influence and cause exploitation of developing countries. (Caves, 1982).

With an estimate of 217 multinational corporations concentrated in Nairobi County out of approximately 250 (KNBS, 2015), Kenya possesses the largest economy in East Africa hence boasting a more prominent profile within the East African Community (Oxford Business Group, 2015) and attracting more multinationals. Kenya is increasingly becoming the African home of choice for most multinationals looking for a presence within the continent, in addition to the fact that the country has incubated the top three most successful African multinationals in sub-Saharan Africa (Omwenga, 2012). This growth accompanied by the hosting of the Global Entrepreneurship Summit (GES) in 2015 and the sixth Tokyo International Conference for African Development (TICAD VI) in 2016 presents a positive outlook of the economy, attracting more multinationals to set up business.

Multinationals play a huge role in contributing to the Gross Domestic Product (GDP) of the country and this can mainly be achieved by such firms being open to technological advancements and actually implementing them (Tsuma, 2017). The competitive advantage of Kenya is a key

factor that leads foreign investors to set up their MNCs offices in Nairobi (PricewaterhouseCoopers, 2012). As organizations become global, they try to maintain a culture that is identical to the one practiced in the home country. However, maintaining a similar culture in every country has been difficult as this culture is affected by the local culture, backgrounds, language and the geographic location of the host countries. Organizations must adopt their culture to fit the environment of their host countries (Adewale, 2016). As a result, managers cannot expect the same results in companies operating in different areas since the culture built there is different. Multinational companies however, strike the balance between honoring all cultures while still ensuring employees from all offices are united toward a common mission. One way to do this is to create a community culture across all offices (Lee & Shah, 2013). A company blog or a daily e-mail can highlight accomplishments and give news from all offices. Online collaboration tools or social media groups also can link employees from all cultures to common mission. The challenge of maintaining an integrated culture among multinationals interests this study to further research on the influence their organizational culture has on the adoption of technology.

1.2 Problem Statement

The number of multinational corporations investing in the country has been increasing and thus all multinational organizations have the objective of maintaining a competitive edge over others (Miriti, 2017). Despite the growing globalization and increase in MNCs, there is still limited literature on the impact of organizational culture on technology adoption. Additionally, how organizational culture can be built, despite the difference in the national and social cultures in different countries has received little attention. Various researchers have looked at organization culture through different dimensions, but few have focused on its relationship with technology adoption. There is voluminous literature on organizational culture and technology adoption but there are divergent views on the dimensions of organizational culture that affects technology adoption.

Multinational strive to use the same technology in their subsidiaries which are expensive. Efforts to introduce such technology has the potential to bring a shift in the lifestyle of employees. These investments, however, may not yield results if the technologies are not adopted by the employees (Rajesh & Rajhans 2014). Many factors influence the technology adoption process including organizational culture (Davidson & Klofsten, 2003); hiring and training of workers (Brown, 1997);

organizational structures, human resources support (Large, 2000), career experiences and research skills of inventors and the involvement of researchers in the process (Sharma, 2006); a skilled workforce (Singh, 2001); and high level of management support (Wonglimpiyarat, 2007).

The impact of organizational culture on technology adoption has been extensively discussed. Various researchers (Davidson & Klofsten, 2003; Melitski et al., 2010 & Dasgupta and Gupta 2017) have looked at the concept of organizational culture through different dimensions, but few have focused on the relationship with technology adoption in multinational corporations in Kenya, especially those with their African headquarters in Nairobi. It is in this regard that this study sought to investigate the effect of organizational culture on technology adoption in MNCs in Nairobi.

1.3 Research Objectives

1.3.1 General Objective

The main purpose of this study was to establish the effects of organizational culture on technology adoption in MNCs.

1.3.2 Specific Objectives

- i. To establish the extent to which the adaptability trait of organizational culture influences technology adoption.
- ii. To investigate the extent to which the consistency trait of organizational culture influences technology adoption.
- iii. To determine the extent to which the involvement trait of organizational culture influences technology adoption.
- iv. To identify the extent to which the mission of an organization influences technology adoption.

1.4 Research Questions

- i. What is the influence of adaptability trait of organizational culture on technology adoption?
- ii. What is the influence of consistency of organizational culture on technology adoption?
- iii. What is the influence of involvement of organizational culture on technology adoption?

- iv. What is the influence of mission of an organization on technology adoption?

1.5 Significance of the Study

An examination of the relationship between organizational culture and technology adoption may provide notable managerial implications for the Multinational Corporations. For instance, managers should be better informed on the impact of the traits of organizational culture on technology adoption.

Additional knowledge that this study should cultivate may provide scholars and academics an opportunity to delve further into organizational culture and technology adoption in MNCs. Future scholars and researchers in the field of human resource management and technology studies can benefit from this study as it will help build knowledge on existing literature. The study can be used as a source of reference and further suggesting areas where future further research can be carried out.

1.6 Scope of the Study

This study specifically focused on the four traits of organizational culture in the Denison Model. These are adaptability, consistency, involvement, and mission. This study, therefore, explores the relationship between these traits and technology adoption in MNCs with a population of 43 multinational corporations that have their Africa regional headquarters in Nairobi County.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents past research conducted by other researchers relating to organizational culture and technology adoption. Firstly, a theoretical framework is provided which focusses on the theories relating to the study. Secondly, an empirical review of the studies that have been done on the impact of organizational culture and technology adoption in multinational corporations. The section then concludes with bringing out the research gap and the conceptual framework that links organizational culture traits to technology adoption.

2.2 Theoretical Framework

There are many theories that have been used to relate the concept of organizational culture and technology adoption. The theoretical framework of the study is anchored on two theories, namely, the Denison model of organizational culture and the Technology Acceptance Model (TAM).

2.2.1 Denison Model of Organizational Culture

The Denison Model was designed to enable leaders, key stakeholders, and employees to understand how their culture affects organizational performance (Nazir, 2008; Ahmad, 2012) and to learn how to influence culture in order to improve organizational effectiveness (Jung, 2007). Over time, companies have applied this model to assess strength and weakness of its culture (Herzka & Alexandra, 2010), in industry restructuring (Christoph, 2013), and technology adoption (Dasgupta & Gupta, 2017).

The Denison Model selection was influenced by the fact that it is a complex model that incorporates an analysis of internal and external environment and monitors the stability and flexibility of the company. The model identifies four traits of organizational culture; adaptability,

consistency, involvement, and mission. Adaptability ensures that the demands of the organizational environment are translated into action, consistency ensures facilitation of coordinated actions and promotes the unity of behavior and business value, involvement means that the performing organizations empower their employees, and finally mission provides purpose and direction. Each of these traits is further divided into three indexes that are discussed in the empirical review.

This model has been widely applied by various organizations in other countries in order to evaluate organizational culture (Nasrin, Abdol & Ali, 2011) and multinationals in the US (Konrad, 2013). They further assert that the model is applicable to all hierarchy levels and that it provides an innovative framework for the other organizational culture models. However, it has been criticized on the basis that it may not bring out all the relevant aspects of a particular organization's culture.

This model is relevant in relation to this study in that it emphasizes the important aspects of organizational culture. The four traits of the Denison model will help explore the indices of organizational culture in relation to technology adoption by multinationals in Nairobi.

2.2.2 Technology Acceptance Model (TAM)

Technology Acceptance Model developed by Davis (1989) explains a user's intent to use technology and the consequent user behavior. This model consists of two key variables. Firstly, perceived usefulness, which describes the degree to which an individual believes that using a technology enhances their performance. Secondly, the perceived ease which described the extent to which an individual believes that use of a technology would be free of effort. Okechi and Kepeghom (2013) assert that a technology or innovation is extensively adopted by users when they perceive the technology easier to use.

Despite the model being simple and explaining the critical factors that affect adoption it has been criticized for failing to account for the influence of the external factors in the environment as economic factors, competition from customers and suppliers (Manueli, 2007). TAM has been tested to explain and predict behavioral intent on several technologies such as the E-learning use (Sung, 2009), M-banking (Omwansa & Mwololo, 2012), and ICT adoption (Machii & Kyalo, 2016). Ervasti and Helaakoski (2010) developed a model based on TAM and TPB to realize mobile service adoption. Results showed that perceived usefulness is the strongest factor in adoption. The

model has also been applied to understanding the influence of organizational culture on technology adoption in developing countries (Dasgupta & Gupta, 2017). Additionally, it has been applauded for its parsimony and ease in application across different research settings. Other theories explaining technology adoption have been formed around this theory such as the Unified Theory of Acceptance and Use of Technology. The theory, however, has been criticized for being overly complex.

This model informs this study through explaining the factors that affect the behavioral intention and actual use of technology by organizations. It defines the drivers behind the adoption of technology by employees. Additionally, it predicts the behavior towards new technology and provides managers with an assessment tool to assess the possibilities of success following the introduction of new or advanced technology.

