

**INFLUENCE OF STRATEGIC WATER MANAGEMENT PRACTICES ON
RELIABLE WATER SUPPLY IN KENYA: A CASE OF NANYUKI WATER AND
SEWERAGE COMPANY**

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DECLARATION

I declare that this document and the research that it describes are my original work and that they have not been presented in any other university for academic work

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EXAMINERS' SIGNATURES

We have examined this document and the research has met or exceeded the requirement for the degree sought, in addition, the candidate has sufficiently defended the material presented to merit the awarding of Masters Degree in Business Administration.

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Date

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DEDICATION

I dedicate this research project to my parents Mr. and Mrs. Eliud Karani, for being my continuous source of inspiration through education, for their financial support and for being there for me at every point in my life. I also wish to dedicate this work to my sibling Evans Karani and my loving husband John Mutembei for their undivided support.

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ABSTRACT

Water is connected to every forms of life on earth. As criteria, an adequate, reliable, clean, accessible, acceptable and safe drinking water supply has to be available for various users. For Nanyuki Water and Sewerage Company, the company continues to struggle with the provision of water, with demand largely outstripping supply capability of the company, which has led to instance whereby the company has resorted to rationing of water to its customers. In this regard, the general objective of the study was to examine influence of strategic water management practices on reliable water supply in Kenya: a case of Nanyuki Water and Sewerage Company in Nanyuki town, Laikipia County, Kenya. The study utilized a descriptive survey design and targeted 283 full time and casual employees of Nanyuki Water and Sewerage Company from Yamame's proportional sampling technique formula was used to get a sample size of 165 respondents. Data for this study was collected using structured questionnaires. The results were presented using graphs, frequency tables and percentages. A total of 165 questionnaires were dispatched in the field for data collection and 103 questionnaires were returned fully filled, depicting a response rate of 62.4% which is good for generalizability of the research findings to a wider population. Both descriptive and inferential statistics revealed that all conceptualized independent variables (management innovation changes, communication capability, key stakeholder involvement and financial resource allocations) significantly influenced reliable water supply in Nanyuki town (dependent variable). The study concludes that one, relevant management innovation changes in the running of Nanyuki Water and Sewerage Company can really boost reliability of water supply in Nanyuki town; secondly, real time communication capabilities by Nanyuki Water and Sewerage Company can appropriately address customer needs through a suitable customer feedback mechanism and thirdly, key stakeholder involvement by Nanyuki Water and Sewerage Company helps bring all concerned parties on board so as to address all pertinent issues that can affects reliability of water supply in Nanyuki town. The study recommends that one, managers of Nanyuki Water and Sewerage Company should engage in innovative management changes meant to address dynamic changes that affect reliable water supply in Nanyuki town, secondly, managers of Nanyuki Water and Sewerage Company should roll out swift customer communication feedback mechanism meant to address all complaints from residents of Nanyuki town, and thirdly, managers of Nanyuki Water and Sewerage Company should identify and engage key stakeholders that can support the company in efficient and reliable water service provision to residents of Nanyuki town. Another study can be done with focus on Nanyuki town residents so as to capture reliability of water supply as perceived by the residents and not the water service companies.

LIST OF ABBREVIATIONS AND ACRONYMS

KEWASNET	-	Kenya water and sanitation civil society
NAWASCO	-	Nanyuki Water and Sewerage Company
NWCPC	-	National Water Conservation and Pipeline Corporation
SPAs	-	Service Provision Agreements
SPSS	-	Statistical Package for Social Sciences
UN	-	United Nations
WASREB	-	Water Services Regulations Board
WHO	-	World Health Organization
WSPs	-	Water Service Providers

DEFINITION OF KEY TERMS

Communication capability entails modes /channels of communication, and prompts communication responses. According to (Mwajuma, 2013) Communication capability is an Effective and Efficient communication which assists employees and stakeholders to understand the company's business strategy, and how they contribute to achieving companies objectives.

Finance resource allocation involves salient practices such as budget allocations, disbursement of fund and utilization of allocated funds. Financing procedure is basic for the manageability of water specialist organizations both in the rustic and urban abodes.

Key stakeholders involvement has to do with how a water supply company engages, gets contribution and support from main interested parties to ensure reliable water service provision (Chen, 2016). Stakeholder participation in water service provision can influence efficient water provision.

Management Innovation changes involves renewed supervision/control practices, innovative operational processes plus new organization structures (Frambach & Schillewaert, 2008). Management innovation changes in terms of new management practices, process, structures and techniques in the water management systems can really improve water service provision to customers of Nanyuki town.

Reliability of water supply entails consistency in water service provision, trustful billing and general water user satisfaction (AfDB, 2014).

CHAPTER ONE

INTRODUCTION

1.1 Introduction.

This chapter presents background of the study, statement of the problem, general objective of the study, specific objectives of the study, research hypotheses, and significance of the study, scope of the study, limitations and delimitations of the study.

1.2 Background of the Study

Water is associated with each type of life on earth. As a standard, a satisfactory, safe, acceptable, accessible, clean and reliable drinking water supply must be accessible for different clients. The United Nation (UN) and different nations pronounced accessibility to safe drinking water as a principal human right, and a fundamental advance towards improving expectations for everyday comforts (Hirvi and Whitfield, 2015). Accessibility to water was one of the primary objectives of Millennium Development Goals (UN-MDGs) and it is additionally one of the principle objectives of the Sustainable Development Goals (SDGs). The UN-SDG objective 6 expresses that “Water sustains life, but safe clean drinking water defines civilization “(Satterthwaite, 2016).

In spite of these realities, there are imbalances in access to safe savoring water in the world. In certain nations, adequate freshwater isn't accessible (physical shortage); while in different nations, bounteous freshwater is accessible, however it is costly to utilize (monetary shortage). The other challenge is the expanding populace of the world at a disturbing rate, while the accessible freshwater resources nearly stay consistent. Furthermore, climate change has had adverse effects on the availability of water in many

parts of the world, further compounding the availability of water to the population (Gosling & Arnell, 2016).

According to Barlow and Clarke (2017), 84 percent of the populations in developing regions have access to improved drinking water, with 96 percent approaching in urban zones. In provincial territories, the quantity of individuals without clean drinking water is in excess of multiple times the number in urban regions. As the previous Prime Minister of Japan Ryutaro Hashimoto takes note of that;

"Open water benefits right now give in excess of 90 percent of water gracefully on the planet. Humble in progress out in the open water administrators will immensely affect worldwide arrangement of water administrations' (Alegre, et al., 2016).

In order to have reliable water supply, the service delivery has to be examined, and it is a typical expression used to portray utility provision to residents including housing, electricity, water and land. Then again, companies that have been mandated to supply water need to guarantee successful and effective delivery of water in the correct amount and quality at some random opportunity to their clients (Hirvi and Whitfield, 2015). Be that as it may, challenges as of late experienced in many nations on the planet regarding economic and social development is progressively identified with water. The expansion of the extent of individuals who don't get to clean water and furthermore fundamental sanitation is one of the worldwide objectives which were pronounced by the United Nations (WHO, 2016). While access to adequate and clean drinking water might be underestimated in the developed nations and for the instance of developing nations on the

planet, the accessibility of clean water is incredibly extreme prompting in excess of 5,000,000 individuals losing life from water associated infections and the other one billion die because of detachment of water as a fundamental need (WHO, 2016).

Majority of the Americans in the US are drawing their supplies of sewer and water from public utilities. Public system, which is characterized as a framework that serves in excess of 25 clients or fifteen service connecton, is directed by the U.S. Environmental Protection Agency under the Safe Water Drinking Act (Weinmeyer, Norling, Kawarski and Higgins, 2017). Matters that influence sanitation and supply of drinking water in the United States incorporate water shortage, contamination, an overabundance of venture, worries about the reasonableness of water for the most unfortunate, and a quickly resigning workforce. Extended vacillation and force of precipitation as a result of natural change is required to convey both progressively extraordinary dry seasons and flooding, with perhaps authentic consequences for water gracefully and for pollution from combined sewer floods (Weinmeyer et al., 2017). Supply of water in the European Union (EU) is the obligation of every part state, however in the 21st century union wide approaches have become effective. Water assets are constrained and sanitation and supply frameworks are feeling the squeeze from urbanization and environmental change. In reality, a lot is on the line as the European Environmental Agency found that one European out of ten as of now endures a circumstance of water shortage (Behrens, van Vliet, Nanninga, Walsh and Rodrigues, 2017).

As a rule, water isn't accessible at the areas and times where and when it is generally required. For example, individuals have no accessibility to safe water in urban regions is rising overall particularly in developing nations because of fast urbanization, quite a bit of which happens in Peri - urban and informal settlements zones, be that as it may, Kenya's goal as reverred in Vision 2030 for water and sanitation is to guarantee access to improved sanitation, accessibility and access to perfect and safe drinking water (Capps, Bentsen and Ramírez, 2016).

The economic and social results of an absence of clean water infiltrate into domains of industrial and agricultural development, physical health and strength, employment opportunities, education and accordingly the general beneficial capability of a community, country, as well as region. Along these lines, the United Nation (UN) appraises that Sub-Saharan Africa alone loses forty billion of conceivable working hour's yearly gathering water (Hirvi and Whitfield, 2015).

Water resources degradation has set a noteworthy macroeconomic weight on Kenya's economy, has seriously influenced numerous qualities of life among Kenyans, and is compromising long run socio-economic development in the nation (Kelly, Shields, Cronk, Lee &Bartram, 2018). Mismanagement, lack of proper planning and absence of technical aptitudes have prompted enduring water deficiencies in a nation in any case invested with adequate water resources.

Issues that influence sanitation and supply of drinking in the United States fuse water lack, pollution, an aggregation of adventure, stresses over the moderateness of water for the least blessed, and a rapidly leaving workforce. Extended variability and precipitation power in light of natural change is depended upon to convey both dynamically extraordinary dry seasons and flooding, with possibly real implications for water gracefully and for defilement from merged sewer floods (Ioris, 2016).

Majority of Americans are access water and sewer services from public owned utilities. Any public framework, which is characterized as a framework that serves in excess of 25 clients or 15 connections, is controlled by the U.S. Environment Protection Agency under the Safe Water Drinking Act (Wa'el, Memon and Savic, 2016). Eleven (11%) percent of Americans get water from private (purported "investor-owned") utilities. In up country areas, cooperatives regularly give water for drinking. At last, up to fifteen percent of Americans access water drawn from their wells. Water supply and wastewater systems are managed by state and federal governments. At the state level, regulations on environment and health are endowed to the respective departments at state level.

In Africa, the battle for accessibility of clean and safe water for drinking is characteristic of how water shortage prompts the slowing down of human advancement. It is a matter that concerns all parts of advancement including economic productivity, peace and stability, opportunities and education of children and women, agricultural productivity and health. All issues are interconnected and experience a lot of overlap, that any increase to the accessibility to clean water in Africa can possibly fathom various formative hindrances (Graham, Hirai and Kim, 2016).

Poverty is legitimately identified with the access to clean drinking water-without it, the odds of breaking out of the neediness trap are amazingly thin. This idea of a "water poverty trap" was created by business analysts explicitly watching sub-Saharan Africa and alludes to a pattern of increased degradation of environment, low production from agriculture and financial poverty (Dadson et al., 2017).

In this negative input circle, this makes a connection between the absence of water assets with the absence of financial resources that influence every single cultural level including community, household and individual. In regard to poverty trap, individuals are exposed to low wages, high fixed expenses of water supplies offices, and absence of credit for water ventures which brings about a low degree of interest in water and land assets, absence of interest in benefit creating practices, degradation of resources, and interminable neediness (Dadson et al., 2017).

Investment in the systems that enhance water supply in Kenya has for quite a while evaded those regions settled by the poor in urban focuses as much spotlight is on the high and middle class areas which promise prompt returns. Water supplies to peri-urban territories where settlement isn't formal is tormented with numerous issues, for example, spontaneous nature of settlement, thus deficient infrastructure such as electricity, drainage, sewerage, sanitation, water and roads circumstance that describes low degrees of service delivery from public utilities and accordingly hygiene, adequate sanitation and clean water are noticeably nonexistence or inferior generally . The continuous expansion and development of settlements request of water emerges from the moderately high populace development (Cook, Kimuyu and Whittington, 2016).

Absence of sufficient rainfall has added to failure to get enough food in this manner prompting emissions of viciousness in Kenya. In numerous regions, the issue of water deficiency has been contributed by the government's absence of interest in water, particularly in remote zones. Most of poor Kenyans in urban areas normally access contaminated water, which has resulted epidemics such as cholera scourges and other pioneering sicknesses which have a negative effect on their livelihood and health (Billman, 2014).

Bellaubi and Visscher (2016) in their examination on improving integrity to improve delivery of services in the provision of water supply in both Kenya and Ghana saw that profound situated difficulties exist in the supply of water in the two nations. They saw that water crises in 2000, 2006, and 2009 are yet to stimulate service provider and government to act together to address long run difficulties, and with lopsided appropriation of water assets and an elevated level of aridity (80% of Kenya's territory zone is semi-arid or arid) the issue of crude water accessibility was probably going to increment. The investigation uncovered that by 2006 just 42% of Kenya had access to water while 31% had sanitation and sewerage inclusion both in metropolitan and remote zones against an objective of 76% in the two regions..

Nanyuki Water and Sewerage Company is a corporate element set up in the year 2006 under the Companies Act, Cap 486 of the Laws of Kenya, as a specialist of Northern Water Services Board, with the order of giving water and sanitation benefits inside Nanyuki district and its environs. The organization gives water and sanitation administrations to roughly 90,000 inhabitants inside Nanyuki Municipality and its environs, covering a zone of 141 km² (Munjogu and Namusonge, 2017).

The town gets its water from close by Mount Kenya, which towers over the town's frame of reference and ensures a nearly lasting through the year water flexibly with the exception of four months during the dry season. Despite this, the company still faces challenges when it comes to the provision of water to the residents of Nanyuki. All that began to change in the year 2010 when Transparency International Kenya through the Transparency and Integrity in Service Delivery in Africa (TISDA) venture came into the zone and united water partners, which came about with intercessions that are planned for improving water gracefully for occupants and a progressively secure water dispersion situation for the water specialist co-op through the re-engineering of the company processes and institutional capacity (Bellaubi & Visscherb, 2016).

1.3 Statement of Problem

Many people don't receive clean water and the test endures everywhere throughout the world, with some most exceedingly terrible situations in Kenya. Small existing explores (Samantha 2011) found that there are around 40 million individuals living in Kenya, of whom around 17 million (43 percent) don't get to perfect and safe drinking water. Ojwang (2015) additionally demonstrated that most Kenyans despite everything depend on unchanged water sources, for example, lakes, wells and streams; and just 9 out of around 55 open water administrations suppliers in Kenya give consistent water flexibly, leaving a great many people to locate their own specific manners of scanning for suitable answer for this fundamental need.

For Nanyuki Water and Sewerage Company, the company continues to struggle with the provision of water, with demand largely outstripping supply capability of the company, which has led to the company to sometimes resort to rationing of water to its customers in

Nanyuki town where residents continue complaining of inconsistency in water service provision Munjogu, and Namusonge (2017). Reconnaissance surveys on water services provision problems pointed on lack of sufficient funds to enhance capacity, slow implementation of organizational objectives and also lack of goodwill on the part of management has led to a situation whereby the existing water service provision companies do not adequately meet the expectations of its customers. Thus, this study sought to find out water management practices influencing reliable water supply in Nanyuki Town.

1.4 Purpose of the study

The purpose of the study was to examine influence of strategic water management practices on reliable water supply in Nanyuki Water and Sewage Company in Nanyuki town, Laikipia County, Kenya.

1.5 Objectives of the study

1.5.1 General objective of the Study

The general objective of the study was to examine influence of strategic water management practices on reliable water supply in Kenya: a case of Nanyuki Water and Sewage Company in Nanyuki town, Laikipia County, Kenya.

1.5.2 Specific Objectives of the Study

The study was guided by the following specific research objectives;

- i. To examine the influence of management innovation changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

- ii. To determine the influence of communication capability on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.
- iii. To analyse the influence of key stakeholder involvement practices on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.
- iv. To assess the influence of financial resource allocations on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

1.6 Research Hypotheses

H₀₁: There is no significant relationship of management innovation changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County

H₀₂: There is no significant relationship of communication capability on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

H₀₃: There is no significant relationship of key stakeholder involvement practices on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

H₀₄: There is no significant relationship of financial resource allocations on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

1.7 Significance of the Study

The study is hoped to benefit the managers of the company as it may be used to formulate enhanced operational methods so as to boost the rate of supply of water, and its reliability to those who seek the services. Furthermore, the research hoped to assist key stake holders of the company and the company as a whole and also authors with materials that lead to understanding water reliability. Nanyuki Water and Sewerage Company in particular hopes to help improve its services to its clients and evaluate the policies or ways in which it adopt so as to curb water shortage in Nanyuki town which is the major problem and especially during the dry seasons and yet the company collect its water supply directly from Mount Kenya.

1.8 Scope of the Study

This study was carried out to examine strategic water management practices influencing reliable water supply in Nanyuki Town, Laikipia County, Kenya. The study focused on the employees of Nanyuki Water and Sewerage Company only, thus excluded employees of other water services companies within Laikipia County, and those employees from the Department of Water and Natural Resources of Laikipia County.

1.9 Delimitations of the Study

The researcher assured sampled respondents of Nanyuki Water and Sewerage Company that the research was for academic purpose only, their confidentiality was guaranteed by use of consent forms, and thus, their views were not to be exposed to any other person other than the researcher only.

1.10 Limitation of Study

The study was only limited to employees of Nanyuki Water and Sewerage Company only, thus excluded employees of other water services companies within Laikipia County (for fear of assumed competition and reputation issues), and those employees from the Department of Water and Natural Resources of Laikipia County.

1.11 Assumption of Study

According to Kothari (2012), assumptions could be beliefs or ideas that one holds to be true without any evidence. In order to collect the study data, analyze and present the findings, the researcher made the assumption that the respondents provided truthful and honest response to the information in the questionnaire and that the respondents had enough time for answering the questionnaire items. This research was based on

hypothesis: respondents would understand and answer the questions in the questionnaire correctly, truthfully and willingly returned the filled questionnaires within the stipulated timeframe without any external negative influence.

1.12 Theoretical Review

The study was based on Resource Based theory, System theory and the Delta model theory because relevance on service delivery by organizations like Nanyuki Water and Sewage Company engages in water service provision to its clients who demand efficient and reliable water supply.

1.12.1 Systems theory

This theory was designed in 1968 by Ludwig von Bertalanffy. It categorically offers a more inclusive perspective of organizations and their operations. According Ludwig the theory is not so much into management practices but a unique manner of studying and conceptualizing firms. It examines activities and their results at a communal level, which demonstrates that the interactions and actions of the individuals determine organization performance. (Charlton, 2005).An analytical framework is provided for general view of organizations by the system theory which creates room for detailed explanation and descriptions.

Most Organization directors recognize how different systems can affect workers delivery and how workers can equally affects the systems around them. Different efforts combined make a system work effectively to accomplish goals. Through Systems theory managers are able to effectively examine patterns and events of occurrences at the

workplace which is significant in coordinating projects to function as an aggregate entire for the general objective or strategic the association as opposed to for disconnected offices (Hawthorne, 2013).

Based on the Systems theory, charismatic leaders may improve the performance of an organization from a struggling state for survival, but their actions are likely to introduce new innovations that serve as referencing rules even when the organization found a new good fit with its environment (Inganj, 2016). This effect makes them prone of making changes without considering the consequences as the results of their actions even when the changes are more likely to do harm than good. Basing on the above argument, charismatic leadership is more likely to be useful only for a short-term period. According to Goleman (2004), long-term charismatic leadership might work in positive development of organizations in an environment which is radically changing.

Muruli (2016) study noted that system hypothesis examination of the executives shows that versatile normalization of procedures may prompt a contracting of the framework for the time being, however in the drawn out versatile normalization prompts further and quicker extension. The examination maintains that normalization decreases the multifaceted nature of some procedural language utilized inside the association. This systems theory is therefore relevant to this study in that management innovation in terms of new management systems, structures and processes was examined to assess if these new management system changes can lead to reliable water supply in Nanyuki town.

1.12.2 Resource Based View theory

The supporters of this view suggest that organizations should be in a position to identify the sources of completion rather than concentrating on the competitive environment (Othman, 2015). Resource Based theory. Was instrumental to concentrating researchers on the ability to control asset assignment as the way to authoritative endurance.

As indicated by RBV defenders, it is significantly more practicable to abuse existing outside circumstances utilizing the accessible assets in a unique manner as opposed to attempting to secure new abilities and information for various chances. In RBV model, all assets are granted a significant job in helping associations to accomplish better (Kamboj, 2015). The RBV of a firm has been around for more than 20 years during which time it has been generally taken up and exposed to significant analysis (Kraaijenbrink et al., 2009). There are two kinds of assets (1) substantial resources which are physical things for example Land, apparatus and Capital (2) intangible assets- anything else that is not physical but can be owned by the organization. The hypothesis' focal suggestion is that associations will attempt to deal with their asset conditions with an assortment of strategies, for example, the cooptation (Selznick, 1949) of wellsprings of limitation, so as to accomplish more noteworthy self-rule and in this way lessen vulnerability in the progression of required assets from the earth (Muruli, 2016).

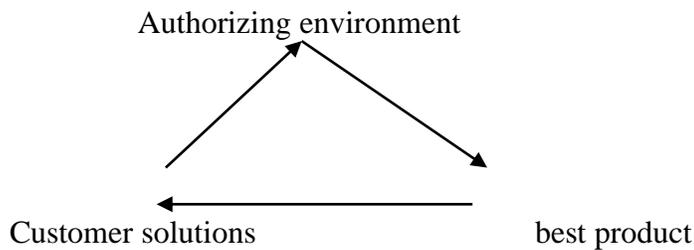
Anyway the hypothesis has been condemned; hierarchical reactions to the outer condition are dependent upon the association itself. The facts confirm that an association exists in a business opportunity for impact and control, however the "authoritative situations are not given real factors; they are made through a procedure of consideration and translation" (Inganji, 2016).

This theory therefore connects to this study in the sense that human resources in terms of management innovations, tapping skills and support from key stakeholders and sound financial resource of water service boards can be well harnessed and utilized for reliable water supply in Nanyuki town.

1.12.3 Delta Model theory

The model was developed by Dean Wilde when he tries to relate the customer-based approach to strategic management basing on customer economics. The main purpose of developing this model was to try and create a close bond of relationship between the customer, workers and the organization (Arnoldo, 2003). An experiment on the workability of the model was done to determine the drivers of sustainable profitability for businesses (Mateo, 2009). The novel arrangement of systems and approaches developed from the way that adjustments in the realm of business were huge to the point that current administrative structures had gotten invalid or deficient.

According to the work of Muruli (2016), he acknowledged that Technological influence caused radical advancements of the internet which has developed a colossal potential for correspondence and the fantastic innovation encompassing e-business and online business, which empowered totally new business draws near. It's therefore important for organizations to focus more on developing their strategies and not on their competitors. A strategic triangle can best illustrate the delta model.



This model clarifies how open worth can be made by associations. As per Moore's triangle, two significant segments must cooperate so as to make esteem or improve execution. That is the authoritative limit and assets and approving condition. Best client arrangements need participation and will accomplish client share. Best item empowers the organization to get the edge on rivalry, which will expand piece of the overall industry (Wild, 2003).

In his examinations, Arnaldo (2010) likewise proposed Axioms as a lot of standards which fill in as a system some way or other difficulties the customary way of thinking with respect to key reasoning: the focal point of the procedure is the client. The model shows the client as the main impetus for all activities attempted by the organization. Consequently, the endeavors of the Organizations must be centered on high worth added suggestions to clients which are both innovative and extraordinary. In accordance with the model, the establishment doesn't win by beating the opposition however by accomplishing Customer holding. Accordingly the focal point of the administration ought to be Customer holding. This stage is unmistakable by a relationship dependent on straightforwardness and decency, which creates long haul benefits for all gatherings included. Notwithstanding, system isn't war yet Love as in when it is characterize the real

quintessence of technique as an upper hand and struggle is signified as the best approach to consider business.

Other forms of cooperation were also discussed by arnoldo stating that; an item driven attitude is obliging; this open ones personalities to incorporate the clients, the providers and the makers of reciprocal items as key supporters since all business are connected and subject to different individuals from the gracefully chain, a more extensive view is expected to see this extended undertaking, which is the element of genuine significance in key investigation (Inganji, 2016). Institutions should try to understand their customers because Strategy is done to one customer at a time. "The customer is always right" and they need to be satisfied. Haxin his argument says that the client can't generally be "right" as the client has no clue about what can be offered to them .Satisfaction must be accomplished by working together with the clients (Wild, 2003).