2.3 Empirical Review

With reference to the study objectives, this section reviews existing literature on organizational culture and technology adoption.

2.3.1 Influence of adaptability trait on technology adoption

It is estimated that over a half of all capital investment by firms is going into information technology systems (Venkatesh, 2003). However, according to Edmondson (2001) adoption of new technology is hampered by a requirement for new routines and behavior. Apart from underutilization, these requirements may lead to technology rejection and nonuse of information technology, especially software.

It seems that organizations who are able to respond to changes also tend to adopt innovations or intend to do so (Jackobus, 2013). According to Dasgupta and Gupta (2017), the adaptability trait of organizational culture impacts perceived usefulness negatively. Educating users on the benefits of technology equally as important as teaching them how the technology works (Duflo, Kremer & Robinson, 2005). According to these researchers, ignorance about the technology benefits is a contributing factor to failed technology implementations in Kenya.

To promote adaptability, the customs that define an organization's culture need to encourage flexibility, risk-taking, and experimentation within the firm. Several studies have shown that cultures emphasizing these norms and values can boost organizational innovation and adaptation

in the marketplace (Bueschgens, Bausch, & Balkin, 2013). Organizations that intensely emphasize adaptability may perform better in dynamic environments especially in technology (O'Reilly et al., 2014). According to Duflo et al (2005), the extent to which people are able to learn from one another and cooperate is critical to the adoption of new technologies in developing countries such as Kenya. They found that social learning takes place with "information neighbors".

Shikanda and Okibo (2011) assert that perception of a culture as an open system is more likely to have positive attitudes towards change and consequently show more readiness for new technology in the organization.

Organizations that are focused on meeting the customer demands are more likely to adopt new technology where the adoption of such implies satisfaction of their customers and meet their future needs. Organizational learning encourages innovation, development capabilities and knowledge gain. Technology adoption presents an opportunity for organizations to develop their capabilities which in turn influence the decision to adopt or reject technology.

However, in a study focusing on the use of mobile technology in universities, social influence and facilitating conditions were the top factors that affected adoption of technology. Nevertheless, some researchers have argued that however adaptable an organization might be, the technology introduced may cause significant changes in the business model leading to resistance or unsuccessful adoption (Mwambia, 2015)

2.3.2 Influence of consistency trait on technology adoption

Sorensen (2002) theorized that cultures lead to consistency in performance by increasing employee consensus and willingness to endorse organizational goals, reducing uncertainty through goal clarity. However, there is no consensus on the effect of consistency on organization culture. Jackobus (2013) asserts that coordination serves as a predictor of behavioral intention. Dasgupta and Gupta (2010) contend that coordination affects the eventual adoption of technology by organizations.

Organizations ought to put up in place systems that facilitate quick and effective decision making to encourage adoption of technology. This minimizes waste of time and effort to decide whether or not to adopt a proposed technology in the organization. According to Jing (2015), decision-makers are faced with challenges during the adoption of technology. Technology adoption occurs

sequentially and therefore organizational learning can help the decision makers to reach reasonable decisions. Organizations with high decision-making practices perceive that decision-makers have access to information enabling them to make effective decisions. Organization cultures with high decision-making culture suggest that employees affected by decisions are asked for their input before decisions are made. As such, the researcher believed that individuals working in such organizations will more readily approve of new technology because they feel they have had an input into the organizational decision (Melitski et al., 2010). The authors also proposed that individuals that perceive high harmonization within their organization would be more willing to adopt a technology. Individuals that work well together are more trusting of one another, which they suggested enhances their willingness to adopt new technology. However, in organizations where decision-making is a centralized activity, consistency in agreement and decision making does not affect adoption of technology since top management decides on what technology is adopted by the organization (Jing, Zeshui & Hamido, 2015).

Shared values and beliefs of the organization help ensure that all employees are dedicated towards organization performance. Technology adoption can stir organization performance thus communicating the organization's expectations to employees ensures that proposed technology is adopted or does not meet resistance.

2.3.3 Influence of involvement trait on technology adoption

Involvement refers to the degree of contribution to the organization. The sense of ownership and responsibility in an organization increases when individuals feel more involved. Involvement can be ensured through empowerment, team work, and capability development. Involvement trait helps organizations to bring multiple viewpoints to the decisions made, creates a sense of ownership and responsibility. Moreover, it enables the activation of group dynamics for the solution to a complex problem, enhances employee commitment and desire for the implementation of decisions (Yilmaz & Ercan, 2008). The researchers further argue that organizations high on the adaptability trait are expected to perform better in aspects that relate primarily to internal organization dynamics and require flexibility such as quality improvements such as adoption of new and advanced technology.

Employees can be empowered to adopt technology through training. Lack of skills and inadequate network support as factors impeding the spread of technology. The researchers attributed serious

underutilization of IT systems at district and provincial levels to a lack of training in a study carried out in Mozambique (Braa, 2001). Organizations can develop infrastructure that supports adoption of technology to foster adoption of technology and discourage resistance. Employees are more likely to adopt technology when they feel that the organization is equipped to do so. Blalock & Paul (2004) argue that even if a firm can observe external technology, skilled personnel with sufficient training and technical background is contingent to the adoption of technology. Annette (2006) argues that however much individuals feel involved in an organization, factors such as experience and compatibility are the key factors that determine behavioral intention towards the adoption of technology.

2.3.4 Influence of mission on technology adoption

Mission statements are defined as statements of purpose that differentiate one organization from others. (David & David, 2003). Adoption of a technology is influenced by the mission of an organization positively (Dasgupta & Gupta, 2017). The mission of an organization ensures focus on the attainment of common objectives. These efforts could be in form of strategies, goals, and vision of the organization. Andrew (2011), argues that technology can be viewed as a resource to an organization. Developing strategies that encourage adoption of technology offers a competitive edge to organizations. The strategy of an organization shapes its culture in that it guides and dictates how things are done or are expected to be done.

For many firms, the pressure to compete, ensuring survival and growth, managing change, promoting services to customers and staying competitive and enhancing innovation abilities have forced them to adopt new technology (Shikanda & Okibo, 2011). Without such motivation, they would have otherwise disregarded the importance of such technology, meaning their mission statement and goals of the organization do not push for the adoption of new technology. It has been demonstrated that competitive pressure will affect the adoption of new technologies when employees perceive that these technologies will possibly support their competitive position.

Baptista and Oliveira (2015) argue that organizations that have set clear goals and objectives define an expected achievement in their business operations. Employees are made aware of these goals. When utilization of a new technology determines the achievement of these goals, adoption is highly likely to take place.

2.4 Research Gaps

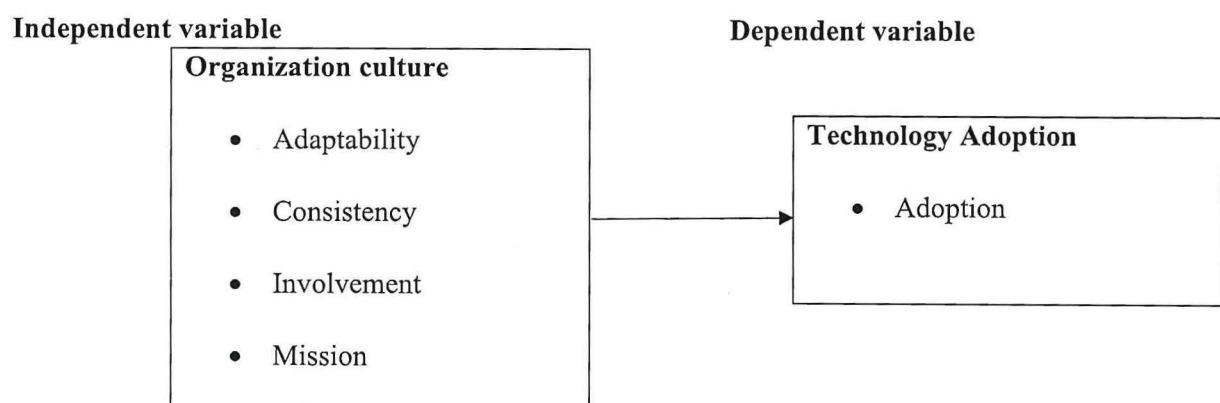
Researchers agree that organization culture impacts technology adoption. Additionally, they agree that it can be used as a source of sustainable competitive advantage (Melitski et al., 2010; Genc, 2013). However, there is no agreement on how to conceptualize and measure organizational culture and technology adoption across industries. This study, therefore, seeks to fill the research gap by identifying organizational culture traits relevant to technology adoption in MNCs in Nairobi County.

In addition, existing research has focused on the impact of organizational culture on technology adoption mainly in the Western context (Martin et al., 2008). Dasgupta and Gupta (2017) carried out a research in a government institution in India, a developing country. These studies cannot be generalized to fit the Kenyan context. Other studies on technology adoption have been carried out in Kenya but do not include the aspect of organizational culture (Omwansa & Mwololo, 2012; Machii & Kyalo, 2016). It is in this regard that this study sought to investigate the effect that organizational culture has on technology adoption in Kenya. It will examine the organizational culture of the multinationals and its effect on technology adoption.

2.5 Conceptual Framework

The conceptual framework is developed to provide a basis for the research design and data analysis. The framework explains the independent variables, which are adaptability, consistency, involvement and mission and the dependent variable which is technology adoption.

Figure 2.1 Conceptual Framework



Source: Researcher (2018)

2.6 Operationalization of Variables

Operationalization facilitates the reduction of the abstract notion of constructs into observable characteristics so that they can be measured using indicators. A scale ranging from 1=strongly disagree to 5=strongly agree will be used to measure both the dependent and independent variables. The indicators that were used in the studies are summarized in the below table.

Table 2.1: Operationalization of Variables

Variables	Constructs	Definition	Rating measures	Source(s)
Independent variable: Organizational Culture	Adaptability	The ability of the organization to respond and anticipate changes in the industry.	A Likert scale of five where; 1-strongly disagree, 2- disagree, 3somew agree, 4agree & 5- strongly agree was used.	Denison (1990)
	Consistency	The degree of sharing of values, beliefs and behavior standards.	A Likert scale of five was used where; 1- strongly disagree, 2- disagree, 3somew agree, 4agree & 5- strongly agree.	Dasgupta, (2017)
	Involvement	The extent of employee participation.	A Likert scale of five was used where; 1- strongly disagree, 2- disagree, 3somew agree, 4agree & 5- strongly agree.	Zheng, (2010)
	Mission	Purpose and goals that differentiate one organization from another.	A Likert scale of five was used where; 1- strongly disagree, 2- disagree, 3somew agree, 4agree & 5- strongly agree.	Genc, (2013)

Dependent variable: technology adoption	Adoption	The decision by an organization to accept, utilize and implement a technology	A Likert scale of five was used where; 1- strongly disagree, 2- disagree, 3somew agree, 4agree & 5- strongly agree.	Kim and Shin, (2015)
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Source: Researcher (2018)

2.7 Chapter Summary

This chapter began by discussing the two relevant theories that inform this study. They are the Denison Model of Organizational Culture and the Technology Acceptance Model. The chapter included an empirical analysis that discussed the four traits of organizational culture; adaptability, consistency, involvement, and mission of technology adoption. The research gap drawn from differences in empirical results and conceptualization of variables was highlighted. The chapter concluded by presenting a conceptual framework in a diagrammatic form and providing a discussion on the operationalization of the variables under study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in the procedures for conducting the research, data collection and the methods that were adopted for data presentation and analysis. It details the research philosophy, design, population, data collection, data analysis, research quality and ethical considerations of this study.

3.2 Research Philosophy

This research adopted a positivism research philosophy. This implies that the study assumed that only factual knowledge is trustworthy (Bajpai, 2011). Saunders, Lewis, and Thornhill (2009) assert that through positivism the researcher is concerned with facts and not impressions. Research findings generated from positivistic research are observable and statistically quantifiable (Wilson, 2014). Positivism approach relies on theory to develop a hypothesis to be tested during the research process (Easterby, Thorpe & Jackson, 2008).

According to Baroudi (1991) positivism approach allows for the use of quantifiable measures of the variables under study as to test the theories that are adopted. Quantitative research methods flow from the positivist theory and serve to test theory (Friedman, 1953). Highly structured studies, large samples, and quantitative measurement characterize the positivist philosophy. This research will adopt these characteristics of positivism to analyze the influence of organizational culture on technology adoption; in a bid to find out the relationship between the variables in a deductive manner from existing theories.

3.3 Research Design

According to Okiro and Ndungu (2013), a research design is a plan for selecting research subjects and procedures for data collection to answer the research questions. They also contend that it forms the conceptual framework within which research is conducted and outline for the collection and analysis of the data.

This study used a descriptive research design to enable the researcher show influence, effect, relationships and associations between the independent and dependent variables. According to

Mugenda and Mugenda (2003) descriptive studies are the best methods for gathering information which demonstrates the relationship and describes the existing situation. Quantitative analytical techniques like the regression equations will be used to draw inference from the data regarding existing relationships. Past research that has employed the same research design are (Dasgupta & Gupta, 2010, 2017, Luu, 2010; Melitski et al., 2010; Chang, 2013).

3.3 Population of the Study

A population is the entire group a researcher is interested in to answer questions to a research study as well as to come up with conclusion concerning the same study (Biber, 2004). The target population of this study was the multinational corporations (MNCs) in Nairobi. This is because majority of MNCs in Kenya are located in Nairobi County (UNDP, 2011) and their proximity to the central business district. According to Kenya Investment Authority (KenInvest) directory, 2016, there were 250 multinationals corporations in Kenya and 43 of these firms had their Africa regional headquarters in Nairobi (Appendix Three). The unit of analysis will be these firms with Africa regional headquarters in Nairobi. The target respondents were therefore the employees drawn from various departments of these firms. The choice of employees was informed by the fact that the dependent variables were employee based.

3.4 Sampling Design

Cooper and Schindler (2003) define sampling as the selection of a few members from the population to participate in a study. The few members are selected to represent the whole population in the study as there are practical or technical limitations that would limit the inclusion of the whole population. This study used stratified random sampling to get the desired sample. The respondents from the 43 MNCs that are selected were first divided into 4 key departments which are Accounting and Finance; Operations; ICT and Sales and Marketing. These departments were selected because they are generic in multinational corporations, are affected by technology and they are also easier to access. The researcher then randomly selected 2 employees from each department giving a total 344 respondents from all the 43 firms.

3.5 Data Collection Method

Primary data was collected using semi-structured questionnaires accompanied by an introductory letter informing the respondents who the researcher was and the purpose of conducting the research

(see appendix one and two). Structured questions included a Likert scale that is used to measure different aspects of the variables under study. Quantitative data were collected by use of semi-structured questionnaires. Unstructured questions were also included to provide the respondents with the freedom to capture any other important dimensions of the variables that they felt was missing (Ahlstrom & Westbrook, 1999).

Questionnaires were administered in person to the respondents as well as through an online link according to the respondent's preference. The online survey link was sent via email to the respondents. The researcher facilitated the collection of data by making calls to the respondents to seek their permission to participate in the study and how they preferred to fill the questionnaire; either physically filling it out via the online platform. Questionnaires were supplied to those that agreed to participate in the study. Filled questionnaires were mailed to the researcher or picked after every ten days for a duration of three months. Data were collected between the months of March and May.

The questionnaires consisted of three sections. Section A focused on the overall company profile, section B, assessed the influence that the organizational culture had on technology adoption and finally section C addressed the extent of adoption of technology in MNCs.

3.6 Data Analysis

Data analysis is the application of statistical tools to process data into meaningful information. (Lewis-Beck, 1995). Data collected were sorted according to the categories presented in the questionnaire. The complete questionnaires were edited to check for completeness and consistency. Using the Statistical Package for Social Sciences (SPSS) software, information from the questionnaires was checked for completeness and errors by detecting unusual and extreme values. Descriptive statistics (mean, standard deviation, median), Spearman's rho correlation analysis and regression analysis were conducted.

Spearman's rho correlation analysis was conducted to ascertain whether there was an existing relationship between the dependent and the independent variables and the strength of the relationship if present. The correlation coefficient value from this analysis determined the measure of linear association between two variables where the coefficient should always be between -1 and +1 (Cooper & Schindler, 2014). A coefficient of -1 means that variables are perfectly related in a

negative linear sense, 0 means that there is no relationship between the variables and +1 indicates that the variables are perfectly related in a positive linear sense (Cooper & Schindler, 2014).

A regression analysis was carried out. In this, a model of a relationship was hypothesized in the form $Y = \beta_0 + \beta_1 X + \varepsilon$ where β_0 and β_1 are model parameters and ε is the probabilistic error term that accounts for any variability in Y that cannot be described by the linear relationship with X (Cooper & Schindler, 2014). Independent variables of organizational culture were regressed against the dependent variable of technology adoption. The equations are as shown below:

$$\text{Adoption } Y_1 = \beta_0 + \beta_1 A + \beta_2 C + \beta_3 I + \beta_4 M + \varepsilon_i$$

Where:

Dependent variables (Y1- Adoption) are tested individually as per the equation.

A, C, I, and M are the organizational culture variables initials for Adaptability (A), Consistency (C), Involvement (I) and Mission (M).

$\beta_1, \beta_2, \beta_3$ = coefficients for which we are trying to predict the value of Y.

β_0 = constant.

ε_i – Error term

3.6.1 Testing the Models

The following tests were performed and explained; correlation coefficient, the coefficient of determination.