Therefore, the best model adopted and which was anchored by this study was the Delta model because it really connects to this study in the sense that since water is an essential basic need, the water supply companies have the ultimate task to serve all customers (water consumers); and the people in need of water (customers) have a right to demand efficient and reliable water supply services from the Nanyuki water and sewage company. The theory is out to fulfil customers need of the right to have efficient and reliable water supply and trustful billing

1.13 Conceptual Framework

According to Frambach and Schillewaert (2008), the board advancement may not just change an association and carry expected advantages to it, yet in addition reclassify an industry by affecting the spread of new thoughts. Studies in water service provision have

not incorporated the idea of management innovation yet; management innovation changes in terms of new management practices, process, structures and techniques in the water management systems can really improve water service provision to customers.

Secondly, communication capability helps in imparting data to workers on both how the organization is getting along and how a representative's own division is doing, comparative with key business goals (Mwajuma, 2013). That is, to win organization trust the management should put into considerations key critical areas to win employees and customers' confidence. This assists employees, customers and all stakeholders to understand the company's business strategy, and how they contribute to achieving company's objectives and fully addressing customer's needs.

Thirdly, availability of finance is significant for the growth of any business. It not only acts as an indicator of health of the company but also has a role in managing business growth (Ciobanu, 2017). Thus, many organizations are faced with debt or equity financing which influences schedule payment involved in settling debt finance or settling operation costs, especially in water service provision, where huge company operational costs and non-payment of water bills by customers influence reliable water provision by the company.

In this way, managing water resources strategically is the action of developing, distributing, planning and management of the ideal and long run water utilization and supply. As the carrying limit of the Earth increments extraordinarily because of advancement in technology, urbanization in present day times happens as a result of various economic opportunities.

As per Bryant (2010), two factors essentially impact the type of water institutions policies in a general public: the overall shortage of water and the cost of transaction needed to set up and authorize water rights. While shortage is both demand and supply reliant, the human weights on the side of demand are likely the most significant. Costs of transaction include the assets required to get data, arrange concurrences on property rights and police these understandings. Water demand and supply qualities make costs of transaction for water generally high and the estimation of water moderately low contrasted and different commodities and resources.

As per Mann, Rozaklis and Wunderlich (2018), numerous financial analysts are attempting to discover approaches to improve water-utilization effectiveness through improved institutional performance. Research to date proposes that technological and institutional changes are modified in light of similar kinds of motivating forces. At the point when water is ample comparative with demand, laws administering water utilize will in general be basic and upheld just coolly. Where water is scant, increasingly expound institutional frameworks advance.

Independent Variables

Dependent Variable

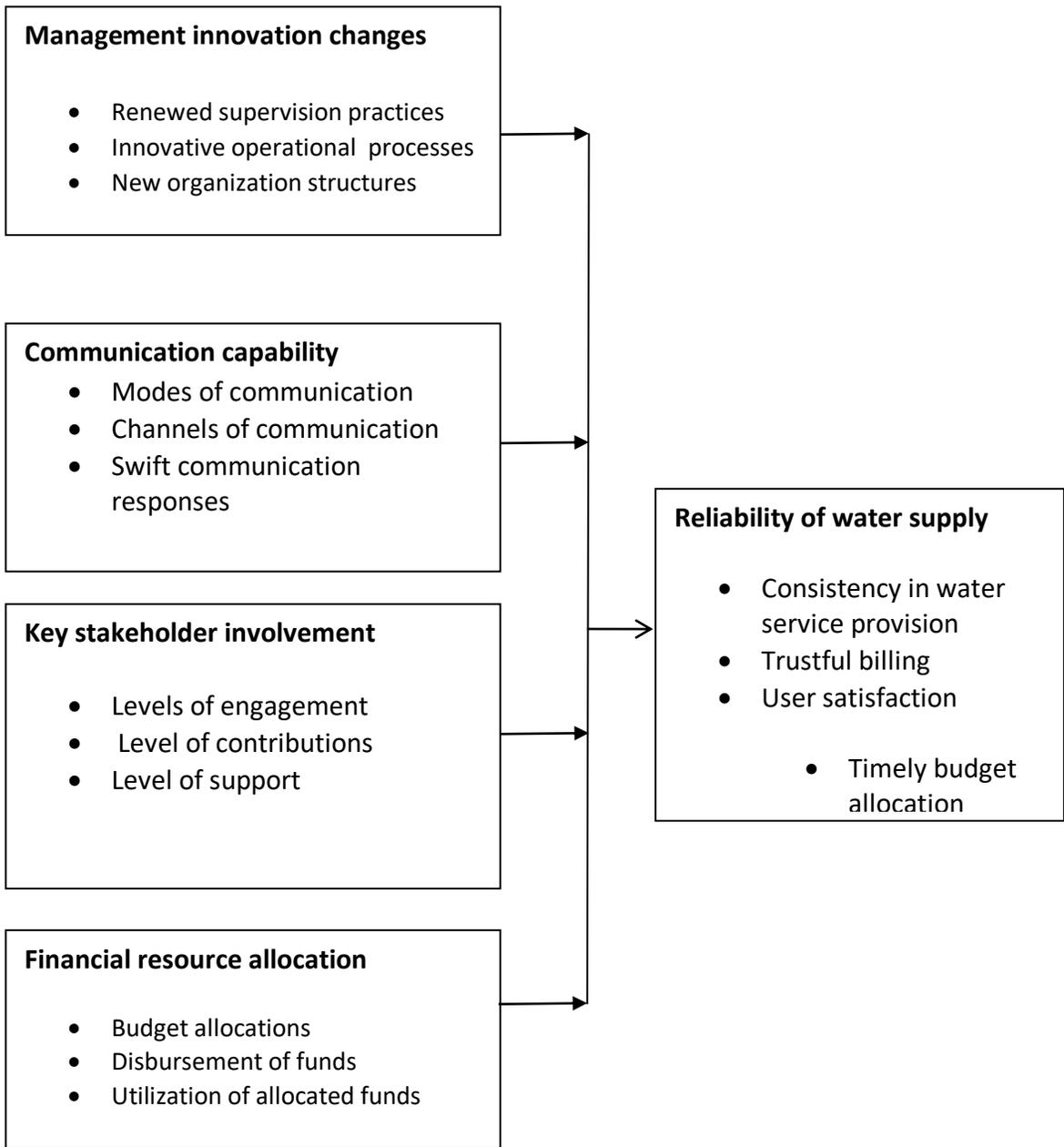


Figure 1. 1: Conceptual framework

Source: Researcher (2020)

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review of theoretical framework and empirical studies that have been carried out in relation to the study objectives and critique of literature related to the study. A thematic approach guides the discussions in this chapter.

2.2 Empirical Review of Literature

This section reviews the works of other researchers with respect to the studies specific objectives.

2.2.1 Management innovation changes and reliability of water supply

Hamel (2007) reiterated that competitive environment in which firms operate in necessitates the change of how firms do operate or transact business and have to constantly be innovative so that they maintain their business/market share and sustain competitive advantage. To do this, firms can focus on innovation through adopting new structures, processes and practices.

In African Development Bank (2013) study, it was noted that the fresh water resources are scarce and pointed out the importance of maintaining population growth in order to achieve stability in water demand. The study suggested the key strategies therefore are to manage population growth by lowering it and ensuring a balanced distribution of the populations. For these strategies to be successful; it entails raising of awareness, sensitizing the communities, management innovations, educating masses and training to lower the population growth (WHO and UNICEF, 2015). This study therefore made

population growth as the problem without considering the fact that water supply for the current population is the major problem in developing countries like Kenya.

Frambach and Schillewaert (2008) also found that the executive's advancement may not just change an association and carry likely advantages to it, yet additionally rethink an industry by affecting the spread of new thoughts. Studies in water service provision have not incorporated the idea of management innovation yet; management innovation changes in terms of new management practices, process, structures and techniques in the water management systems can really improve water service provision to customers.

2.2.2 Communication capability and reliability of water supply

WHO (2015) study in African countries revealed that reliable water supply can be done by the use of strategic communication whose success is dependent on correspondence, coordination and holding. That is if the coordinated efforts are intended to proceed for an extensive stretch of time, its attributes are probably going to change as the gatherings become natural. The study reinforced that lack of communication affects performance of many organizations, thus must embrace communication capabilities.

Abok (2013) found that for effective company service delivery, senior managers should select individuals to be associated with correspondence procedure of hierarchical needs so as to stay away from cynic's difficulties which would somehow twist the expected point as specified in the key arrangement. This will include sorting out conversations and discussions' concerning the correct planning in accordance with the opportunity to have open chats on how effective plans are to be executed and all whines tended to and imparted helpfully.

Pearce (2004) likewise found that correspondence happens between where correspondence begins and where it is gotten. Similarly, the translation of correspondence regularly assumes a fundamental job which requires ranking directors to uphold a culture that grasp away from and hand-off of correspondence from all sides of the association. This implies the senior managers and the public relation employees should be concerned of people's cultures and beliefs, attitudes, behavior and demands from company customers.

Lamb (2004) further found that to win organization trust from clients, the management should put into considerations key critical communication areas to win employees confidence This assists employees and stakeholders to understand the company's business strategy, and how they contribute to achieving companies objectives through effective and efficient communication.

2.2.3 Key stakeholder involvement and reliability of water supply

Stakeholder involvement through community participation has been echoed by a number of studies. For instance, an investigation of network worked and oversaw water supplies in Yatta Division of Kenya found that there was a solid connection between ventures in the network that are feasible and innovation, administrative aptitudes of the board of trustees individuals and network interest Mwamati, 2007). The investigation further recommended that there was a noteworthy connection between government backing and enactment and manageability of network water ventures.

UNICEF (2014a) study recognized a few components influencing manageability of network oversaw water arrangement as; Institutional variables involving national, provincial, network associations and private segment substances), and Development

forms which incorporate plan, investment, activity and upkeep and observing and assessment;. Innovative factors, for example, appropriateness, agreeableness, responsiveness, adjusting requirements, principles and costs; Contextual factors and powers which incorporate factors outside the ability to control of foundations required to change. They incorporate natural, segment, socio-social, political elements which be tended to through association of every single concerned partner.

Different investigations found a critical connection between network commitment and maintainability of network oversight water extends in Nyando area of Kenya (Odie, 2012). In an examination of UNICEF upheld extends in Nyando area, the investigation further recommended significant levels of network commitment to extend costs impacted maintainability of the water ventures. The investigation further inferred that where venture the executives boards of trustees were compelling, the network oversight ventures were reasonable.

WHO and UNICEF (2014) found that; since water is a social good, community participation is very vital in the management of these water resources in order to ensure maximum social benefits to the communities. But the challenge facing most African countries is establishing the networks for adequate assessment of water resources, monitoring of the quality of water that is harvested at the water resources and addressing the vital socio-cultural issues associated with the management of sustainable water resources. However, the study was limited to community participation at the water resources without noting that stakeholder participation in water service provision can also influence efficient water provision.

Mulwa (2013) did an examination on factors impacting maintainability of water flexibly extends in Central Division, Machakos District of Machakos County, Kenya. The study recommended the importance of culture, perceptions and behavior and linked these three aspects to sustainable water use, water projects various parts of the world. The study noted the influence of culture and tradition on people's behavior towards water as a socio-economic good and found that there are certain aspects of tradition and cultures that maybe the cause an imbalance in the rational allocation and the use of water resources or preservation of quality of water. The study therefore noted peoples' culture and behavior as the problem without considering water service boards as the part of the contributors to reliable water supply.

2.2.4 Financial resource allocation and reliability of water supply

Binder (2008) and Odhiambo (2010) found that, the financing procedure is basic for the manageability of water administration ventures both in the rustic and urban homes; in this way deficient subsidizing is one of the components which cause poor upkeep of the task yields and finally venture disappointment. They prescribed that budgetary issues should be tended to in light of the fact that they are a snag in accomplishing water gracefully and sanitation in over 70% of the nations in creating nations. This is on the grounds that, normally, there is an extremely noteworthy underfunding including essential expenses of working and fixing offices for the instances of working tasks. Most exceedingly terrible hit are the ghetto regions, where moderateness is lower while the expense of water administrations is higher. The duties once in a while spread support, activity, fix and substitution. This leaves a hole for pulling in private segment venture, which is ordinarily

costly and troublesome. Moreover, the quotes consistently don't reflect genuine expenses for continuous projects, capital upkeep consumptions, and circuitous help costs.

Ochelle (2012) study revealed that every year the Government and donor agencies invest Millions of dollars in water project implementation. There is a clear indication that, despite all the attempts to manage the problem, most projects have failed to maintain the flow of expected long time benefits. The researcher noted that, for water service providers to be successful there are a number of financial implications that need to be addressed. They include: the sources of finances, the amount of finances to be allocated and financial management among others.

Binder (2008) additionally found that financing procedure is basic for the manageability of water specialist organizations both in the rustic and urban abodes. That is, deficient financing is one of the components which cause poor support of the water venture yields and finally venture disappointment. Monetary issues should be tended to in light of the fact that they are an obstruction in accomplishing water flexibly and sanitation.