Correlation Coefficient (R)

This helped the researcher to determine to what degree variable movements were associated. The correlation coefficient is usually within a range of values between -1 and 1 (Huber & Elvezio, 2009). A correlation of -1 indicates a perfect negative correlation while a correlation of 1 indicates a perfect positive correlation. One of 0 indicates no relationship. The closer the correlation coefficient is towards -1 or 1, the stronger the association between the variables.

The coefficient of Determination (R^2)

This enabled the researcher to explain how well the response variable variation was explained by the linear model. According to Allen (2004) when the differences between observed values and the model's predictions are small and unbiased, then the model is fit. R^2 ranges from 0 to 1. The closer the R^2 is to 1 the better the model fits the data.

T-test

This enabled the researcher to test whether the dependent variables were individually influenced by the independent variable. T-values can be obtained from the regression output and interpreted such that if the values are less than 0.05, they are significant and should be included in the model, otherwise insignificant (Higgins, 2005).

3.7 Pilot Study

Pilot testing was done to pre-test the data collection instrument in order to eliminate ambiguity and improve its relevance to the study objectives (De Vaus, 2014). This pilot study involved 5% of the respondents translating to 3 MNCs and a total of 24 respondents. The respondents were selected conveniently since statistical conditions are not necessary for pilot studies (Cooper & Schindler, 2003)

The purpose of the pilot study was to improve the questionnaire and determine relevance to ensure that respondents in the main research study had no problem in answering the questions. Expert opinion was sought to comment on the representativeness and fitness of the questions as well as make suggestions on the corrections to be made.

The pilot study helped in improving the content reliability and validity for the data to be collected. Questionnaires were hand-delivered to the respondents' place of work to ensure objective response and reduced non-response rate. Data from the pilot study was not included in the final data analysis.

3.7.1 Research Validity

Validity refers to how accurately the data obtained captures what it is purported to measure (Wang, 2015). To establish content and construct validity the researcher sought an expert opinion concerning the research instruments from the supervisors at Strathmore University and five other professionals in the field of Human Resource.

3.7.2 Research Reliability

Reliability is defined as the degree of consistency and stability in an instrument (Kumar, 2010). Reliability was measured using the Cronbach's Alpha test on the four traits of organizational culture for internal consistency. The reliability test performed on the four traits met the criterion for the test hence reliable in explaining technology adoption as the dependent variable. Adaptability had a Cronbach's alpha value of (α) = 0.661, consistency (α) = 0.676, involvement (α) = 0.636 and mission (α) = 0.658. The four variables had an overall Chronbach's alpha value of (α) = 0.668. These values slightly exceed the value recommended by Theodosiou et al. (2012) of above 0.6 making the items measuring organizational culture reliable. The variables measuring technology adoption had a Cronbach's alpha value of (α) = 0.776. All items under study had a Cronbach's Alpha value that is greater than 0.5 hence they were all considered reliable (Kistner & Muller, 2004; Wang et al., 2015).

3.8 Ethical Considerations

According to Shamoo and Resnick (2003) adherence to the ethical norms in research promotes research aims which are knowledge and truth. The data collected for this study was used for academic purposes only. One of the ethical considerations is that the participation of the respondents was voluntary and anonymous. Moreover, the respondent's privacy was maintained.

CHAPTER FOUR

DATA ANALYSIS, RESEARCH FINDINGS, AND PRESENTATIONS

4.1 Introduction

This chapter presents the data and analysis of findings on the effects of organizational culture on technology adoption in MNCs. The data presentation is based on the study objectives which were to establish the extent to which the adaptability, consistency, involvement and mission traits of organizational culture influence technology adoption.

4.2 Response Rate

A total of 246 fully filled and usable questionnaires out of 344 were obtained from respondents for the study. This represented a 71.5% response rate and a non-response rate of 28.5%. According to Mugenda and Mugenda (2003), this was sufficient for doing the analysis. Table 4.1 below shows the response rate.

Table 4.1: Response Rate

Efficacy Parameter	Frequency	Percentage %
Responded	246	71.5
Did not respond	98	28.5
Totals	344	100

Source: Author (2018)

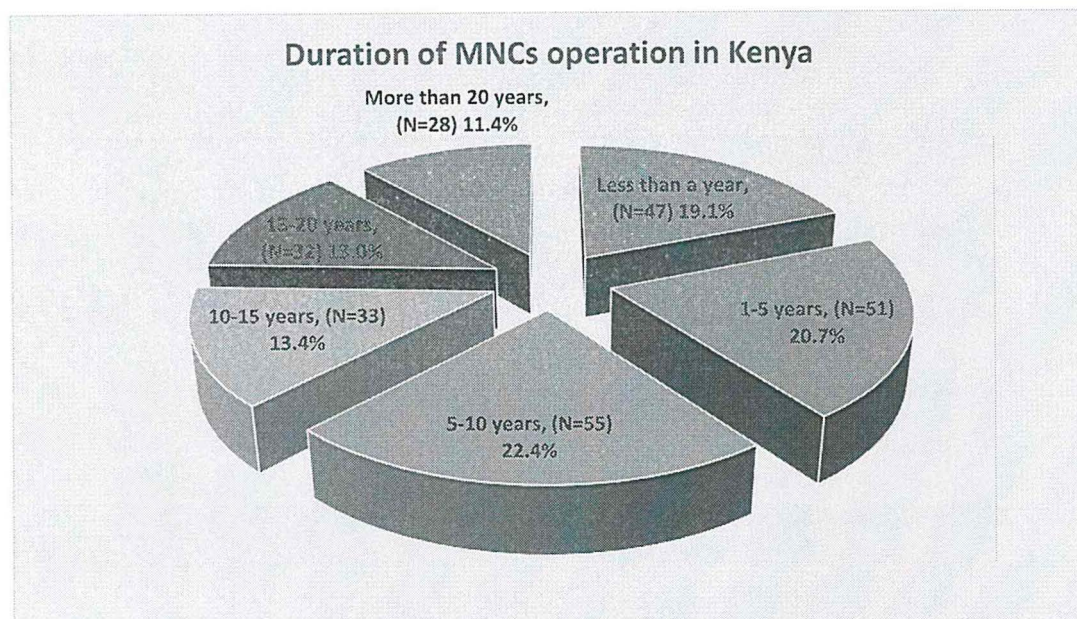
4.3 Demographic Information

The study sought to establish the demographic profile of the MNCs with regards to the duration of operation in Kenya, Ownership structure, Decision-making process, products offered and size of the organizations.

4.3.1 Duration of Operation in Kenya

The study sought to establish the number of years the multinational corporations have been in operation in Kenya.

Figure 4.1: Duration of MNCs operation in Kenya



Source: Author (2018)

Most of the MNCs reached in this study had operated in Kenya for more than one year. In this regard, 22.4% of the multinationals reached had operated in the country between five to ten years. Only less than 20% reported having been operating in Kenya for less than a year as shown in the figure above. This could be due to improvement in foreign investment policies in Kenya that has made the country an economic hub within the region and this has led to an increase in the number of MNCs choosing to not only operating but, setting up their continental headquarters in Kenya. This can also be attributed to increased globalization which has resulted in many MNCs' thirsts for global markets more so in the developing and third world countries in Africa.

4.3.2 Ownership Structure

The respondents were required to answer on the ownership structure of their respective employers.

Table 4.2: Ownership structure of MNCs

	Frequency	Percent
Foreign	72	29.3
Local	102	41.5
Both Foreign and Local	72	29.3
Total	246	100.0

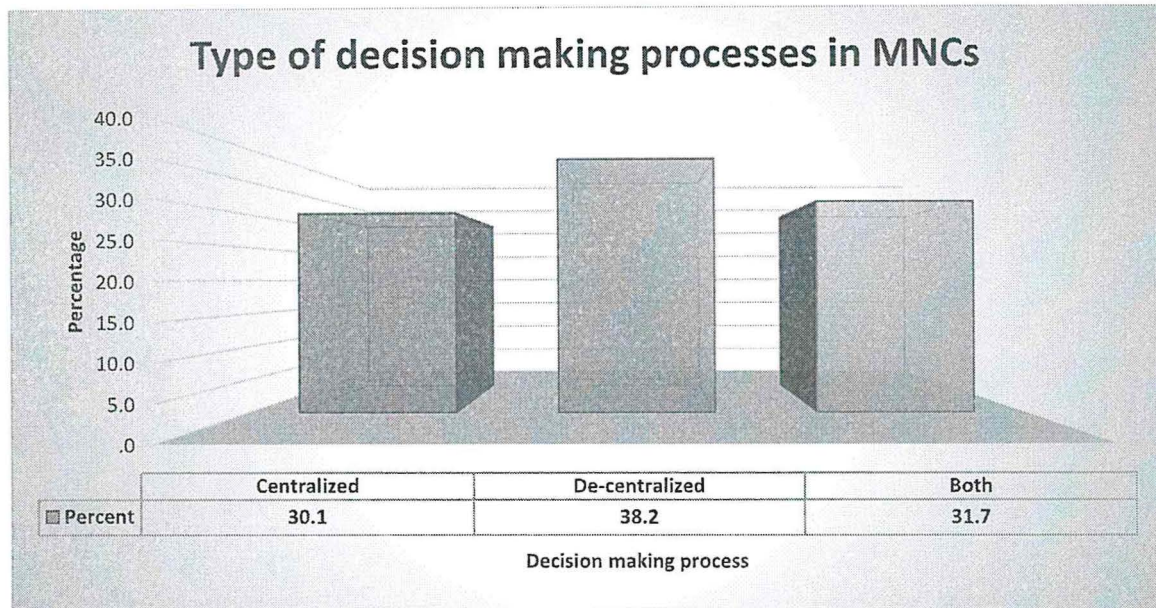
Source: Author (2018)

Most of the multinational corporations were locally owned as reported by 41.5% of the respondents. The foreign-owned multinationals and those that are both foreign and local each accounted for 29.3%. The high number of many MNCs being owned by both locals and foreigners could be a result of local company restructuring through acquisition by foreign companies, mergers with foreign companies and also partnerships between locally owned companies and foreign companies.