Kikuvi (2016) study further reinforced that significant underfunding cases have been noted in most water projects including basic costs of operating and repairing facilities for the cases of operating projects. The marginalised regions have been highly affected whereby affordability is lower while the cost of water services is higher. The tariffs rarely cover maintenance, operation, repair and replacement. This leaves a hole for pulling in private area venture, which is regularly costly and troublesome, along these lines, the water gracefully quotes, for example, capital upkeep uses, and circuitous help costs affects reliable water supply.

Kahariri (2014) study indicated that, sustainability would increase with investment in specific areas such as investment in capacity building and institution to operate and maintain water supply system. This could also extend to the development of mechanism which support cost recovery, and provision of incentives which gear towards investments locally. For instance, in Kakamega County it was noted that the national government is not ready to fund the various water supply projects, since it feels that the rates of returns are very low.

2.3 Summary and Research Gap

Evidence from existing reviewed literature indicate little empirical data on how strategic water management practices significantly impact on reliable water supply in terms of user satisfaction because most studies have focused on general success of water projects.

Further, studies in efficient water provision has not really involved the strategic water management aspect at the water service level but instead at water source level. To ensure reliable water supply, water supply companies must be strategic in nature and operations. This can be done by effective use of key stakeholders, adoption of communication capability and management innovations because some studies have shown that, lack of communication capability and management innovative changes affects firm performance.

It is therefore of much importance to examine strategic water management practices in a different context from the previous studies to evaluate the influence on reliable water service provision in terms of user satisfaction. Lack of empirical data on strategic water management practices in water supply studies therefore motivated this study to examine

influence of strategic water management practices on reliable water supply in Kenya: a case of Nanyuki Water and Sewage Company in Nanyuki town, Laikipia County, Kenya.

The water deficiency issue in Kenya is on the expansion and as climate conditions decline far and wide, the future appears to be depressing in certain regions of Kenya previously confronting bone-dry conditions. As per a report in the neighborhood Standard paper by Isaiah Lucheli and Vincent Bar Too (2009), occupants in the previous Turkana District in the Northwestern piece of Kenya, need to turn to drinking water implied for their domesticated animals. In ordinary conditions occupants trek for a significant distance to get perfect drinking water from boreholes and wells yet because of absence of precipitation this flexibility of tidy water has evaporated. The option is to drink water from container implied for domesticated animals and as this water is stale and tainted it opens occupants to the danger of water borne maladies.

As indicated by Zyoud et al. (2016), water deficiencies in numerous regions have additionally added to delays in street ventures arranged and furthermore, boring boreholes demonstrated fruitless as the dirt is dry which is utilized to give the water to the development work, needs more water because of dry season conditions and hard soil.

Kenya has additionally been recognized as confronting a mind boggling water assets emergency emerging from constrained yearly sustainable new water asset per capita and quickly developing interest for water for multi-reason utilizes which has not been tended to (AfDB, 2014). Further, WHO, (2015) revealed that water sources in Kenya have been shared over years with neighboring nations; that as a rule convolutes the board of these water assets with appended suggestions for local security and furthermore the high pace

of populace development has come about to decrease of per capita water accessibility for use.

It isn't all fate and misery as can be found in districts like the Ukambani Region, which is in Eastern Kenya. Quickly developing trees impervious to termites have been developed to restore land that has been overgrazed to improve the dampness states of the dirt (Francisco, et al., 2018). A NGO considered Waterfall that works With the Kenyan Government is intending to introduce up to 200 siphons in the Ukambani Region in the following two years to boost supply but there is no existing research to reveal whether such water projects have really boosted reliable water supply to residents.

Therefore, Nanyuki Water and Sewerage Company should find ways to adopt ways of storing more water and especially during the rainy season that will enable them have enough to supply the town until the next rainy season; again the company can convert the waste water into recycling which foresee to it that the town has no water waste. On the other hand the company with collaboration with the donors can drill boreholes to the various areas in which they are not able to reach with their supply.

Therefore, from reviewed literature by the researcher, it was found that there is little empirical evidence on reliable water supply by water providing companies in Kenya that really advertise their services in urban centers hence prompted the researcher to examine influence strategic water management practices on reliable water supply in Kenya: a case of Nanyuki Water and Sewage company in Nanyuki town, Laikipia county, Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section introduces how the study was conducted with the aim of obtaining relevant, up-to-date and reliable information. It gives insight into the research design, target population, sampling procedure, data collection instruments, pilot study, data collection procedure and data analysis. Ethical issues observed during the study are also outlined.

3.2 Research Design

This research project adopted a descriptive survey design to investigate factors affecting reliable water supply in Nanyuki. This design was deemed good for this study because it allows an in-depth study of the events, phenomenon or any topic under the focus. Furthermore, this design was appropriate as the subjects or participants are observed in a natural and unchanged environment.

3.3 Research Site

This study was carried out at Nanyuki Water and Sewerage Company in Laikipia County. The company is a water service provider, contracted by Northern Water Services Board (NWSB) to provide water supply and sanitation services within Nanyuki Municipal Area and its environs under the Water Act of 2002. The Northern Water Services Board in turn has leased these assets to Nanyuki Water and Sewerage Company in accordance with the Act.

3.4 Target Population

The study population targeted 283 full time and casual employees of Nanyuki Water and Sewerage Company as shown in table 3.1

Table 3. 1: Target Population

Category of Respondent	Total Population
Managers/Supervisors	45
Billing Staff	85
Meter Reader	93
Casual Workers	60
TOTAL	283

3.5 Study Sample

3.5.1 Study Sample Size

Sample size is defined as the number of units, subjects, objects or items in the sample (Bryman, 2016). This study's sample size was determined using Taro Yamane's proportional sampling formula as shown below;

$$n = N / (1 + (e)^2)$$

Where n = Sample size

N = target population

e = margin error (0.05)

I = constant

Therefore;

$$n = 283 / (1 + 283 (0.05)^2)$$

$$n=283/ (1+283(0.0025))$$

$$n=283/ (1+0.708)$$

$$n=283/1.708$$

$$n= 165$$

Therefore 165 was the study's sample size

3.5.2 Sampling Procedure

In selecting the number of schools to be involved in the study, the guidelines given by Kombo and Tromp (2006) state that, the sample should be proportionate to the target population. This study used stratified random sampling to sample the population. The distribution is as shown in Table 3.2.

Table 3. 2: Sample size distribution

Category of Respondent	Target population	Sample n= (N/Target Pop.) x Sample size
Managers/Supervisors	45	26
Billing Staff	85	50
Meter Readers	93	54
Casual Workers	60	35
TOTAL	283	165

3.6 Data Collection

3.6.1 Data Collection Instruments

Data for this study was collected using structured questionnaires. A structured questionnaire was useful in collecting quantitative data, as the other research instruments may not offer opportunities to tabulate the data collected. There was a questionnaire that solicited for information from the company employees regardless of ranking. These research instruments provided a means of acquiring primary data that was to be quantified for use in the analysis process in order to draw conclusions based on the sample. All the research instrument items were based on the research objectives.

3.6.2 Piloting of Data Collection Instruments

Before the actual data collection, a pretest of data collection instruments was done at Nyahururu Water and Sewerage Company, in Laikipia County. The company was selected as it shares similar organizational characteristics such as Nanyuki Water and Sewerage Company.

3.8.3 Reliability of the instruments

To evaluate the reliability of the questionnaire, the instruments were administered twice at two-weeks interval during the pilot study. Reliability in this study was tried utilizing cronbachs alpha (a trial of inward consistency); that is, from consequences of pilot testing, a cronbachs alpha of 0.7 or more affirms that an examination instrument has met the unwavering quality test.

3.8.4 Validity of the instruments

Validity was checked using content validity whereby all statements in the questionnaires will be checked for clarity of words, content and relevance to study variables. The results of piloting were used to check for any ambiguities, in addition to checking the time the administration of instruments would take. The researcher then made any adjustments required.

3.6.5 Data Collection Procedure

Before collection of data, a letter of presentation was gotten from the University. The letter encouraged the scientist to apply for an exploration license from the National Commission for Science, Technology and Innovation (NACOSTI) to offer position to the analyst to do the collection of data in the location of the study. Once the permit was obtained it was used to apply for local authorization to carry out the study. Subsequently, data was obtained through primary sources. The data was obtained through use of structured questionnaires administered personally to the respondents. At the agreed time, the researcher met the respondents, distributed some questionnaires using research

assistants, gave the respondents time to respond and then collected the responses soon after completion. The collection soon after completion improved the response rate.

.7 Data Analysis and Presentation

After all the data was gathered, the questionnaires were first sorted out for completeness. Any questionnaire that was less than 75% complete was considered unfit for further analysis. It was, therefore, discarded. Quantitative data was then sorted out according to the respondents and then coded to facilitate descriptive statistical analysis mainly using frequencies and percentages.. The data was coded to facilitate further analysis using thematic frequencies and percentages. The coded data was then fed into the computer and then further analysis was done using IBM SPSS version 22. The results were then organized according to the research objectives to facilitate linking of the results to the expected results. Analysis involved both use of descriptive and inferential statistics. The sets of results were presented using graphs, frequency tables and percentages.

The study's Multiple Regression Model equation is;

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

y = reliable water supply

β_0 = Constant

X_1 = management innovation changes

X_2 = communication capability

X_3 = key stakeholder involvement

X_4 = financial resource allocation

{ β_0 - β_5 } = Beta coefficients

e = the error term

3.7.1 Assumptions of linear regression analysis

The accompanying presumptions that underlie numerous relapse model of investigation were placed into thought. In the first place, ordinariness was tried by histogram with ordinary bend whereby the bend demonstrated a ringer formed dissemination in this manner affirming that information was around typically circulated.

Also, trial of linearity alludes how much the adjustment in the reliant variable is identified with the adjustment in the free. This will be tried by relationship coefficients and connection results should show that free factors have huge connection with the needy variable.

Lastly, multi-collinearity tests prompts issues with understanding which free factor adds to the difference clarified in the reliant variable, just as specialized issues in computing a numerous relapse model. This supposition that was checked by the assessment of connection coefficients whereby, when figuring a framework of Pearson's bivariate relationships among every free factor, the extent of the relationship coefficients ought to be under 0.9. Along these lines, Pearson's bivariate connections esteems more than 0.9 shows multicollinearity. .

3.7.2 Testing of hypotheses

The investigation tried an aggregate of four theories (H01, H02, H03, H04) expressed in invalid structure and tried at $p < 0.05$ utilizing relapse examination after the summated scores of straight out information were factually changed into persistent information utilizing SPSS in order to permit running direct and numerous relapse examinations. Along these lines in testing speculations the accompanying methodology was embraced;

Example;

(Null Hypothesis) H₀₁: There is no significant relationship of management innovation changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

(Alternative Hypothesis) H_A : Management innovation changes significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

3.8 Ethical Issues

First, the researcher sought the consent of those that were going to be interviewed, questioned, or observed. In such manner, the specialist by and by reached the chief of the organization so as to look for their earlier authorization to manage the examination instruments to the objective populace. The data from the members was respected with most extreme privacy and obscurity was guaranteed. The members was given full affirmation that the discoveries of the investigation was utilized carefully for scholastic purposes just and likewise, every survey had a basic letter mentioning for the respondent's consent and collaboration in giving the necessary data of the examination.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1. Introduction

This chapter covers the response rate, reliability tests, demographic data, descriptive statistics, linear regression analysis, multiple regression analysis and hypothesis testing.

4.2 Response rate

A total of 165 questionnaires were dispatched in the field for data collection and 103 questionnaires were returned fully filled, depicting a response rate of 62.4% which is good for generalizability of the research findings to a wider population.

4.3 Reliability and Validity of research instruments

Reliability of research instruments was tested using Cronbach alpha; which tests internal consistency and the results in table 4.1 shows Cronbach alpha coefficients values of 0.7 and above confirming that reliability of the study's research instruments. Validity of research instruments was checked using content validity where all questions were checked for clarity of words and contents so as to fully capture all aspects of the conceptualized study variables.

Table 4. 1: Results of Reliability test

Variable	Number of items	Cronbach alpha
Management innovation changes	6	.813
Communication capability	6	.827
Key stakeholder involvement	6	.845
Financial resource allocation	6	.809
Reliable water supply	6	.816
Total	30	

4.4 Demographic data analysis

Respondents were categorized in terms of gender and employment areas as summarized in table 4.2.

Table 4. 2: Demographic data analysis

Characteristic	Details	Frequency	Percentage
Sex	Male	71	68.9
	Female	32	31.1
	Total	103	100
Employment Category	Managers/Supervisors	16	15.5
	Billing Staff	29	28.2
	Meter Readers	31	30.1
	Casual Staff	27	26.2
	Total	103	100

From table 4.2, male respondents were the majority (68.9%) implying that the company has more male employees especially meter readers and casual workers who were mainly male employees. However, 31.1% was a fair representation of female staff who were majorly employed in the billing section of the company.

In regard to category of employees, meter readers were the majority (28.2%) closely followed by billing staff (30.1%) of the respondents as even depicted from the overall employment population of the company. They (billing staff and meter readers) also had more information about reliable water supply because they receive a myriad of complaints from customers when dealing with meter reading and billing issues.

Lastly, casual workers formed 26.2% of respondents implying that though they are not permanent employment terms, their casual offering of labor service had a bearing on reliable water supply in Nanyuki town residents. The managers and supervisors were the least (15.5%) but ha valid information about all conceptualized determinants of reliable water supply by the company to residents of Nanyuki town.

4.5 Analysis of descriptive data

These are descriptive statistics based on the study's variables (management innovation changes, communication capability, key stakeholder involvement, and financial resource allocation.

4.5.1 Descriptive statistics: Management innovation changes and reliable water supply

These are concise responses on the structured questions about the influence of management innovation changes on reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. The results are presented in table 4.3.

Table 4. 3: Descriptive Statistics; Management Innovation Changes

Statement	Frequency and Percentage (%)					Mean	Std Dev
	5	4	3	2	1		
Rules and procedures within the organization are regularly renewed to improve water service provision	7 (6.8)	49 (47.5)	11 (10.7)	29 (28.2)	7 (6.8)	3.56	0.972
The company regularly make changes to employees' tasks and functions to improve water service provision	5 (4.9)	47 (45.6)	12 (11.7)	30 (29.1)	9 (8.7)	3.47	0.813
The company regularly implements new management systems to improve service provision	6 (5.8)	42 (40.8)	11 (10.7)	32 (31.0)	12 (11.7)	3.49	0.839
The strategy concerning remuneration has been changed over the most recent three years.	8 (7.8)	48 (46.6)	11 (10.7)	27 (26.2)	9 (8.7)	3.39	0.981
The intra-and between departmental correspondence structure inside our association is routinely rebuilt.	9 (8.7)	47 (45.7)	10 (9.7)	30 (29.1)	7 (6.8)	3.57	0.883
There is constant difference in specific components of the hierarchical structure to improve water administration arrangement	4 (3.9)	52 (50.5)	9 (8.7)	29 (28.2)	9 (8.7)	3.84	0.961
Valid N (list wise)	103						
Grand mean =	3.55						

From table 4.3, majority of respondents (47.5%) agreed that rules and procedures within the organization are regularly renewed to improve water service provision, that, is rigid rules or procedures could be amended to fasten water supply to customers. Secondly, 45.6% of respondents agreed that the company regularly make changes to employees' tasks and functions to improve water service provision, while 29.1% of respondents disagreed, implying that not all employees' tasks and functions are regularly changed, or if changed, there could be chances of resistance to change.

Thirdly, there were mixed reactions about the company regularly implementing new management systems to improve service provision, because while 40.8% of respondents agreed, 31.05 disagreed to the statement implying that possibly the company may not be implementing new management systems in all departmental structures.

Fourthly, most respondents agreed (46.6%) that the policy with regard to compensation has been changed in the last three years while 45.7% of respondents also agreed the intra- and inter-departmental communication structure within the organization is regularly restructured. This is because communication restructuring addresses any communication lapses in the old communication system.

Lastly, most respondents agreed (50.5%) that there is continuous change of certain elements of the organizational structure to improve water service provision; and the grand mean is 3.55 rounded off to 4 which corresponds to agree on the Likert scale of measurement; implying that most respondents agreed that management innovation changes influences reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town.

Therefore use of management innovation changes is also supported by Hamel (2007) who reinforced that competitive environment in which firms operate in necessitates the change of how firms do operate or transact business and have to constantly be innovative so that they maintain their business/market share and sustain competitive advantage. To do this, firms can focus on innovation through adopting new structures, processes and practices.

4.5.2 Descriptive statistics: Communication capability and reliable water supply

These are summarized responses on the structured questions about the influence of communication capability on reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. The results are presented in table 4.4.

Table 4. 4: Descriptive Statistics; Communication Capability

Statement	Frequency and Percentage (%)					Mean	Std Dev
	5	4	3	2	1		
There are clearly laid down communication procedures & channels in the company	14 (13.6)	56 (54.4)	9 (8.7)	16 (15.5)	8 (7.8)	3.64	0.995
Communication with our strategic partners is open except only for instances where it is confidential.	15 (14.6)	57 (55.3)	6 (5.8)	14 (13.6)	11 (10.7)	3.71	0.864
There are various modes of communication with customers to swiftly address water supply complains.	13 (12.6)	53 (51.5)	9 (8.7)	21 (20.4)	7 (6.8)	3.66	0.958
The company has an open communication channels to give customers immediate feedback	16 (15.5)	56 (54.4)	10 (9.7)	13 (12.6)	8 (7.8)	3.75	0.906
There is a strategic communication procedure for processing external information and relaying prompt feedback to customers	11 (10.7)	49 (47.6)	8 (7.8)	23 (22.2)	12 (11.7)	3.49	0.895
Company's prompt communication capability has improved water service provision to customers	17 (16.5)	58 (56.3)	7 (6.8)	12 (11.7)	9 (8.7)	3.77	0.934
Valid N (list wise)	103						
Grand mean =	3.67						

From table 4.4, most respondents agreed (54.4%) that there are clearly laid down communication procedures and channels in the company. This is supported by 55.3% of respondents who agreed that communication with our strategic partners is open except

only for instances where it is confidential; implying that the company has laid down communication structures to cater for internal and external communication.

Further, 12.6% and 51.5% of respondents strongly agreed and agreed respectively that there are various modes of communication with customers to swiftly address water supply complains; which was reinforced by 54.4% of respondents who agreed that the company has an open communication channels to give customers immediate feedback. However, 12.6% of respondents disagreed with the statement implying that there are incidences where the company communication channels do not give customers immediate feedback.

Respondents also had mixed responses on whether there is a strategic communication procedure for processing external information and relaying prompt feedback to customers. This is because while 47.6% agreed, 22.2% disagreed on the company relaying prompt feedback to customers, thus definitely having a negative bearing on reliable water supply to customers.

Lastly, most respondents agreed (56.3%) that the companys prompt communication capability has improved water service provision to customers. This is supported by the grand mean (3.67=4) which implies that most respondents agreed that communication capability influences reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town and a standard deviation of (0.923)

4.5.3 Descriptive statistics: Stakeholder involvement and reliable water supply

These are summarized responses on the structured questions about the influence of key stakeholder involvement on reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Table 4. 5: Descriptive Statistics; Key Stakeholder Involvement

Statement	Frequency and Percentage (%)					Mean	Std Dev
	5	4	3	2	1		
There is a well laid down conflict resolution procedure with stakeholders	6 (5.8)	47 (45.6)	8 (7.8)	33 (32.1)	9 (8.7)	3.52	0.858
Water delivery decisions are planned and evaluated jointly with concerned stakeholders.	8 (7.8)	52 (50.5)	9 (8.7)	21 (20.4)	13 (12.6)	3.55	0.867
There is a process for selection of strategic collaborators.	7 (6.8)	51 (49.5)	7 (6.8)	24 (23.3)	14 (13.6)	3.46	0.894
Conflict resolution teams are trained jointly between company and concerned stakeholders to iron out water supply issues	9 (8.7)	53 (51.5)	6 (5.8)	19 (18.5)	16 (15.5)	3.44	0.945
There exists a unit that ensures, swift engaging and bonding with key stakeholders	12 (11.7)	54 (52.3)	10 (9.7)	15 (14.6)	12 (11.7)	3.47	0.941
Most stakeholders really contribute and support the company in ensuring reliable water supply to customers	7 (6.8)	46 (44.6)	8 (7.8)	34 (33.0)	8 (7.8)	3.49	0.898
Valid N (listwise)	103						
Grand mean =	3.49						

First, most respondents as shown in table 4.5 agreed (45.6%) that there is a well laid down conflict resolution procedure with stakeholders while 50.5% of respondent agreed that water delivery decisions are planned and evaluated jointly with concerned stakeholders, implying that the company fairly involves key stakeholders in decision making so as to improve water service provision to its customers.

More so, 49.5% of respondents agreed that there is a process for selection of strategic collaborators; while 51.5% of respondents agreed that conflict resolution teams are trained jointly between company and concerned stakeholders to iron out water supply issues, implying that the company fairly engages key stakeholders in conflict resolutions meant to improve water service provision to customers.

Furthermore, 11.7% and 52.3% of respondents strongly agreed and agreed that there exists a unit that ensures, swift engaging and bonding with key stakeholders; while 44.6% of respondents agreed that most stakeholders really contribute and support the company in ensuring reliable water supply to customers. This generally means that involvement of stakeholders mean a lot in reliable service provision to Nanyuki town residents.

Lastly, the grand mean is $3.49 = 4$ which is agree on the Likert scale of measurement which generally imply that most respondent agreed that key stakeholder involvement really influences reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town. This is supported by UNICEF, (2014a) study that identified several factors affecting sustainability of community managed water provision as; Institutional factors comprising national, regional, community organizations and private sector entities), thus reinforced the importance of stakeholder involvement in ensuring reliable water supply to residents.

4.5.4 Descriptive statistics: Financial resource allocations and reliable water supply

These are summarized responses on the structured questions about the influence of financial resource allocations on reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Table 4. 6: Descriptive Statistics; Financial Resource Allocation

Statement	Frequency and Percentage (%)					Mean	Std.Dev
	5	4	3	2	1		
There is adequate financial support from national government to sustain water service provision to citizens	12 (11.7)	23 (22.3)	25 (24.3)	27 (26.2)	16 (15.5)	3.36	0.811
There is adequate financial support from Water Service Boards to meet basic costs of operating and repairing water supply facilities	7 (6.8)	45 (43.7)	10 (9.7)	33 (32.0)	8 (7.8)	3.42	0.886
There is sufficient funding from private investors to boost maintenance of water supply facilities	8 (7.8)	43 (41.7)	9 (8.7)	32 (31.1)	11 (10.7)	3.56	0.862
The amount of finances allocated to the company enhance efficient water service provision	13 (12.6)	51 (49.6)	7 (6.8)	26 (25.2)	6 (5.8)	3.49	0.775
Donor agencies allocate sufficient financial resources to the company to run water service provision projects	11 (10.7)	35 (34.0)	9 (8.7)	38 (36.9)	10 (9.7)	3.29	0.824
There is efficient utilization of company funds that effectively meets the cost of supplying water to customers	6(5.8)	33(32.0)	16(15.5)	42(40.9)	6(5.8)	3.37	0.879
Valid N (listwise)	103						
Grand mean =	3.42						

From table 4.6, most respondents disagreed (26.2%) while 24.3% were uncertain that there is adequate financial support from national government to sustain water service provision to citizens, showing that the national government does not really support water service providers. However, most respondents agreed (43.7%) that there is adequate

financial support from Water Service Boards to meet basic costs of operating and repairing water supply facilities, implying that water service boards at fairly support water service providing companies.

Further 41.7% of respondents agreed that there is sufficient funding from private investors to boost maintenance of water supply facilities, while 31.1% disagreed to the statement implying that private investors do not sufficiently water service provision companies, but would rather have their privately owned companies that are competitors of main water service providers.

In regard to finance allocation, most respondents agreed (49.6%) that the amount of finances allocated to the company enhances efficient water service provision while 25.2% disagreed to the statement implying that water service provision companies do not really get adequate finance allocations. More so, 36.9% disagreed while only 34.0% agreed that donor agencies allocate sufficient financial resources to the company to run water service provision projects, implying that donor agencies do not really allocate adequate funds to water service companies.

Lastly, most respondents disagreed (40.9%) that there is efficient utilization of company funds that effectively meets the cost of supplying water to customers, while only 32.0% agreed to the statement. In summary the grand mean is 3.42 which implies that most respondents were uncertain about adequacy of financial allocation to the company which definitely affects reliable water supply to customers.