4.3.3 Decision Making Process

The respondents were asked about the decision-making process of their respective companies.

Figure 4.2: Type of decision-making processes in MNCs



Source: Author (2018)

A large number of multinationals (38.2%) have a decentralized process of decision making. However, 30.1% have a purely centralized decision-making process whereas 31.7 of the multinationals have adopted both the centralized and decentralized processes for making decisions. In this way, line managers and junior managers can be allowed to make decisions in regard to departmental issues, while the decisions that might affect the whole company operations is only left for the top management and the board to make.

4.3.4 Products Offered

The questionnaire sought to establish the various types of products offered by the respective companies.

Figure 4.3: Products offered by MNCs



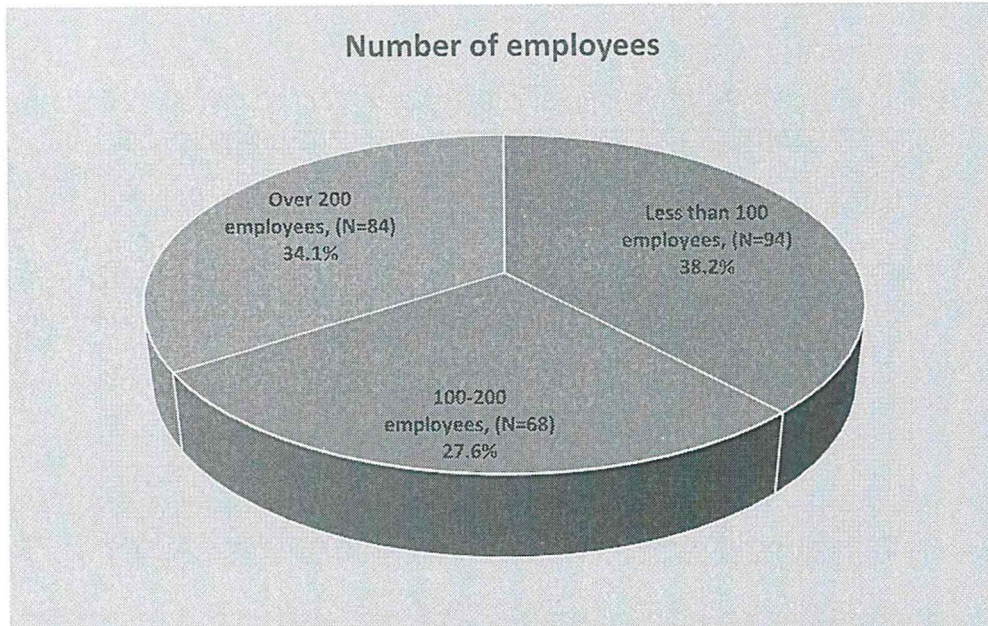
Source: Author (2018)

Most of the respondents who participated in this study were employees of MNCs dealing with investments (17.9%), agricultural programs (16.3%) and real estate (12.2%). Other MNCs were offering services such as hospitality, healthcare, banking and commercial services. Products offered included insurance, automobile, manufacturing and consumer goods as shown in the table above.

4.3.5 Size of the Organization

The study sought to establish the size of the organization in terms of the number of employees each organization had.

Figure 4.4: Number of employees



Source: Author (2018)

One of the ways of determining the size of a company is by the number of its employees. Most of the MNCs reached had less than one hundred employees as reported by 38.2% of the respondents. Moreover, 34.1% had more than two hundred employees while 27.6% had between one hundred and two hundred employees.

4.4. Organizational Culture

This study sought to identify the traits of organizational culture that affect adoption of technology in MNCs. The respondents were asked to indicate the extent to which they thought the traits have on adoption of technology. The responses were given on a Likert scale of 1-5 in all the questions.

4.4.1 Adaptability Trait of Organization Culture on Technology Adoption

Adaptability trait shows how fast the organization changes into the new moods of information and technology.

Table 4.3: Level of agreement with statements regarding adaptability trait

Adaptability	Strongly	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
Co-operation within different departments is experienced when introducing new technology	13 5.3%	21 8.5%	17 6.9%	111 45.1%	84 34.1%	3.94	1.109
Attempts to introduce new technology are met with the resistance when it changes how things are done	13 5.3%	26 10.6%	42 17.1%	69 28.0%	96 39.0%	3.85	1.201
Innovation is rewarded in the organization	20 8.1%	44 17.9%	27 11.0%	45 18.3%	110 44.7%	3.74	1.394
The way things are done in the organization s flexible and easy to change	8 3.3%	35 14.2%	54 22.0%	75 30.5%	74 30.1%	3.7	1.139
When introducing new technology, failure is viewed as an opportunity to learn and improve	17 6.9%	45 18.3%	21 8.5%	78 31.7%	85 34.6%	3.69	1.301
Feedback from our customers influence our decisions to adopt technology that will improve on our products and services	12 4.8%	44 4.0%	41 16.7%	74 30.1%	75 30.5%	3.63	1.224
New and technologically advanced methods of doing work are adopted	19 7.7%	46 18.7%	37 15.0%	58 23.6%	86 35.0%	3.59	1.336
Customer feedback is often considered in decision making	22 8.9%	48 19.5%	35 14.2%	69 28.0%	72 29.3%	3.49	1.33
Total						3.704	1.254

Source: Author (2018)

The questions on whether adaptability traits of the MNCs favorable responses as the mean scores had been all 3.5 and above. Co-operation within different departments is experienced when introducing new technology had the highest mean score of 3.94. More than half of the respondents either agreed or strongly agreed to the questions. However, more respondents either agreed to negative statements such attempts to introduce new technology are met with the resistance (mean score of 3.85. This shows the dynamics of companies in dealing with issues that influence decision making.

4.4.2 Consistency Trait of Organization Culture on Technology Adoption

Consistency trait of the organizational culture can be explained by the level of density, firmness or steadfast adherence to similar principles and course in regard to adopting new forms of technologies and systems.

Table 4.4: Level of agreement with statements regarding Consistency trait

Consistency	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
Goals are well aligned across all levels in the organization	17 6.9%	24 9.8%	23 9.3%	74 30.1%	108 43.9%	3.94	1.244
Our perspectives on technology adoption are shared throughout the organization	26 10.6%	32 13.0%	10 4.1%	70 28.4%	108 43.9%	3.82	1.388
Working with people from different departments when introducing new or improved technology feels like working with people from different organizations	27 11.0%	39 15.9%	12 4.9%	56 22.8%	112 45.5%	3.76	1.441
Our approach when new technology is introduced is consistent and predictable	31 12.6%	28 11.4%	17 6.9%	66 26.8%	104 42.3%	3.75	1.423
We have difficulty reaching an agreement on issues when adopting new technology	36 14.6%	26 10.6%	17 6.9%	55 22.4%	112 45.5%	3.74	1.484

Source: Author (2018)

Respondents were asked to give their degree of agreement with statements concerning consistency trait of their organizations. All the statements had positive responses as a majority of the respondents either agreed or strongly agreed with them. For instance, Goals are well aligned across all levels of the organization had the highest mean score of 3.94 with over 70% of respondents at

least agreeing with the statement. Moreover, 72% of the respondents agreed that their perspectives on technology adoption are shared throughout the organization (mean score of 3.82). On the other hand, 55% of the respondents agreed that agreement on issues when changing to new technology is easy (Mean score of 3.42). This means that there was consistency in how MNCs carried out their activities in regard to adoption of new technology.

4.4.3 Involvement Trait of Organization Culture on Technology Adoption

Involvement trait of the organization culture shows how well informed and involved are the employees of the companies before introduction and implementation of new technology.