4.5.4 Descriptive statistics. Reliability of water supply in Nanyuki town

These are summarized responses on the structured questions about the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Table 4. 7: Descriptive Statistics; Reliable Water Supply

Statement	Frequency and Percentage (%)					Mean	Std Dev
	5	4	3	2	1		
Most customers are generally satisfied with the company's provision of water service to clients	7 (6.8)	55 (53.4)	11 (10.7)	17 (16.5)	13 (12.6)	3.28	0.851
The company has good reputation for efficient supply of water to clients	10 (9.7)	51 (49.5)	14 (13.6)	17 (16.5)	11 (10.7)	3.47	0.902
Most clients in Nanyuki town are satisfied with water company services	11 (10.7)	46 (44.6)	12 (11.7)	18 (17.5)	16 (15.5)	3.37	0.967
The company consistently supplies water to its clients	11 (10.7)	52 (50.5)	13 (12.6)	20 (19.4)	7 (6.8)	3.48	0.916
The company's water bills are consistent and tally with water consumed by clients	14 (13.6)	32 (31.1)	15 (14.6)	29 (28.1)	13 (12.6)	3.39	0.946
Generally, the company has performed well in all areas of water service provision	9 (8.7)	50 (48.6)	13 (12.6)	23 (22.3)	8 (7.8)	3.35	0.853
Valid N (listwise)	103						
Grand mean =	3.39						

From table 4.7, most respondents agreed (53.4%) that most customers are generally satisfied with the company's provision of water service to clients, while 49.5% agreed that company has good reputation for efficient supply of water to clients. This implies that customers who get reliable water supply definitely are loyal to the company in terms of water service provision.

More so, most respondents agreed (44.6%) that most clients in Nanyuki town are satisfied with water company services; and this is reinforced by 50.5% of respondents who agreed that the company consistently supplies water to its clients; implying a perception of reliability of water supply by the company to residents in Nanyuki town.

However, there were mixed reactions about water billing because while 31.1% agreed, 28.1% disagreed to the statement that the company's water bills are consistent and tally with water consumed by clients; implying inconsistency in water billing interferes with some customer satisfaction with reliability of water supply by the company.

In general responses most respondents agreed (48.6%) that generally, the company has performed well in all areas of water service provision while a fair percentage of respondents disagreed to the statement implying that a good number of residents of Nanyuki town are not satisfied with water service provision by the company. This is affirmed by the grand mean of 3.39 which implied that most respondents were divided on whether the company reliably supplies water to Nanyuki town residents. This supports the assertion that Nanyuki Water and Sewerage Company continues to struggle with the provision of water, with demand largely outstripping supply capability of the company, which has led to the company to sometimes resort to rationing of water to its customers in Nanyuki town where residents continue complaining of inconsistency in water service provision Munjogu, and Namusonge (2017).

4.6 Inferential statistics

4.6.1 Assumptions of multiple regression analysis.

To start with, ordinarieness test suspicion affirms that information must have an ordinary conveyance and this was tried by the utilization histograms with typical bend. The outcomes (reference section V) show histograms with chime molded typical bends demonstrating that information was around ordinarily appropriated, along these lines met this presumption.

Furthermore, trial of linearity alludes to how much the adjustment in the needy variable is identified with the adjustment in the autonomous variable. This was tried by connection coefficients and relationship examination showed that independent variables (management innovation changes, communication capability, stakeholder involvement, financial resource allocations) have significant correlation with the dependent variable (reliable of water supply) as shown in table 4.8.

Table 4. 8: Correlation Matrix

		Management Innovation	Communication Capability	Stakeholder Involvement	Financial Allocations
Management Innovation	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	103			
Communication Capability	Pearson Correlation	.582**	1		
	Sig. (2-tailed)	.000			
	N	103	103		
Stakeholder Involvement	Pearson Correlation	.675**	.532**	1	
	Sig. (2-tailed)	.000	.000		
	N	103	103	103	
Financial Allocations	Pearson Correlation	.677**	.691**	.657**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	103	103	103	103
Reliable Water Supply	Pearson Correlation	.860**	.812**	.875**	.829**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	103	103	103	103

4.6.2 Linear regression analysis

This tested the direct influence of independent variables (Management innovation changes, Communication capability, Stakeholder involvement, financial resource allocations) on reliable water supply in Nanyuki town. This was calculated by SPSS by first transforming categorical data into continuous data so as to validly run regression analysis.

4.6.2.1 Linear influence of management innovation on reliable water supply

This tested the direct relationship of management innovation changes on reliable water supply in Nanyuki town. The results are shown table 4.9.

Table 4. 9: Linear influence of management innovation changes on reliable water supply

Model Summary									
Model	R	Adjusted R Square		Std. Error of the Estimate	Change Statistics				
		R Square	R Square		R Square Change	F Change	df1	df2	Sig. F Change
1	.860 ^a	.740	.738	.54369	.740	287.949	1	101	.000

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.117	1	85.117	287.949	.000 ^a
	Residual	29.855	101	.296		
	Total	114.972	102			

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	T	
1	(Constant)	.832	.166		5.015	.000
	Management Innovation	.828	.049	.860	16.969	.000

a. Dependent Variable: Reliable water supply

From table 4.9, the model summary shows that $R^2 = 0.740$; implying that 74.0% variations in the reliability of water supply in Nanyuki town is explained by the company's management innovation changes while other factors not in the study model accounts for 26.0% of variation in the reliability of water supply in Nanyuki town. Further, coefficient analysis shows that the company's management innovation changes have positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.828$ (0.049); at $p < .01$). This implies that a single improvement in Nanyuki Water and

Sewage company's management innovation changes will lead to 0.828 unit increase in reliable water supply in Nanyuki town.

Therefore, the linear regression equation is;

$$(i) y = 0.832 + 0.828X_1$$

Where;

y = reliability of water supply in Nanyuki town

X₁ = management innovation changes

4.6.2.2 Linear influence of communication capability on reliable water supply

This tested the direct influence of communication capability on reliable water supply in Nanyuki town. The results are shown table 4.10.

Table 4. 10: Linear influence of communication capability on reliable water supply

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.812 ^a	.659	.656	.62306	.659	195.166	1	101	.000	
ANOVA ^b										
Model	Sum of Squares		Df	Mean Square	F	Sig.				
1	Regression	75.764	1	75.764	195.166	.000 ^a				
	Residual	39.208	101	.388						
	Total	114.972	102							
Coefficients ^a										
Model	Unstandardized Coefficients			Standardized Coefficients			t	Sig.		
	B	Std. Error		Beta						
1	(Constant)	.654	.213			3.075	.003			
	Communication capability	.779	.056	.812		13.970	.000			

a. Dependent Variable: Reliable water supply

From table 4.10, the model summary shows that $R^2 = 0.659$; implying that 65.9% variations in the reliability of water supply in Nanyuki town is explained by the

company's swift communication capabilities while other factors not in the study model accounts for 34.1% of variation in the reliability of water supply in Nanyuki town. Further, coefficient analysis shows that the company's swift communication capability has positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.779$ (0.056); at $p < .01$). This implies that a single improvement in Nanyuki Water and Sewage company's swift communication capabilities will lead to 0.779 unit increase in reliable water supply in Nanyuki town. Therefore, the linear regression equation is;

$$(ii) y = 0.654 + 0.779X_2$$

Where;

y = reliability of water supply in Nanyuki town

X₂ = communication capability

4.6.2.3 Linear influence of key stakeholder involvement on reliable water supply

This tested the direct influence of key stakeholder involvement on reliable water supply in Nanyuki town. The results are shown table 4.11.

Table 4. 11: Linear influence of key stakeholder involvement on reliable water supply

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.875 ^a	.766	.764	.51619	.766	330.498	1	101	.000
ANOVA ^b									
Model		Sum of Squares	Df	Mean Square	F	Sig.			
1	Regression	88.061	1	88.061	330.498	.000 ^a			
	Residual	26.911	101	.266					
	Total	114.972	102						
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.		
		B	Std. Error	Beta					
1	(Constant)	.842	.155			5.441	.000		
	Stakeholder Involvement	.808	.044	.875		18.180	.000		

a. Dependent Variable: Reliable water supply

From table 4.11, the model summary shows that $R^2 = 0.766$; implying that 76.6% variations in the reliability of water supply in Nanyuki town is explained by key stakeholder involvement practices while other factors not in the study model accounts for 23.4% of variation in the reliability of water supply in Nanyuki town. Further, coefficient analysis shows that key stakeholder involvement practices has positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.808$ (0.044); *at* $p < .01$). This implies that a single improvement in Nanyuki Water and Sewage Company's involvement of key stakeholders will lead to 0.808 unit increase in reliable water supply in Nanyuki town. Therefore, the linear regression equation is;

$$(iii) y = 0.842 + 0.808X_3$$

Where;

y = reliability of water supply in Nanyuki town

X₃ = Key stakeholder involvement

4.6.2.4 Linear influence of financial resource allocations on reliable water supply

This tested the direct influence of financial resource allocations on reliable water supply in Nanyuki town. The results are shown table 4.12.

Table 4. 12: Linear influence of financial resource allocation on reliable water supply

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.829 ^a	.687	.684	.59703	.687	221.549	1	101	.000
ANOVA ^b									
Model	Sum of Squares		df	Mean Square	F	Sig.			
1	Regression	78.971	1	78.971	221.549	.000 ^a			
	Residual	36.001	101	.356					
	Total	114.972	102						
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.		
		B	Std. Error	Beta					
1	(Constant)	1.045	.175			5.971	.000		
	Financial allocations	.773	.052	.829		14.885	.000		

a. Dependent Variable: ReliableWaterSupply

From table 4.12, the model summary shows that $R^2 = 0.687$; implying that 68.7% variations in the reliability of water supply in Nanyuki town is explained by financial resource allocations while other factors not in the study model accounts for 31.3% of variation in the reliability of water supply in Nanyuki town. Further, coefficient analysis

shows that financial resource allocations has positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.773$ (0.052); *at* $p < .01$). This implies that a single improvement in financial resource allocations to Nanyuki Water and Sewage Company's will lead to 0.773 unit increase in reliable water supply in Nanyuki town. Therefore, the linear regression equation is;

$$(iv) y = 1.045 + 0.773X_4$$

Where;

y = reliability of water supply in Nanyuki town

X₄ = financial resource allocations

4.6.3 Multiple regression analysis

Analysis of multiple regressions was done after compulsory assumptions of multiple regression analyses were checked and met. The results in table 4.13 shows an R square of 0.772, thus we infer that the study model explains 77.2% of the variations in the reliability of water supply in Nanyuki town, while other factors not in this study model accounts for 22.8%, thus, it is a good model.

ANOVA results in table 4.13 also shows that the F-statistical value is significant (F=83.131, *significant* at $p < .005$), thus confirming the fitness of the model. That is, from the study model, the significant F value show that the four independent variables (management innovation changes, communication capability, stakeholder involvement, financial resource allocations) are indeed different from each other and that they affect the dependent variable (reliability of water supply in Nanyuki town) in varied ways.

Table 4. 13: Multiple regression results

Model Summary									
Model	R	Adjusted Std. Error			Change Statistics				
		R Square	R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.879 ^a	.772	.763	.51677	.772	83.131	4	98	.000
ANOVA^b									
Model	Sum of Squares			Df	Mean Square	F	Sig.		
1 Regression	88.801			4	22.200	83.131	.000 ^a		
Residual	26.171			98	.267				
Total	114.972			102					

a. Predictors: (Constant), Financial resource allocations, Communication capability, Stakeholder Involvement, Management Innovation

b. Dependent Variable: Reliability of water supply

More so, from the values of unstandardized regression coefficients with standard errors in parenthesis in table 4.14, all the independent variables (management innovation changes; $\beta = 0.776$ (0.075) at $p < 0.05$; communication capability; $\beta = 0.541$ (0.102) at $p < 0.05$; key stakeholder involvement; $\beta = 0.792$ (0.135) at $p < 0.01$, financial resource allocations; $\beta = 0.622$ (0.282) at $p < 0.05$; were significant predictors of reliability of water supply in Nanyuki town (dependent variable).

Further, from multiple regression analysis (table 4.14), stakeholder involvement was the highest contributor in the multiple regression model (0.792), followed by management innovation changes (0.459), implying that to ensure reliability of water supply in Nanyuki town, Nanyuki Water and Sewage Company must bring on board key stakeholders that support the company water service provision to residents and also ensure management dynamically comes up with novelty ideas to improve water service provision.

Financial resource allocations was third (0.622) while communication capability was the least (0.541) significant predictor of reliability of water supply in Nanyuki town; implying that the Nanyuki Water and Sewage Company must also attract adequate financial allocations to finance its services and run an effective communication feedback mechanism to ensure customer complaints are effectively addressed in time.