Table 4.5: Level of agreement with statements regarding involvement trait

Involvement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
Decisions to introduce new technology are made at the level where the information is best available regardless of the hierarchy	27 11.0 %	35 14.2 %	25 10.2 %	40 16.3 %	119 48.4%	3.77	1.448
Tech-wise capability of the employees is always improving	44 17.9 %	18 7.3%	43 17.5 %	50 20.3 %	91 37.0%	3.51	1.489
Everyone believes that he or she impacts positively when new technology is being adopted	58 23.6 %	26 10.6 %	21 8.5%	28 11.4 %	113 45.9%	3.46	1.675
Employees are involved to some extent when planning to acquire new technology	57 23.2 %	24 9.8%	20 8.1%	38 15.4 %	107 43.5%	3.46	1.648
The organization views the employees' capabilities to adopt new technology as a source of competitive advantage	40 16.2 %	29 11.8 %	43 17.5 %	47 19.1 %	87 35.4%	3.46	1.475
When adopting new technology, team work plays a greater role compared to hierarchy levels	67 27.3 %	6 2.4%	29 11.8 %	39 15.9 %	104 42.4%	3.44	1.672
The organization invests in the continuous development of its employees' technology inspired skills. For example, through training, sponsorships	68 27.6 %	19 7.7%	23 9.3%	63 25.6 %	73 29.7%	3.22	1.609
There are organized work systems that ensure that the relationship between one's role in the organization and technology is seen	79 32.1 %	13 5.3%	21 8.5%	44 17.9 %	89 36.2%	3.21	1.712
People work towards successful adoption of new or improved technology as a team	74 30.1 %	11 4.5%	39 15.9 %	60 24.4 %	62 25.2%	3.1	1.581
The organization views the employees' capabilities to adopt new technology as a source of competitive advantage	70 28.5 %	29 11.8 %	22 8.9%	59 24.0 %	66 26.8%	3.09	1.604
Total						3.372	1.591

Source: Author (2018)

On the question on employee involvement in decisions, more than half of the respondents (54.7%) agreed that decisions to introduce new technology are made at the level where the information is best available regardless of the hierarchy. This had the highest mean score of 3.77. Similarly, with a mean score of 3.51, 57% percent of the respondents agreed that the Tech-wise capability of the employees is always improving. Responses in these sections were however not very favorable as most of the statements recorded a mean score of below 3.5. This implies that most respondents were either neutral or both agreement and disagreement with the statements had equivalent weight.

On the question on whether the organization views the employees' capabilities to adopt new technology as a source of competitive advantage, the mean score was 3.09, with 50.8% either strongly agreeing or agreeing to the statement. On whether people work towards the successful adoption of new or improved technology as a team, 49.6% of the respondents either agreed or strongly agreed with the statement (means score 3.10). This means that there are employees who work individually while others work as a team towards successful adoption of new technology.

4.4.4 Mission of Organization on Technology Adoption

The mission of the organization was to show how the new technology was meant to achieve if its short-term goals or long-term goals.

Table 4.6: Level of agreement with statements regarding the mission of organizational culture

Mission	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
There is a long-term purpose and direction regarding technology use	49 19.9 %	33 13.4 %	8 3.3 %	8 3.3 %	148 60.2%	3.7	1.699
We continuously evaluate our progress against stated goals when adopting technology	65 26.4 %	13 5.3%	10 4.1 %	18 7.3 %	140 56.9%	3.63	1.754
There is a clear mission on how to stay ahead of competition through technology adoption	55 22.4 %	32 13.0 %	6 2.4 %	18 7.3 %	135 54.9%	3.59	1.718
Our vision on leading in technology motivates employees	53 21.5 %	23 9.3%	27 11.0 %	32 13.0 %	111 45.1%	3.51	1.626
Our technology use inspires other organizations to adopt technology	70 28.5 %	23 9.3%	4 1.6 %	21 8.5 %	128 52.0%	3.46	1.788
Leadership has 'gone on record' in regards to technology adoption previously	66 26.8 %	15 6.1%	9 3.7 %	57 23.2 %	99 40.2%	3.44	1.672
Leaders set goals during the introduction of new technology phase that are ambitious but realistic	64 26.0 %	22 8.9%	11 4.5 %	45 18.3 %	104 42.3%	3.42	1.685
Our strategic direction regarding technology use is unclear to me	62 25.2 %	19 7.7%	28 11.4 %	48 19.5 %	89 36.2%	3.34	1.62
Meeting short- term technology demands does not compromise our long- term vision	49 19.9 %	39 15.9 %	22 8.9 %	57 23.2 %	79 32.1%	3.32	1.543
We clearly understand what is required of us to successfully implement new technology	65 26.4 %	20 8.1%	22 8.9 %	52 21.1 %	87 35.4%	3.31	1.637
We share a vision of where the organization aspires to be in the future in regards to technology	77 31.3 %	24 9.8%	6 2.4 %	50 20.3 %	89 36.2%	3.2	1.724
Total						3.44 7	1.679

Source: Author (2018)

The question that garnered the highest mean score was the question that asked respondents whether there were a long-term purpose and direction regarding technology use in their organizations. This question recorded a mean score of 3.77, with 63.5% of the respondents either agreeing or strongly

agreeing. On the other hand, the question that recorded the lowest mean score was whether the employees share a vision of where the organization aspires to be in the future in regards to technology. This recorded a mean score of 3.20, with 56.5% of the respondents either agreeing or strongly agreeing. The results show there is disagreement with the mission of the organization in regard to technology adoption.

4.5 Technology Adoption

The respondents were asked to rank the degree to which the following statements regarding technology adoption described their firms.

Table 4.7: Level of agreement with statements regarding technology adoption

Technology Adoption	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
I am certain of the benefits I could expect by adopting new technology that is introduced in the organization	30 12.2 %	27 11.0 %	17 6.9%	58 23.6%	114 46.3%	3.81	1.429
Learning to operate new technology is easy	18 7.3%	32 13.0 %	26 10.6%	78 31.7%	92 37.4%	3.79	1.273
I am aware of the trade-offs among the costs and benefits of using new technology	23 9.3%	48 19.5 %	17 6.9%	49 19.9%	109 44.3%	3.7	1.433
I believe that use of new or advanced technology is risk-free	31 12.7 %	40 16.3 %	14 5.7%	46 18.8%	114 46.5%	3.7	1.495
Technology in our company is more likely to be adopted if other companies are using it	23 9.3%	54 22.0 %	8 3.3%	59 24.0%	102 41.5%	3.66	1.436
The company continuously develops our skills to ensure that we are equipped to handle new technology	47 19.1 %	32 13.0 %	10 4.1%	32 13.0%	125 50.8%	3.63	1.633
Using new technology gives me an advantage over those who do not	36 14.6 %	47 19.1 %	12 4.9%	43 17.5%	108 43.9%	3.57	1.547
My behavior changes significantly to achieve the benefits of new technology	37 15.0 %	35 14.2 %	27 11.0%	60 24.4%	87 35.4%	3.51	1.467
I am confident on the use of new technology introduced	39 15.9 %	35 14.2 %	32 13.0%	57 23.2%	83 33.7%	3.45	1.472
New technology allows me to do things easily as compared to current technology in use	51 20.7 %	28 11.4 %	15 6.1%	77 31.3%	75 30.5%	3.39	1.526
Total						3.62 1	1.471

Source: Author (2018)

There were favorable responses in regard to technology adoption. Most of the statements regarding technology adoption recorded a mean score of 3.62. The question that garnered the highest mean score was on whether the benefits expected by adopting new technology that is introduced in the organization. This recorded a mean score of 3.81, with 69.9% of the respondents either agreeing or strongly agreeing that indeed the benefits expected by adopting new technology that is introduced in the organization. On the other hand, the question of whether new technology allows me to do things easily as compared to current technology in use recorded the lowest mean score of 3.39, with 61.8% of respondent agreeing or strongly agreeing.

4.6 Inferential statistics

4.5.1 Spearman's correlation

Table 4.9: Spearman's rho correlation coefficients for technology adoption

Correlations

Correlation Parameters			Technology Adoption	Adaptability	Consistency	Involvement	Mission
Spearman's rho	Technology	Correlation Coefficient	1.000				
		Sig. (2-tailed)	.				
		N	246				
	Adaptability	Correlation Coefficient	.367**	1.000			
		Sig. (2-tailed)	.000	.			
		N	246	246			
	Consistency	Correlation Coefficient	.291**	.425**	1.000		
		Sig. (2-tailed)	.000	.000	.		
		N	246	246	246		
	Involvement	Correlation Coefficient	.182**	.146*	.122	1.000	
		Sig. (2-tailed)	.004	.022	.055	.	
		N	246	246	246	246	
	Mission	Correlation Coefficient	.285**	.235**	.229**	.221**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.
		N	246	246	246	246	246

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

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

Source: Author (2018)

The above table presents correlation analysis between the five variables included in the study. It shows that the dependent variable (technology adoption) is positively correlated with the independent variables. There is a moderate positive correlation between adoption of technology and adaptability, consistency and mission traits of the organization. The relationship between the technology adoption and, however positive, is weak.