Therefore, the independent variables (management innovation changes, communication capability, stakeholder involvement, financial resource allocations) on reliability of water supply in Nanyuki town, (dependent variable) is;

$$(y) Y = 0.747 + 0.776X_1 + 0.541X_2 + 0.792X_3 + 0.622X_4$$

Where;

y= reliability of water supply in Nanyuki town,

X_1 = management innovation changes

X_2 = communication capability

X_3 = key stakeholder involvement

X_4 = financial resource allocations

Table 4. 14: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.747	.197		3.795	.000
Management Innovation	.776	.075	.780	5.323	.000
Communication Capability	.541	.102	.564	3.101	.003
Stakeholder Involvement	.792	.135	.858	5.856	.000
Financial allocations	.622	.282	.673	2.206	.030

a. Dependent Variable: Reliability of \water supply in Nanyuki town

4.6.4 Hypothesis testing

The study tested a total of four null hypotheses and the decision of accepting or rejecting each null hypothesis is explained as follows; The decision is to either accept the null hypothesis (**H₀**) if its corresponding unstandardized regression coefficient $\beta = 0$ and not significant at 5% ($p > 0.05$) from the multiple regression results; or reject the null hypothesis (**H₀**) and accept the alternative hypothesis (**H_A**) if its corresponding unstandardized regression coefficient $\beta \neq 0$ and significant at 5% ($p < 0.05$).

1.(Null Hypothesis) H₀₁: There is no significant relationship of management innovation changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

(Alternative Hypothesis) H_A : Management innovation changes significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Results; Management innovation changes; $\beta = 0.776 (0.075)$ significant at $p < 0.05$.

Verdict; reject the null hypothesis (**H₀₁**) and accept the alternative hypothesis (**H_A**) that Management innovation changes significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

2.(Null Hypothesis) H₀₂: There is no significant relationship of communication capability on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

(Alternative Hypothesis) H_{A2} : Communication capability significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Results; communication capability; $\beta = 0.541 (0.102)$ *significant at $p < 0.05$.*

Verdict; reject the null hypothesis (H_{02}) and accept the alternative hypothesis (H_{A2}) that communication capability significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

3.(Null Hypothesis) H_{03} : There is no significant relationship of key stakeholder involvement on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

(Alternative Hypothesis) H_{A3} : key stakeholder involvement significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Results; key stakeholder involvement; $\beta = 0.792 (0.135)$ *significant at $p < 0.05$.*

Verdict; reject the null hypothesis (H_{03}) and accept the alternative hypothesis (H_{A3}) that key stakeholder involvement significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

4.(Null Hypothesis) H_{04} : There is no significant relationship of financial resource allocations on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

(Alternative Hypothesis) H_{A4} : financial resource allocations significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Results; financial resource allocations; $\beta = 0.622$ (0.282) *significant at $p < 0.05$.*

Verdict; reject the null hypothesis (H_{04}) and accept the alternative hypothesis (H_{A4}) that financial resource allocations significantly influence the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter concludes the study by presenting summary of study findings, conclusions, recommendations, and suggested areas for further research.

5.2 Discussion of study findings.

The first objective was to examine the influence of management innovation changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Results from multiple regression analysis show that the company's management innovation changes have positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.776$ (0.075); at $p < .05$). This implies that a single improvement in Nanyuki Water and Sewage company's management

innovation changes will lead to 0.776 unit increase in reliable water supply in Nanyuki town.

The results are supported by Frambach and Schillewaert (2008) who also found that administration development changes may not just change an association and carry possible advantages to it, yet additionally reclassify an industry by affecting the spread of new thoughts. Studies in water service provision have not incorporated the idea of management innovation yet; management innovation changes in terms of new management practices, process, structures and techniques in the water management systems can really improve water service provision to customers.

The second objective was to examine the influence of communication capability on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Results from multiple regression analysis show that the company's swift communication capability has positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.541 (0.102)$; *at* $p < .05$). This implies that a single improvement in Nanyuki Water and Sewage company's swift communication capabilities will lead to 0.541 unit increase in reliable water supply in Nanyuki town.

Effective communication capability is also supported by Abok, (2013) who found that for effective company service delivery, senior managers should select individuals to be involved in communication process of organizational needs in order to avoid skeptic's challenges which would otherwise bend the intended aim as stipulated in the strategic plan. This will involve organizing discussions and debates' concerning the right timing

in line with the freedom to have open talks on how efficient plans are to be implemented and all complains addressed and communicated conveniently.

Lamb (2004) further found that to win organization trust from clients, the management should put into considerations key critical communication areas to win employees confidence this assists employees and stakeholders to understand the company's business strategy, and how they contribute to achieving companies objectives through effective and efficient communication.

The third objective was to examine the influence of key stakeholder involvement on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Results from multiple regression analysis show that key stakeholder involvement practices has positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.792$ (0.135); *at* $p < .01$). This implies that a single improvement in Nanyuki Water and Sewage Company's involvement of key stakeholders will lead to 0.792 unit increase in reliable water supply in Nanyuki town.

The outcomes are bolstered by UNICEF, (2014a) study that distinguished a few elements influencing manageability of water arrangement as; institutional elements involving national, provincial, network associations and private area substances), and Development forms which incorporate plan, support, activity and upkeep and observing and assessment;. Innovative factors, for example, appropriateness, agreeableness, responsiveness, overhauling necessities, principles and costs; Contextual factors and powers which incorporate factors outside the ability to control of establishments required to change. They incorporate ecological, segment, socio-social, political components which be tended to through inclusion of every single concerned partner.

The fourth objective was to examine the influence of financial resource allocations on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Results from multiple regression analysis show that financial resource allocations has positive significant influence on reliability of water supply in Nanyuki town ($\beta = 0.622$ (0.282); *at* $p < .05$). This implies that a single improvement in financial resource allocations to Nanyuki Water and Sewage Company's will lead to 0.622 unit increase in reliable water supply in Nanyuki town.

The results are supported by Ochelle, (2012) study that revealed that every year the Government and donor agencies invest Millions of dollars in water project implementation. There is a clear indication that, despite all the attempts to manage the problem, most projects have failed to maintain the flow of expected long time benefits. The researcher noted that, for water service providers to be successful there are a number of financial implications that need to be addressed. They include: the sources of finances, the amount of finances to be allocated and financial management among others.

Further Kikuvi, (2016) study also reinforced that significant underfunding cases have been noted in most water projects including basic costs of operating and repairing facilities for the cases of operating projects.

5.3 Summary of Main findings

The general objective of the study was to examine influence of strategic water management practices on reliable water supply in Kenya: a case of Nanyuki Water and Sewage Company in Nanyuki town, Laikipia County, Kenya. The study tested a total of four hypotheses; **H₀₁**: There is no significant relationship of management innovation

changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County; **H₀₂**: There is no significant relationship of communication capability on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County; **H₀₃**: There is no significant relationship of key stakeholder involvement practices on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County; **H₀₄**: There is no significant relationship of financial resource allocations on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County.

Research hypothesis one (**H₀₁**) stated that there is no significant relationship of management innovation changes on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Multiple regression results showed that the company's management innovation changes have positive significant relationship on reliability of water supply in Nanyuki town ($\beta = 0.776 (0.075)$; at $p < .05$). This implies that a single improvement in Nanyuki Water and Sewage company's management innovation changes will lead to 0.776 unit increase in reliable water supply in Nanyuki town.

From descriptive statistics, most respondents agreed (50.5%) that there is continuous change of certain elements of the organizational structure to improve water service provision; and the grand mean was 3.55 rounded off to 4 which corresponds to agree on the Likert scale of measurement; implying that most respondents agreed that management innovation changes influences reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town.

These results are supported by Hamel (2007) who reinforced that competitive environment in which firms operate necessitates the change of how firms do operate or transact business and have to constantly be innovative so that they maintain their business/market share and sustain competitive advantage. To do this, firms can focus on innovation through adopting new structures, processes and practices.

Research hypothesis two (**H₀₂**) stated that there is no significant relationship of communication capability on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Multiple regression results showed that the company's swift communication capability has positive significant relationship on reliability of water supply in Nanyuki town ($\beta = 0.541 (0.102)$; *at p < .05*). This implies that a single improvement in Nanyuki Water and Sewage company's swift communication capabilities will lead to 0.541 unit increase in reliable water supply in Nanyuki town.

From descriptive statistics, most respondents agreed (56.3%) that the company's prompt communication capability has improved water service provision to customers. This is supported by the grand mean (3.67=4) which implies that most respondents agreed that communication capability influences reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town. This is supported by Pearce (2004) who reiterated that the interpretation of communication normally plays a vital role which requires senior managers to enforce a culture that embrace clear understanding and relay of communication from all corners of the organization to its customers.

Research hypothesis three (**H₀₃**) stated that there is no significant relationship of key stakeholder involvement on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Multiple regression results showed that key stakeholder involvement practices has positive significant relationship on reliability of water supply in Nanyuki town ($\beta = 0.792$ (0.135); *at p*<.05). This implies that a single improvement in Nanyuki Water and Sewage Company's involvement of key stakeholders will lead to 0.792 unit increase in reliable water supply in Nanyuki town.

From descriptive statistics, the grand mean of responses is 3.49 = 4 which is agree on the Likert scale of measurement which generally imply that most respondent agreed that key stakeholder involvement really influences reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town. This is supported by UNICEF, (2014a) study that identified several factors affecting sustainability of community managed water provision as; institutional factors comprising national, regional, community organizations and private sector entities),thus reinforced the importance of key stakeholder involvement in ensuring reliable water supply to residents.

Lastly, research hypothesis four (**H₀₄**) stated that there is no significant relationship of financial resource allocations on the reliability of water supply by Nanyuki Water and Sewage Company in Nanyuki Town, Laikipia County. Multiple regression results showed that financial resource allocations has positive significant relationship on reliability of water supply in Nanyuki town ($\beta = 0.622$ (0.282); *at p*<.05). This implies that a single improvement in financial resource allocations to Nanyuki Water and Sewage Company's will lead to 0.622 unit increase in reliable water supply in Nanyuki town.

From descriptive statistics, most respondents disagreed (40.9%) that there is efficient utilization of company funds that effectively meets the cost of supplying water to customers, while only 32.0% agreed to the statement. In summary the grand mean was 3.42 which implies that most respondents were uncertain about adequacy of financial allocation to the company which definitely affects reliable water supply to customers.

5.4 Conclusions

First, the study concludes that relevant management innovation changes in the running of Nanyuki Water and Sewage Company is hoped to really boost the supply of water Nanyuki town.

Secondly, real time communication capabilities by Nanyuki Water and Sewage Company is hoped to appropriately address customer needs through a suitable customer feedback mechanism.

Thirdly, key stakeholder involvement by Nanyuki Water and Sewage Company is hoped to help bring all concerned parties on board so as to address all pertinent issues that can affect reliability of water supply in Nanyuki town.

Fourthly, adequate financial allocations to Nanyuki Water and Sewage Company is hoped to help the company meet major water service, maintenance and operation costs meant to boost reliability of water supply in Nanyuki town.

5.5 Recommendations

First, the study recommends that managers of Nanyuki Water and Sewage Company should engage in innovative management changes meant to address dynamic changes that affect reliable water supply in Nanyuki town.

Secondly, managers of Nanyuki Water and Sewage Company should roll out swift customer communication feedback mechanism meant to address all complaints from residents of Nanyuki town.

Thirdly, managers of Nanyuki Water and Sewage Company should identify and engage key stakeholders that can support the company in efficient and reliable water service provision to residents of Nanyuki town.

Lastly, managers of Nanyuki Water and Sewage Company should source for funds from various financial sources so as to raise adequate finances meant to meet major costs of running efficient and reliable water service provision to residents of Nanyuki town.

5.6 Areas for further research

First, a comparative study can be done in the area to assess competitive strategies adopted by various water service providers to address issues of reliability of water supply to residents of Nanyuki town. Secondly, another study can be done with focus on Nanyuki town residents so as to capture reliability of water supply as perceived by the residents and not the water service companies.

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APPENDICES

APPENDIX I: LETTER OF TRANSMITTAL OF DATA COLLECTION

(Researcher's introductory letter to Nanyuki water and Sewerage Company)

Fredah K Karani

Africa Nazarene University

Dear respondent,

Re: A Questionnaire on reliable water supply in Nanyuki town

I am a student at Africa Nazarene University pursuing a master's degree programme in business administration a specialization in strategic management. I am currently carrying out a research titled "influence of strategic water management practices on reliable water supply in Kenya: a case of Nanyuki Water and Sewage company in Nanyuki town, Laikipia county, Kenya." You are kindly requested to give clear and honest response to the questionnaire items.

Your response will be treated as confidential and need not to write your name.

Please acknowledge receipt.

Yours faithfully,

.....