Model

4.5.2 Coefficient of Determination

Table 4.11: Coefficient of determination for the model

Model Summary

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
dimension0	1 .581 ^a	.337	.326	.508

a. Predictors: (Constant), Mission of the organization, Adaptability level of the organization, Involvement level of the organization, Consistency level of the organization

Source: Author (2018)

From the output at the first section of the above table, we can pick out that R was 0.581. This means that 58.1% of the data was explained in the model. The coefficient of determination explains the extent to which a change in the dependent variable can be explained by a change in the independent variables or the percentage of variation in the dependent variable that is explained by all the independent variables. The four independent variables that were studied explain only 32.6% of the dependent variable (technology adoption) as shown by the adjusted R². Therefore, this means that the four independent variables contribute about 32.6% to technology adoption in multinational companies in Nairobi, while other factors not studied contribute about 67.4%.

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.622	4	7.905	30.628	.000 ^a
	Residual	62.204	241	.258		
	Total	93.825	245			

a. Predictors: (Constant), Mission trait of the organization, Adaptability level of the organization, Involvement level of the organization, Consistency level of the organization

b. Dependent Variable: Adoption

This provides statistics about the overall significance of the model being fit. It was interpreted such that if the significance of the F value was less than 0.05 the model was significant, and if the F value was more than 0.05 the model was insignificant. Looking at the p-value, ($p = 0.001$) means that there are independent variables explaining technology adoption thus the model is statistically significant. In ANOVA, the null hypothesis states that the model has no explanatory power. By getting a significant p-value, we, therefore, reject the null hypothesis.

4.5.3 Regression coefficients

Table 4.12: Regression coefficients for the model

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.774	.282		6.294	.000
Adaptability level of the organization	.383	.061	.375	6.293	.000
Consistency level of the organization	.051	.048	.064	1.044	.298
Involvement level of the organization	.137	.040	.201	3.415	.001
The mission of the organization	.079	.031	.151	2.600	.010

a. Dependent Variable: Adoption

Source: Author (2018)

$$\text{Adoption} = 1.774 + 0.383A + 0.051C + 0.137I + 0.079M$$

Where;

A - Adaptability level of the organization

C - Consistency level of the organization

I - Involvement level of the organization

M - Mission of the organization

The study revealed that when adaptability, consistency, involvement, and mission of the organization were kept constant at zero, technology adoption was at 1.774. A unit increase in the adaptability of the organization will lead to a significant increase in adoption of technology by 0.383, a unit increase in consistency trait of the organization will increase technology adoption by 0.051 (this is however not significant), other factors kept constant. Further, a unit increase in employee involvement will lead to an increase in technology adoption significantly by 0.137, while a unit increase in mission trait of the organization will lead to a significant increase in adoption of

technology by 0.079 other factors kept constant. This shows that there is a positive relationship between technology adoption and the four independent variables.

4.7 Chapter Summary

This chapter explained how data was analyzed in order to meet the research objectives. The first objective was to establish the extent to which the adaptability trait of organizational culture influences technology adoption in multinational firms with regional headquarters in Kenya. The means and standard deviations were computed and the results showed that adaptability had a significant positive relationship with technology adoption. The second objective was to establish the extent to which the consistency trait of organizational culture influences technology adoption in multinational firms in Kenya. Similarly, the results showed that consistency and technology adoption had a positive relationship that was significant.

The third objective was to establish the extent to which the employee involvement trait of organizational culture influences technology adoption in multinational firms in Kenya and the results showed that this trait had a significant positive influence on technology adoption in the multiple regression model. The fourth objective was to establish the extent to which the mission trait of organizational culture influences technology adoption in multinational firms in Kenya and the results indicated that it had a significant positive influence on the adoption of technology.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to determine the effects that organizational culture on technology adoption in multinational corporations in Nairobi. This chapter seeks to present a discussion of the major findings in the study, the conclusion, and the recommendations.

5.2 Discussion of the Findings

This section discusses the major findings of the study in accordance with the research objectives.

5.2.1 The influence of adaptability trait of organizational culture on technology adoption in MNCs in Nairobi

The study revealed that adaptability trait influences technology adoption, and that there is a positive relationship between adaptability trait and the adoption of technology. These results support previous literature that affirmed that adaptability of organizational culture influences technology adoption. O'Reilly et al., (2014) asserted that organizations that emphasize on adaptability perform better in dynamic environments such as technology. Correspondingly, Bueschgens et al., (2010) stated that cultures that accentuate on flexibility, risk-taking and experimentation enhance the organizational innovation and adoption of technology.

The study moreover, found that most employees approve that cooperation within different departments is experienced during the introduction of new technology. This is supported by Duflo et al., (2005) who opined that the ability of employees to learn from one another and co-operate is critical in the adoption of new technologies. This study also reveals that adaptability trait affects adoption of technology positively however with a weak correlation; as opposed to Dasgupta & Gupta (2017) findings that argued that adaptability trait affected adoption negatively.

This study further revealed that feedback from customers often influenced decisions to adopt technology that would improve their product and service offering. This study revealed that most respondents argued that attempts to adopt new technology are met with resistance. This is in line with Mwambia (2015) findings which assert that technology which might cause significant changes in the business model often leads to its resistance or unsuccessful adoption. w

5.2.2 The influence of consistency trait of organizational culture on technology adoption in MNCs in Nairobi

This research revealed that consistency trait of organization culture positively affected technology adoption. Goals of the organization are well aligned across all levels. This is supported by Sorensen (2002) who suggested that endorsement and alignment of organization goals led to strong cultures. In addition, Melitski et al (2010) suggested that organizations with high-decision making practices readily adopt new technology. This is in line with the findings of this study which suggest that win-win solutions are aimed at when adopting new and advance technology.

Moreover, the study revealed that most MNCs have a clear and consistent set of values that guide reaction to new technology especially when the changes affect how business is done so as not to attract resistance. This is supported by the literature, Mwambia (2015), who contends that shared values and beliefs of the organization help ensure that all employees are dedicated towards organization performance which consequentially ensures that proposed technology does not meet resistance.

The study further revealed that during adoption of new technology, people in different departments working together felt like working with people in different organizations. Melitski (2010) argued that harmonization within the organization led to more willingness in adoption of technology. Resistance in adoption of technology can be attributed to the fact that most employees do not perceive unity in their organization making it difficult for new technology to be successful.

5.2.3 The influence of involvement trait of organizational culture on technology adoption in MNCs in Nairobi

Literature review asserted that organizational culture that encourages employee participation consequentially encourage adoption of new technology (Mwambia, 2015)). This emphasizes the results found in this research that decisions are made at the level where information is best available regardless of the hierarchy and that employees are involved when planning to acquire new technology.

Blalock & Paul (2004) observed that the ability of a company to adopt or imitate new technology heavily relies on skilled personnel. The study found that many MNCs, do not invest in the continuous development of the employees' technology inspired skills. Additionally, the findings

support Annette (2006) findings which argues that compatibility is key in technology adoption. Compatibility where employee skills match the requirements of the new technology. This is a critical result that should challenge MNCs to find ways of equipping and improving employee skills that could encourage technology adoption thus reducing resistance that would otherwise be met.

The study however, disputes Annette (2006) findings that suggest experience is key in determining behavioral intent to adopt technology. This study reveals that despite employee experience, new technology is effectively adopted. This could be as a result of training that take place while at work which equip employees with skills

5.2.4 The influence of mission of organization on technology adoption in MNCs in Nairobi

This study found that most employees strongly agreed that MNCs have a long-term purpose, vision, and direction regarding technology use. This is supported by Tang (2012) who asserts that when organizations have set clear goals regarding technology, the achievement of the goals is likely to take place. The mission of an organization positively affects the adoption of technology, and of the four traits greatly affects technology adoption.

This study also found that continuous evaluation of progress against stated goals during technology adoption ensured technology was adopted or imitated. Moreover, Andrew (2011) suggested that a clear mission presented an opportunity to be competitive or remain ahead of the competition, which encouraged technology adoption. This is in line with the research findings which report that clear missions are set on how to stay ahead of the competition through technology.

Shikanda and Okibo (2011) argues that survival, change and competition force organizations to adopt new technology. The findings of this study dispute that since most employees assert that it is the mission of the organization that guides technology adoption despite what competitors are doing. Additionally, the goals, strategic direction and leadership of the organization propels the employee towards being competitive and adopting new technology regardless of the external forces.

5.3 Conclusions

This study presented a review of the literature on organizational culture and technology adoption. Organizational culture is a complex and multi-leveled concept that requires various indicators. For

this study, the organizational culture was explained using the Denison Model that identifies four traits which are adaptability, consistency, involvement, and mission. Technology adoption, on the other hand, was measured by the variable adoption.

The relationship between organizational culture and technology adoption was analyzed using Spearman's correlation and multiple regression analysis. The results revealed that organizational culture was significant in explaining technology adoption. The coefficient of determination was used to explain the extent to which organizational culture influenced technology adoption. The coefficient of determination for technology adoption was 32.6%.

A few studies have shown the relationship between the different measures of organizational culture and technology adoption as significant, partially significant and insignificant with a negative impact. In some studies, these measures were found to have positive and partial or positive and insignificant relation also. These variations were as a result of the research being conducted in different industries, the uniqueness of a firm's particular resources, the use of different techniques and the fact that technology adoption can be explained by other factors.

5.4 Recommendations

Recommendations for multinational company managers can be derived from this study. First, it provides an understanding of organizational culture and how it can be conceptualized. This will help in the understanding of the culture and its impact on technology adoption.

Secondly, this study confirmed that organizational culture has a positive impact on technology. Organizational culture explains 32.6% of adoption of technology in MNCs. Therefore, these means that it is not futile for multinational companies to develop and observe a culture that encourages adoption of technology (Mwambia, 2015).

Thirdly, the findings generated from the study should provide managers with an understanding of the impact and relationship of organizational culture and technology adoption. This will help managers to develop an understanding of the organization's culture and develop tools that cultivate and enhance valuable, unique and imperfectly imitable cultures that are a resource to organizations and which can be a source of competitive advantage to them (Genc, 2013).

Lastly, scholars interested in the field of organizational culture and technology should find the study relevant and of great importance. The research collaborates existing literature and it intends

to provide greater insight into the relationship between organizational culture and technology adoption in the Kenyan context. The findings of this study should complement further the existing literature by adding to the current body of language and also provide a basis from which future scholars can define their future research agendas.

5.5 Limitations of the Study

As with any research effort, this study was not without any limitations. First, this study looked at MNCs operating across all economic sectors. MNCs operating in different industries have varying levels of technology use with some in need of adopting new or advancing technology faster than others. In addition, this study only focused on the MNCs in Nairobi County.

Secondly, due to the limited time and budget, the researcher was not able to seek responses from all employees of the companies. Additionally, there was a level of unwillingness in responding to the questionnaires from some of the companies. Most of them feared that their staff might expose their firm's shortcomings.

Moreover, organizational culture is a concept that can be measured in different ways. This study limited organizational culture to four constructs namely, adaptability, consistency, involvement, and mission. Additionally, there are other ways that technology adoption can be conceptualized. However, this study only focused on Technology Acceptance Model (TAM) to aid in the measuring of technology adoption. Other measures can be used to measure organizational culture and technology adoption to find out their relationship.

5.6 Suggestions for Future Research

The findings obtained from the study provide direction for future research. The study only focused on the effects of organizational culture on technology adoption in multinational corporations with their Africa headquarters in Nairobi County. Future research could extend this to other business sectors. Moreover, this research did not control factors that could influence the relationship between organizational culture and technology adoption. Future studies could focus on moderating the relationship under other factors such facilitating conditions, gender, experience, and age.

Lastly, this study suggests can use an improved model where organizational culture and technology adoption can be measured using other indicators. As such, this may improve the accuracy of the model and therefore lead to better and robust results.

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APPENDICES

APPENDIX ONE: INTRODUCTORY LETTER



13th March 2018

TO WHOM IT MAY CONCERN

Academic Reference for Mburugu, Nancy Gacheri Student No. 69823

Ms Mburugu, Nancy Gacheri is a postgraduate student in our Master of Commerce (MCom) programme. In partial fulfilment of the MCom degree, students are required to carry out a research project and write a thesis on a contemporary subject within their field of specialisation. Among other activities, the project involves data collection and analysis.

Nancy is requesting to gather information to be used in her research. The information she will obtain from your organization will be used for this academic purpose only and will be kept confidential. The results of the survey will be in summary form and will not disclose any individual, company name or company information in any way.

The research study is entitled "The Effects of Organisational Culture on Technology Adoption in Multinational Corporations in Nairobi."

We hope that your organization can assist by providing information to the above named student.

Yours faithfully,



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**APPENDIX TWO:
QUESTIONNAIRE**

Instructions:

This questionnaire is a data collection tool for the study, “Organizational culture and its effects on the adoption of technology by multinational corporations in Nairobi Kenya.”

Kindly answer the questions by putting a tick (✓) in the appropriate box or by writing in the space provided.

Confidentiality

All the information collected will be treated with utmost confidentiality and for academic purposes only. In addition, no reference shall be made to any company or respondent.

SECTION A: COMPANY PROFILE

Name (optional)

Name of Corporation

1. How long has the company been in operation in Kenya?

Less than a year []

1-5 years []

5-10 years []

10-15 years []

15-20 years []

More than 20 years []

2. What is the organization’s ownership structure?

Foreign []

Local []

Both Foreign and Local []

3. What type is the decision-making process in your company?

Centralized []

De-centralized []

Both []

4. What product(s) does the firm offer?

Agricultural []

Automobile []

Insurance []

Banking []

Investment []

Real estate []

Consumer goods []

Commercial and Services []

Telecommunication []

Any other (please specify)

5. What size is the company in terms of employees?

Less than 100 employees []

100-200 employees []

Over 200 employees []

SECTION B: ORGANIZATIONAL CULTURE

The following statements relate to organizational culture. State the extent to which you agree with the following statements with regards to organizational culture in your corporation (where 1-strongly disagree, 2-diasagree, 3-neutral, 4agree, and 5-strongly agree).

Statement		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
6.	Adaptability trait					
	The way things are done in the organization s flexible and easy to change					
	New and technologically advanced methods of doing work are adopted.					
	Attempts to introduce new technology are met with the resistance when it changes how things are done					
	Co-operation within different departments is experienced when introducing new technology.					
	Feedback from our customers influence our decisions to adopt technology that will improve on out products and services.					
	Customer feedback is often considered in decision making.					
	When introducing new technology, failure is viewed as an opportunity to learn and improve.					
	Innovation is rewarded in the organization					

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
7.	Consistency trait				
	There is a clear and consistent set of values on how to react to new changes in technology especially when they affect how business is done.				
	When disagreements occur in the process of adopting new technology, win-win solutions are aimed at.				
	We have difficulty reaching an agreement on issues when adopting new technology.				
	Agreement on issues when changing to new technology is easy.				
	Our approach when new technology is introduced is consistent and predictable.				
	Our perspectives on technology adoption are shared throughout the organization.				
	Working with people from different departments when introducing new or improved technology feels like working with people from different organizations.				
	Goals are well aligned across all levels in the organization.				

10. In your own opinion, kindly indicate how else your organization's culture affects the adoption of technology.....

SECTION C: TECHNOLOGY ADOPTION

The following statements relate to technology adoption. State the extent to which you agree with the following statements with regards to organizational culture in your corporation (where 1-strongly disagree, 2-diasagree, 3-neutral, 4agree, and 5-strongly agree).

Statement		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
11.	Adoption (A)					
	I am certain of the benefits I could expect by adopting new technology that is introduced in the organization					
	Learning to operate new technology is easy					
	My behavior changes significantly to achieve the benefits of new technology					
	I am confident on the use of new technology introduced					
	I am aware of the trade-offs among the costs and benefits of using new technology					
	I believe that use of new or advanced technology is risk-free					
	Technology in our company is more likely to be adopted if other companies are using it					
	The company continuously develops our skills to ensure that we are equipped to handle new technology					
	Using new technology gives me an advantage over those who do not					
	New technology allows me to do things easily as compared to current technology in use					

Your participation is very much appreciated. Thank you.

APPENDIX THREE:

LIST OF MNCs WITH AFRICA REGIONAL HEADQUARTERS IN NAIROBI.

1. BASF	22. Bosch
2. Standard Chartered Bank	23. MasterCard
3. Rockefeller Foundation	24. Pfizer
4. Kuehne + Nagel Ltd	25. Nestle
5. International Livestock Research Institute (ILRI)	26. Nokia Research Hub
6. Toyota	27. Heineken
7. PricewaterhouseCoopers	28. Intel Corporation
8. Mitsubishi Motors	29. IBM
9. LG	30. ICAO
10. Bharti Airtel	31. Blackberry Ltd
11. Prudential Insurance	32. AVIC International
12. DB Schenker	33. Asus
13. Coca Cola	34. Bank of India
14. Serena Hotels	35. Kaspersky Lab
15. Huawei	36. Motorola Solutions
16. Sony	37. Stratlink Global
17. Google	38. TNT
18. General Electric	39. Qualcomm
19. Citibank	40. IMF
20. Diageo	41. Bank of China
21. Cisco Systems	42. Sage Group
	43. Xinhua News Agency