Fredah karani

APPENDIX II: RESEARCH QUESTIONNAIRE

(Please tick or write on the appropriate question(s))

Section A: Demographic data

1. Gender: Male.....Female.....

2. Category of work

a) Managers

c) billing staff

b) Meter readers

d) casual workers

Section B: WATER MANAGEMENT PRACTICES

Management innovation changes

The following statements relate to the company's management innovation changes in ensuring reliable water supply to customers. Please rate them according to your understanding by ticking (√) in the relevant cell using the scale below; SA=Strongly Agree; A=Agree; N=Neutral (Neither agree nor disagree); D=Disagree; SD=Strongly Disagree

Statement on management innovation changes	SA	A	N	D	SD
1. Rules and systems inside our association are consistently reestablished to improve water administration arrangement					
2. We consistently make changes to our representatives' errands and capacities to improve water administration arrangement					
3. Our association consistently actualizes new administration frameworks to improve administration arrangement					
4. The strategy as to pay has been changed over the most					

recent three years.					
5. The intra-and between departmental correspondence structure inside our association is consistently rebuilt.					
6. There is continuous change of certain elements of the organizational structure to improve water service provision					

Communication capability

The following statements relate to the company's communication capability in ensuring reliable water supply to customers. Please rate them according to your understanding by ticking (√) in the relevant cell using the scale.

Statements	SA	A	N	D	SD
1. There are clearly laid down communication procedures & channels in the company					
2. Communication with our strategic partners is open except only for instances where it is confidential.					
3. There are various modes of communication with customers to swiftly address water supply complains.					
4. The company has an open communication channels to give customers immediate feedback					
5. There is a strategic communication procedure for processing external information and relaying prompt feedback to customers					
6. Company's prompt communication capability has improved water service provision to customers					

Key stakeholder involvement

The following statements relate to the company's involvement of key stakeholders in ensuring reliable water supply to customers. Please rate them according to your understanding by ticking (√) in the relevant cell.

Statement	SA	A	N	D	SD
1. There is a well laid down conflict resolution procedure with stakeholders					
2. Water delivery decisions are planned and evaluated jointly with concerned stakeholders.					
3. There is a process for selection of strategic collaborators.					
4. Conflict resolution teams are trained jointly between company and concerned stakeholders to iron out water supply issues					
5. There exists a unit that ensures, swift engaging and bonding with key stakeholders					
6. Most stakeholders really contribute and support the company in ensuring reliable water supply to customers					

Financial resource allocation

The following statements assesses whether the company's financial resource allocations guarantees reliable water supply to customers. Please rate them according to your understanding by ticking (√) in the relevant cell.

Statement	SA	A	N	D	SD
1. There is adequate financial support from national government to sustain water service provision to citizens					
2. There is adequate financial support from Water Service Boards to meet basic costs of operating and repairing water supply facilities					
3. There is sufficient funding from private investors to boost maintenance of water supply facilities					
4. The amount of finances allocated to the company enhance efficient water service provision					
5. donor agencies allocate sufficient financial resources to the company to run water service provision projects					
6. There is efficient utilization of company funds that effectively meets the cost of supplying water to customers					

Reliable water supply by the company

The following statements assesses whether the company reliably supplies water to its customers. Please rate them according to your understanding by ticking (✓) in the relevant cell.

Statement	SA	A	N	D	SD
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1. Most customers are generally satisfied with the company's provision of water service to clients					
2. The company has good reputation for efficient supply of water to clients					
3. Most clients in Nanyuki town are satisfied with water company services					
4. The company consistently supplies water to its clients					
5. The company's water bills are consistent and tally with water consumed by clients					
6. Generally, the company has performed well in all areas of water service provision					



AFRICA NAZARENE
UNIVERSITY

17, March, 2020.

E-mail: researchwriting.mba.anu@gmail.com

Tel. 0202711213

Our Ref: 11S02EMBA002

The Director.

National Commission for Science,
Technology and Innovation (NACOSTI),
P. O. Box 30623, 00100
Nairobi. Kenya.

Dear Sir/Madam:

RE: RESEARCH AUTHORIZATION FOR: MS: KARANI, FREDAH

Ms. Karani is a postgraduate student of Africa Nazarene University in the Master of Business administration (MBA) Program.

In order to complete her program, Ms. Karani is conducting a research entitled: **“Factors Affecting Reliable Water Supply in Kenya: A Case Study of Nanyuki Water and Sewerage Company”**

Any assistance offered to her will be highly appreciated.

Yours Faithfully,

DR. SIMON OBWATHO,
DEAN, SCHOOL OF BUSINESS

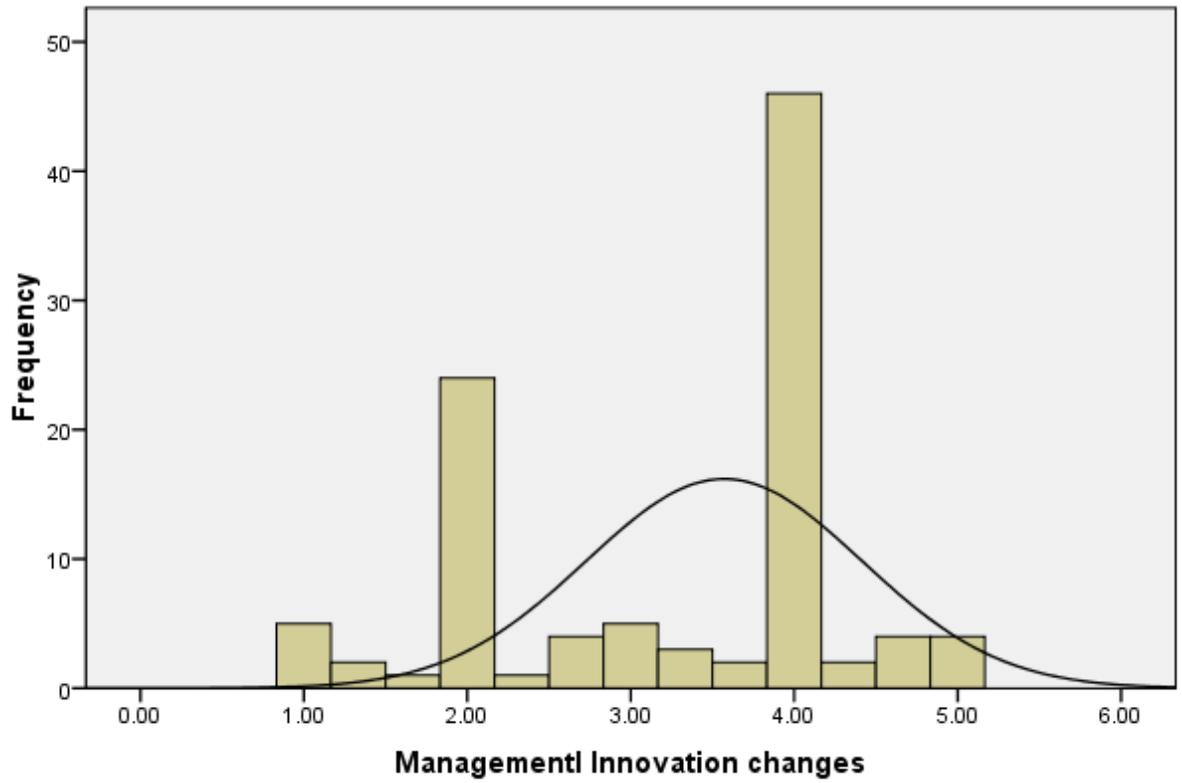
APPENDIX III: ANU RESEARCH AUTHORIZATION LETTER

APPENDIX IV: NACOSTI RESEARCH PERMIT

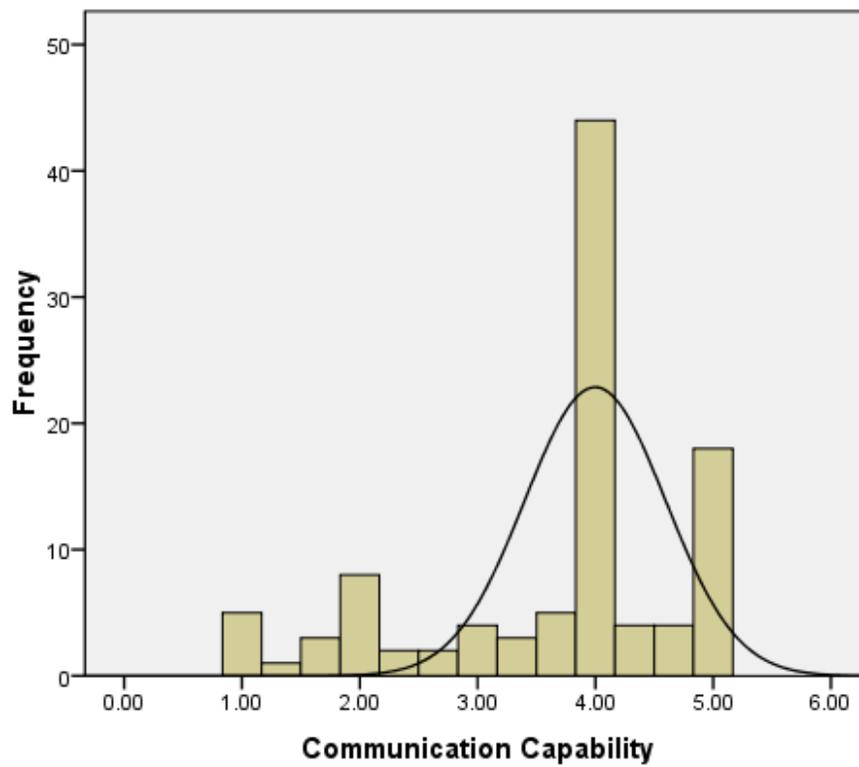
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Ref No: 368613	Date of Issue: 15/May/2020
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<p>This is to Certify that Miss.. FREDAH KATHAMBI KARANI of Africa Nazarene University, has been licensed to conduct research in Laikipia on the topic: FACTORS AFFECTING RELIABLE WATER SUPPLY IN KENYA for the period ending : 15/May/2021.</p>	
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APPENDIX V: NORMALITY TESTS

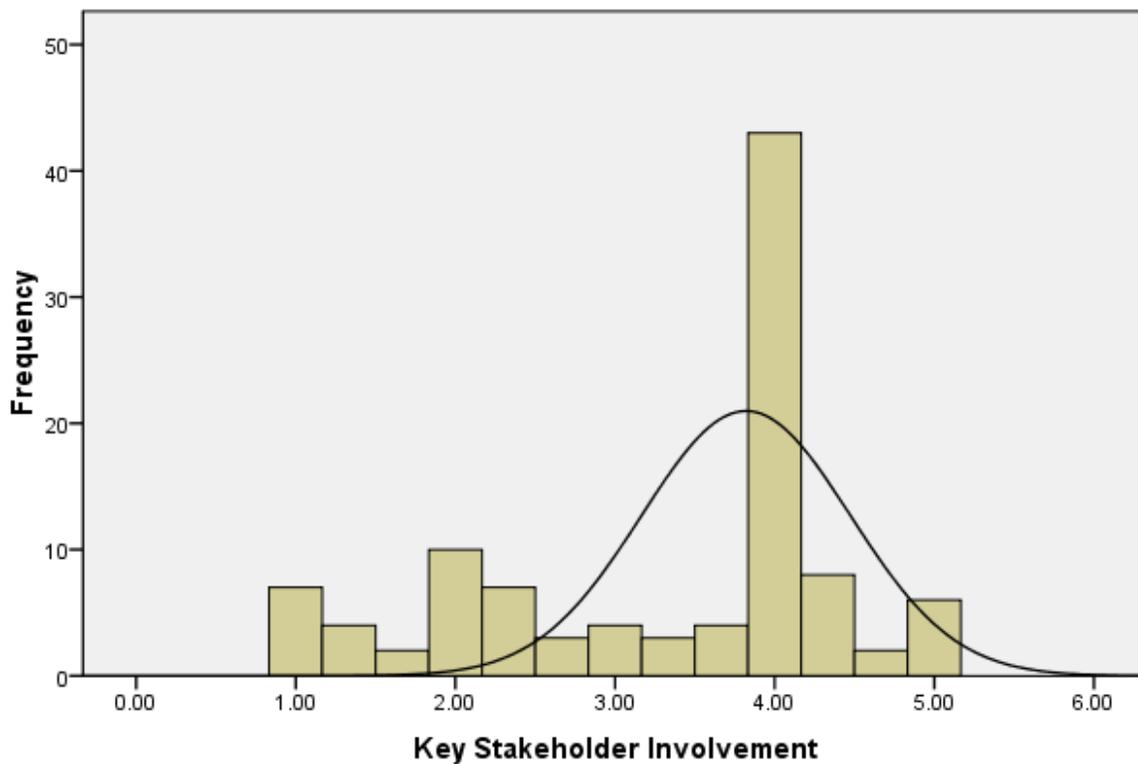
Management Innovation changes
Histogram



Communication capability
Histogram



Key stakeholder Involvement
Histogram



Financial resource allocations
Histogram

